

NOWPAP DINRAC

Northwest Pacific Action Plan

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Regional Overview and National Reports on Marine and Coastal Nature Reserves in the Northwest Pacific Region

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**Regional Overview on Marine and Coastal Nature Reserves
in the NOWPAP Region**

1. Background of the Report

This regional report is an outcome of the DINRAC activity, *Establishment of Database of Coastal and Marine Nature Reserves in the NOWPAP Region*, which was agreed on at the fifth NOWPAP DINRAC Focal Points Meeting (Shenzhen, People's Republic of China, 10-11 May 2006). The overall objective of this activity (planned for 2006-2007 biennium) was to establish a database on marine and coastal nature reserves in the NOWPAP region, prepare a review and improve understanding on the current situation and future developments of nature reserves.

In the NOWPAP region, the most significant constraint for data and information sharing and exchange on marine and coastal nature reserves is that each member state has its unique national regulations, nature reserves' standards, information management means and descriptions of nature reserves are available usually in native languages. To overcome this constraint, it was necessary to collect data and information on marine and coastal nature reserves at the regional level, identify the system objectives and data demands and then establish a database on marine and coastal nature reserves in order to contribute to enhancement of information exchange and public awareness in the NOWPAP region. The compilation of *the Regional Report on Marine and Coastal Nature Reserves in the NOWPAP Region* provides a review which will help improving understanding on the current situation and management of key nature reserves of member states, **People's Republic of China, Japan, Republic of Korea, and Russian Federation**, respectively.

To achieve this outcome, the NOWPAP DINRAC Focal Points of four countries provided their selfless assistance to the compiling group. Their names are listed below:

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Many thanks should also be given to the experts from the countries mentioned above, they supplied quite useful data and information on marine and coastal nature reserves in their national reports, these data and information make an impressive contribution in the regional report.

All the officers and experts, involved wish this report to be useful to improve the management of marine and coastal nature reserves, reinforce information exchange and enhance public awareness in the NOWPAP region.

2. Current Situation of the Establishment of Marine and Coastal Nature Reserves

According to the available data and information of China, Japan, Korea and Russia, the number of marine and coastal nature reserves have substantially increase in the NOWPAP region. Four countries improve their marine and coastal natural conservation capacity by diversified activities and measures such as national legal system building, government sector administration enhancement, international convention implementation, nature reserve establishment, etc. The number and coverage of nature reserves have substantially increased in four countries in the past several decades.

However, the works of four countries are effectively and constructively although there still have some shortages in marine and coastal nature reserve building and conservation. These shortages include the following: the quantity of marine and coastal nature reserves needs to be increased; the lack of species and nature resource surveys of nature reserves; database for nature reserves are needed to be strengthened in the NOWPAP Region; new research & techniques support for marine and coastal nature reserves selection is also needed in the region; public awareness and education should be strengthened, etc.

Legal systems of nature reserves have been primarily built up on marine nature reserve establishment, management, administration and capacity building in China, Japan, Korea, and Russia. In China, A series of Laws, legislations and regulations such as *the Marine Environmental Protection Law of the People's Republic of China*, *the Law of the People's Republic of China on the Protection of Wildlife*, *Measures on Supervision and Inspection of National Nature Reserves*, *Measures on Management of Coastal and Marine Nature Reserves* have been issued and implemented as a legal guarantee for the establishment, management and administration of China marine and coastal nature reserves. In Japan, the law named as *The Nature Conservation Law* was approved by the Japanese Cabinet in 1973 has a significance meaning in nature conservation strategies and policies for Japan. Compared with China and Japan, Korea and Russia governments also monitor and manage marine and coastal protected areas with appropriate laws, legislations, and regulations.

Under the guarantees of legal mechanisms, the quantity of nature reserves (both marine and terrestrial) of four countries has been substantially increased in past several decades.

In China, 2,349 nature reserves have been set up by the government, occupying 15% of the 96 millions of China territory, 265 national nature reserves with a total area of 0.89 million ha. A well developed integrated nature reserve network has also been established in the Yellow Sea of China. The Yellow Sea of China has coasts, estuaries, wetlands, islands and other important ecosystems in the region. Since the selection and establishment works of marine natural reserves began in the end of 1980s, China has established 18 marine natural reserves (4 national natural reserves and 14 local natural reserves with total area of 569,133ha and 276,100ha respectively), involving most typical ecosystems of the coast and sea area of the Yellow Sea. These natural reserves substantially promoted conservation and sustainable use of coastal and marine resources in the Yellow Sea Region.

In Japan, Ministry of Environment of Japan classified protected areas into two different categories: Nature Conservation Areas and Natural Parks. Ministry of Environment of Japan has set

five Wilderness Areas with total areas of 5,600ha and eight Nature Conservation Areas with 7,400ha. Besides the nature conservation areas set by the ministry, there also have 465 nature conservation areas with 79,000ha have been designated at the local level. All these areas, however, are designated to protect terrestrial area from the activities of human beings rather than the marine areas. Many of marine protected areas are classified into National Nature Park categories, mostly are set inside National Parks and Quasi-national Parks. There have 27 National Parks in Japan with an area of 2.02 million hectares (ca. 5.4% of the area of the country) and 52 Quasi-National Park with 1.25 million hectares (ca. 3.0% of the area of the country). There also have 294 natural parks with 2.05 million hectares (ca. 5.5% of the total area of the country) which designated by the local governments of Japan cover with 2,030,000 ha of land, and some natural parks such as Uwa Sea Park and Omura Bay Park have the function of marine species and ecosystems protection. However, these local natural parks are not included in this report because only a little information is available and too hard to collect from the local level.

Nature reserves in Korean sea waters and coastal include tidal flat, sand dune, uninhabited and inhabited island, and underwater area, each with specific goals and targets. Totally, 12 kinds of nature reserves are designated in Korea. The type of the marine and coastal nature reserves include 6 Ecosystem Conservation Areas, 4 Marine and Coastal National Parks, 6 Wetland Protected Areas, 6 Natural Heritage Protected Areas, 153 Special Islands, 544 Wildlife Protected Areas, 1 Man and Biosphere of UNESCO, 10 Fisheries Resources Protected Areas, 4 Fisheries Protection Areas, Fisheries Enhancement Areas.

In Russia Federation, marine nature conservation and development of a system of especially protected natural territories (SPNT) is one of the important strategies for Russia Federation. SPNTs are referred to the objects of national property and have exclusive value for preservation of biological and landscape variety as the basis of biosphere. Establishment of SPNTs in Russia is a traditional and rather effective form of the nature protection activity which history totals more than 100 years. Now, a SPNT network at a greater or smaller completeness covers all natural zones and all regions of the country. The Far East region of Russia is also referred to them. Here, in the Eastern area of the NOWPAP Region they are extensive territories of Primorski Krai and Khabarovsk Territory, located along the sea coast and adjoining areas of the land and sea between 42-48° N, 130-140° E. In view of the mode of especially protected natural territories and the status of nature protection establishments there are the following SPNTs categories: (1) State nature reserves, including biospheric ones. (2) State nature partial reserves. (3) Natural parks. (4) National parks. (5) Nature sanctuaries. (6) Dendrology parks and botanical gardens. (7) Therapeutic localities and resorts.

3. Introduction of Key Nature Reserves

The following data and information is separately provided by the four countries, thus the reporting of key nature reserves is classified as countries:

3.1 P. R. China

According to the current data and information, there are four national nature reserves, seven provincial nature reserves and seven city/county nature reserves in the Yellow Sea of NOWPAP Region in China. These four national nature reserves are going to be briefly introduced in the following paragraphs:

3.1.1 Yalu River Estuary and Coastal Wetland National Nature Reserve

Liaoning Dandong Yalu River Estuary and Coastal Wetland National Nature Reserve situates in Donggang City, Liaoning Province. The total area of the nature reserve is about 108,057ha. The nature reserve was approved as county-level nature reserve in 1987 by the People's Government of Donggou County. It was promoted to provincial nature reserve in 1995 and promoted to national nature reserve in 1997.

This nature reserve locates in the coastal zone of the Yellow Sea. It has diverse habitat types such as reeds, marshes, lakes, intertide flat and estuary with special and diverse fauna and flora. There are 289 species in 64 families plants recorded in the area. Wild soybean (*Glycine soja*) is one of the plant species which is specially protected in China. A total number of 456 wild animal species are recorded, including 88 fishes, 3 amphibians, 240 Aves, 74 invertebrates and 54 zooplanktons.

Among these wild animals, 8 waterfowls such as red-crowned crane (*Grus japonensis*) and white crane (*Grus leucogeranus*) are first class protected wild animals in national wildlife protection list; 30 species such as whooper swan (*Cygnus cygnus*), white spoonbill (*Platalea leucorodia*) are second class protected wild animals in the list. The nature reserve is also one of the most important stages for migratory waterfowl in northeast Asia. 121 species of 227 migratory birds which listed in *China-Japan Agreement for Protection of Migratory Birds and Habitats* are discovered in the nature reserve. The plant resources are also abundant in the nature reserves. The production of reeds is about 50,000 tonnes per year, and production of seafood hard clam (*Meretrix meretrix*) is about 90,000 tonnes per year. The nature reserve provides habitats for wildlife, and conserves the genetic and species diversity of wildlife.

3.1.2 Shandong Changdao National Nature Reserve

Shandong Changdao National Nature Reserve situates in Changdao County, with the area of 5,300ha. The nature reserve was approved as provincial-level nature reserves in 1982 by the People's Government of Shandong Province. It was promoted to national nature reserves in 1988. The objective of this nature reserve is to protect the habitats of raptors such as hawks and other migratory birds.

The nature reserve locates between the Liaodong and Shandong peninsula, composed of 32 islands of Changshan Isle. These islands are important stages for migratory birds in their migratory routes. The well protected and favorable environment condition of the nature reserve provides food

sources and habitats for both resident and migratory birds. About 240 Aves species are recorded in the protected area. 196 species of 227 migratory birds listed in *China-Japan Agreement for Protection of Migratory Birds and Habitats* are discovered in the nature reserve.

3.1.3 Jiangsu Yancheng Rare Bird National Nature Reserve

The nature reserve locates in the coastal area of Yiyang, Dafeng, Binhai, Xiangshui, Dongtai counties of Yancheng City, with 453,000 ha. The nature reserve was established in 1984 as provincial nature reserve, it was promoted to national nature reserves in 1992. At the same year, the nature reserve entered into Man and the Biosphere (MAB) protection network by Educational, Scientific, and Cultural Organization, United Nations (UNESCO). In 2002, the nature reserve was listed in the *Wetlands of International Importance*. The conservation focus for this nature reserve is the rare birds such as red -crowned crane (*Grus japonensis*) and the intertidal flat ecosystem which is important to these rare species.

The intertidal flat is typical silt plain and its length is about 444 km long. There are Marshes and wetland in this area. Biological resources are also abundant. The core zone of the nature reserve is preserved well and has been less disturbed. About 315 bird species are recorded in this area. 9 species are in first-class wild animals protected, 33 species are the second-class wild animals protected. The nature reserve is the biggest living place through winter for red-crowned crane (*Grus japonensis*) in the world. About 600 red-crowned crane (*Grus japonensis*) are through winter here each year. This area is also an important breeding base for international endangered species Saunder's Cull (*Larus saundersi*). The nature reserve is important significance for migratory birds, especially red -crowned crane (*Grus japonensis*).

3.1.4 Jiangsu Dafeng Pere Davis Deer (*Elaphurus davidianus*) National Nature Reserve

Dafeng nature reserver locates in Dafeng county of Jiangsu Province, with total area of 2,667 ha. The nature reserve was set up in 1986 as provincial nature reserve. It was promoted to national nature reserves in 1997. In 2002, the nature reserve was listed in *Inventory of Wetlands of International Importance*. The aim of the establishment of this nature reserve is to protect Pere Davis deer (*Elaphurus davidianus*) and its habitat.

The ecosystems of nature reserve include muddy flat, swamps, and salt marshes. The fauna and flora are also complex and highly diverse. The vegetation is dominant by White Cogongrass (*Imperata cylindrica*) and reeds (*Phragmites australis*). About 223 Vascular Macrophytes are recorded in the area. The wild animals are abundant in the nature reserves, include 20 mammals, 182 birds, 27 amphibians and reptiles, 150 fishes, 10 Echinodermata, 62 annelid, 8 coelenterate, 98 phytoplanktons. In August 1986, the Ministry of Forest and the World Wildlife Funds (WWF) introduced 39 Pere Davis deer (*Elaphurus davidianus*) to the nature reserve. The deer population was developed to 268 after 10 years. The nature reserve has another 4 first-class protected wild animals such as red-crowned crane (*Grus japonensis*) and white crane (*Grus leucogeranus*), etc., and has 19 second-class wild animals protected such as swan (*Cygnus columbianus*) and (*Hydropotes inermis*), etc. The nature reserves is also one of the important habitat for migratory birds, 95 bird species are protected by *China-Japan Agreement for Protection of Migratory Birds and Habitats*.

Table 1 Marine and Coastal Nature Reserves of China

| Name of nature reserves | Location | Rank | Area (ha) | Date assigned |
|--|------------------------------------|----------|-----------|---------------|
| Yalu River Estuary and Coastal Wetlands | Donggang City, Liaoning province | national | 108,057 | 1987-07-01 |
| Changdao | Changdao County, Shandong province | national | 5,300 | 1982-01-01 |
| Yancheng Littoral Wetland and Rare Bird Species | Yancheng city, Jiangsu Province | national | 453,000 | 1984-01-01 |
| Dafeng Pere Davis Deer (<i>Elaphurus davidianus</i>) | Dafeng county, Jiangsu Province | national | 2,776 | 1986-02-08 |
| Shanshan Marine Rare Species | Dalian, Liaoning Prov. | city | 1,103 | 1986-12-01 |
| Changhai Marine Rare Species | Changhai County, Liaoning Prov. | province | 220 | 1985-04-01 |
| Changshan Isle Marine Species | Changhai County, Liaoning Prov. | city | 413 | 2004-01-01 |
| Haiwang Nine Islands | Changhai County, Liaoning Prov. | city | 2,143 | 2000-08-01 |
| Laopian Island-Yuhuang Ding | Dalian, Liaoning Prov. | city | 1,580 | 2000-08-01 |
| Dagong Island | Qingdao, Shandong Prov. | province | 1,603 | 2001-03-01 |
| Qingdao Amphioxus | Qingdao, Shandong Prov. | city | 6,181 | 2004-08-01 |
| Miao Isle Seals | Changdao, Prov. | province | 173,100 | 2001-06-01 |
| Qiansan Island | Rizhao, Shandong Prov. | city | 10,000 | 1992-12-01 |
| Qianliyan Island | Haiyang, Shandong Prov. | province | 1,824 | 1999-12-01 |
| Rongcheng City Shantou | Rongcheng, Shandong Prov. | province | 6,366 | 2002-12-01 |
| Rongcheng Sanggou Bay nature reserves | Rongcheng, Shandong Prov. | county | 13,333 | 1987-05-01 |
| Rongcheng Swan | Rongcheng, Shandong Prov. | province | 10,500 | 1984-01-01 |
| Qidong Yangtze River Northern Estuary | Qidong, JiangsuProv. | province | 47,734 | 1985-08-01 |

Note: After *Inventory of Chinese Nature Reserves*, Nature Conservation, issued by State Environment Protection Administration, Environmental Science Press, 2005

3.2 Japan

In this report, 3 marine parks in National Parks and 6 marine parks in Quasi-national parks were selected as key nature reserves in Japan and to be reported here. Two criteria are set to select them. One is that the area is in NOWPAP region and the other is that some species are identified as species to be protected.

3.2.1 Daizen-Oki National Park

This park embraces a mountainous area from Mt. Hiruzen to Mt. Daisen, the highest peak in the Chugoku district. The park also features the Oki Archipelago, the Shimane Peninsula and Mt. Sanbe. Mt. Daisen has precipitous cliffs, and Oki Archipelago has bluffs and caves eroded by seawater. Conservation of outstanding natural scenic areas and promotion of their utilization are the main purpose of this National Park.

In this national park, there are five marine park areas, namely Shimane Peninsula (7.0 ha), Jodogaura (20.8 ha), Shiro (14.8 ha), Kuniga (7.3 ha) and Kaisi (7.6 ha). Jodogaura and Shiro are situated in Okinoshima Island, and Kuniga is in Nishinoshima. All these parks are under strong influence of Tsushima current, that is a branch of Kuroshio. Thus species here are closely related to the southern Pacific species.

Eight species are appointed as marine protected species. They are:

Melitaea protomedia protomedia

Pterogobius zonoleucus

Pterogobius elapoides

Melithaea flabellifera

Sargassum siliquastrum

Chromis notata notata

Colpomenia sinuosa

Oulastrea crispata

3.2.2 Saikai National Park

This park consists of more than 400 islands, large and small, including Hirado, the Kujukushima Islands, and the Goto (Five Islands) Archipelago, extending over the northwestern extremity of Kyushu. The Goto Islands have high cliffs, and Fukue Island has rare volcanic formations (aspite-homate, or cinder-cone).

This national park was established in 1955. Two marine park areas namely Fukue and Wakamatsu are established in the National Park. The former is 11.2 ha and the latter is 19.2 ha. Both are assigned as the marine park in 1972. Conservation of outstanding natural scenic areas and promotion of their utilization are again the purpose of this national park. The park is facing to the East China Sea. Species in the park thus has close relationships to both Kuroshio fauna Tsushima current fauna.

Following eight taxa are recognized as marine protected species in this marine park. Some of them were not at species level, but at family level, and they are more generally considered worth to be protected.

Everes lacturnus kawaii

Acroporidae

Melithaea flabellifera

Pomacentridae

Cirrhitilabrus temminckii

Pectiniidae

Chaetodontidae

Thalassoma cupido

3.2.3 San'in Kaigan National Park

This is a marine park that covers the 75km-long seacoast from Amino of Oku-Tango Peninsula to the sand dunes of Tottori. There are beautiful caves eroded by seawater. One of the main features of this park are the sand dunes of Tottori, some of which reach the height of 100m. There are plants such as Hamabohu (*Glehnia*) which are peculiar to the sand dunes and the severe environment of this area.

In this national park, there are five marine park areas. They are Goshikihama (20.7 ha), Toyooka (7.6 ha), Takeno (9.9 ha), Hamasaka (19.2 ha), and Uratomi Kaigan (9.8 ha). Most of them were established in 1971, but Goshikihama was assigned in 1990. These marine parks are under strong influence of fresh water because the high mountains have large snow fall in the winter. Thanks to such fresh water supply with rich nutrients, this area has rich macro algae growth in the winter to spring seasons.

Following seven species are considered necessary to protect. They are:

Chondracanthus tenellus

Pterogobius zonoleucus

Chromis notata notata

Delisea japonica

Sabellastarte japonica

Aglaophenia whiteleggei

Actinia equina

3.2.4 Genkai Quasi-National Park

This quasi-national park is unique in the sequence of white sand with green pine trees and pine woods, historical sites and monuments, and legends. In this park, only one marine park is established. That is named Genkai, the name of strait off this national park. This marine park is however quite large, covering an area of 45.5 ha.

Four taxa are assigned as marine protected species in this area. *Acropora* is a genus name of scleractinian coral, and Pectiniidae is a family name of pectens.

Acropora sp.

Tubastraea coccinea

Pectiniidae

Petroscirtes breviceps

3.2.5 Iki-Tsushima Quasi-National Park

Island landscape and monuments of Iki and Tsushima which float on the Open sea of Genkai are worth to be nominated as quasi-national park. As easily imagine, because this area is close to the Genkai strait, the faunae here is closely related to the Genkai quasi-national park. However, this area is under stronger influence of Tsushima Current, a branch of Kuroshio. Consequently, this area has more tropical components, and Tsushima is known as the northern most coral reefs in the Japanese territory.

Five marine park areas are designed in this quasi national park. They are Iki Tatsunoshima Island (8.6 ha), Iki Tenagajima Island (9.7 ha), Iki Tsumagashima Island (9.3 ha), Tsushima Asaga Bay (9.5 ha) and Tsushima Kanzaki (10.4 ha). All were established in 1978.

Eight species mainly fishes and corals are listed as marine protected species. They are:

Apogon semilineatus

Apogon notatus

Favia speciosa

Favites abdita complex

Acropora tumida

Coscinaraea columna

Codium sp.

Entacmaea actinostloides

3.2.6 Niseko Shakotan Otaru-kaigan Quasi-National Park

Mountain landscape of volcanic peaks and coast landscape full of variety are the target nature to be conserved in this quasi-national park. This area is in Hokkaido, the northern main island of Japan. Thus the area is not under the influence of Tsushima current, and boreal faunae are dominant in the region.

Two marine parks are established in this National park. They are Shakotan Peninsula and Otaru Coast. Both are quite large marine parks covering area of 28.9 and 14.7 ha, respectively. Both were appointed as marine parks in 1972.

Following five species are recognized as marine protected species from this marine park.

Rhizopsammia minuta mutsuensis

Phyllospadix iwataensis

Actinia equina

Haliplanella lineata

Metridium senile

3.2.7 Sado-Yahiko-Yoneyama Quasi-National Park

Sado Island is the largest island in Japan. The landscape of topography is full of variety of upheaved coast. This area is well known as the area where the last individual of a bird *Nipponia nippon* was living in natural area of Japan.

In this national park, three marine park areas have been assigned in 1971. They are Tokaifu, Aikawa, and Ogi. The area sizes of them are 10, 6, and 5 ha, respectively.

In these marine parks, six taxa listed below are considered as marine protected species.

Pterogobius zonoleucus

Comanthus parvicirrus

Oxycomanthus japonicus

Pomacentridae

Petroscirtes breviceps

Rhizopsammia minuta mutsuensis

3.2.8 Wakasa-wan Quasi-national Park

Wakasa Bay is a large bay with well developed branch-shaped coast extending over 65km and synthetic beautiful landscape of coast eroded by seawater. Thanks to such unique topography, the area braces high marine biodiversity.

Within this national park, one marine park is appointed. The area name is Mikata. It covers rather large area of 20 ha. In this area following species are recognized as marine protected species.

Chaetomorpha crassa

Champia parvula

Pomacentridae

Pterogobius elapoides

Solanderia secunda

Actiniidae

Tropiometra afra macrodiscus

Oxycomanthus japonicus

Table 2 Marine park areas in National Parks of Japan

| No. | Name of National Park | Name of Marine Park Area | Location | Rank | Area (ha) | Date assigned |
|------------|------------------------------|---------------------------------|-------------------------------|-------------|------------------|----------------------|
| 1 | Rikuchu Kaigan | Kesen'numa | Kesen'numa City, Miyagi | national | 23.4 | 1971-1-22 |
| 2 | Ogasawara | Ogasawara | Ogasawara Village, Tokyo | national | 463.0 | 1972-11-6 |
| 3 | Fuji Hakone Izu | Miyake Jima Island | Miyake Village, Tokyo | national | 51.6 | 1994-11-7 |
| 4 | Yoshino Kumano | Kumano Nada, Niki Shima Island | Kumono City, Mie | national | 14.4 | 1975-12-19 |
| | | Kushimoto | Kushimoto Town, Wakayama | national | 52.9 | 1970-7-1 |
| 5 | San'in Kaigan | Goshikihama | Kyoutango City, Kyoto | national | 20.7 | 1990-4-6 |
| | | Toyooka | Toyooka City, Hyogo | national | 7.6 | 1971-1-22 |
| 6 | | Takeno | Toyooka City, Hyogo | national | 9.9 | 1971-1-22 |
| | | Hamasaka | Shin Onsen Town, Hyogo | national | 19.2 | 1971-1-22 |
| | | Uratomi Kaigan | Iwami Town, Tottori | national | 9.8 | 1971-1-22 |
| 7 | Daisen Oki | Shimane Penninsula | Izumo City, Shimane | national | 7.0 | 1972-10-16 |
| | | Jodogaura | Okinosima Town, Shimane | national | 20.8 | 1975-12-11 |
| | | Shiro | Okinosima Town, Shimane | national | 14.8 | 1975-12-11 |
| | | Kuniga | Nishinoshima Town, Shimane | national | 7.3 | 1975-12-11 |
| | | Kaisi | Kaishi Town, Shimane | national | 7.6 | 1997-9-18 |
| 8 | Ashizuri Uwakai | Uwakai | Ainan Town, Ehime | national | 58.2 | 1972-11-10 |
| | | Okinosima Island | Sukumo City, Kouchi | national | 36.3 | 1972-12-10 |
| | | Kasai | Ootsuki Town, Kouchi | national | 16.8 | 1972-12-10 |
| | | Tutomezaki | Ootsuki Town, Kouchi | national | 8.3 | 1995-8-21 |
| | | Shirigai | Ootsuki Town, Kouchi | national | 10.4 | 1995-8-21 |
| 9 | Saikai | Fukue | Goto City, Nagasaki | national | 11.2 | 1972-10-16 |
| | | Wakamatsu | Shin Kami Goto Town, Nagasaki | national | 19.2 | 1972-10-16 |

| No. | Name of National Park | Name of Marine Park Area | Location | Rank | Area (ha) | Date assigned |
|-----|-----------------------|------------------------------------|-------------------------------|----------|-----------|---------------|
| 10 | Unzen Amakusa | Tomioka | Reihoku Town, Kumamoto | national | 16.2 | 1970-7-1 |
| | | Amakusa | Amakusa City, Kumamoto | national | 5.1 | 1970-7-1 |
| | | Ushibuka | Amakusa City, Kumamoto | national | 94.4 | 1970-7-1 |
| 11 | Kirishima Yaku | Sakurajima Island | Kagoshima City, Kagoshima | national | 14.7 | 1970-7-1 |
| | | Sata Misaki | Minami Oosumi Town, Kagoshima | national | 11.8 | 1970-7-1 |
| | | Kuriu | Yaku Town, Kagoshima | national | 114.4 | 2002-2-19 |
| 12 | Iriomote | Taketomi Jima Island, Takidonguchi | Taketomi Town, Okinawa | national | 36.7 | 1977-7-1 |
| | | Taketomi Jima Island, Shimobishi | Taketomi Town, Okinawa | national | 83.1 | 1977-7-1 |
| | | Kuro Shima Island, Kyan'guchi | Taketomi Town, Okinawa | national | 45.5 | 1977-7-1 |
| | | Aragusuku Jima Island, Maibishi | Taketomi Town, Okinawa | national | 48.2 | 1977-7-1 |

Table 3 Marine park areas in Quasi-National Parks of Japan

| No. | Name of Quasi-National Park | Name of Marine Park Area | Location | Rank | Area (ha) | Date assigned |
|-----|-----------------------------|--------------------------|-------------------------|----------|-----------|---------------|
| 1 | Niseko Shakotan Otaru Coast | Shakotan Peninsula | Shakotan Town, Hokkaido | national | 28.9 | 1972-10-16 |
| | | Otaru Coast | Otaru City, Hokkaido | national | 14.7 | 1972-10-16 |
| 2 | Shimokita Peninsula | Hotogetaura | Sai Village, Aomori | national | 5.7 | 1975-12-11 |
| | | Taishima Island | Mutsu City, Aomori | national | 3.6 | 1975-12-11 |
| 3 | South Bousou | Katsuura | Katsuura City, Chiba | national | 14.5 | 1974-7-7 |
| 4 | Sado Yahiko Yoneyama | Tokaifu | Sado City, Niigata | national | 10 | 1971-1-22 |
| | | Alkawa | Sado City, Niigata | national | 6 | 1971-1-22 |
| | | Ogi | Sado City, Niigata | national | 5 | 1971-1-22 |
| 5 | Noto Peninsula | Konoura | Tamatsu City, Ishikawa | national | 6.3 | 1971-1-22 |
| | | Uchiura | Noto Town, Ishikawa | national | 32 | 1971-1-22 |
| 6 | Wakasa Bay | Mikata | Wakasa Town, Fukui | national | 30.2 | 1971-1-22 |
| 7 | Kitanagato Coast | Susa Bay | Hagi City, Yamaguchi | national | 33 | 1997-9-18 |
| 8 | Muroto Anan Coast | Awa Oshima Island | Muki Town, Tokushima | national | 15.5 | 1971-1-22 |
| | | Awa Takegashima Island | Kaiyō Town, Tokushima | national | 9.9 | 1972-10-16 |
| 9 | Genkai | Genkai | Karatsu City, Saga | national | 45.5 | 1970-7-1 |
| 10 | Iki Tsushima | Iki Tatsunoshima Island | Iki City, Nagasaki | national | 8.6 | 1978-6-16 |
| | | Iki Tenagajima Island | Iki City, Nagasaki | national | 9.7 | 1978-6-16 |
| | | Iki Tsumagashima Island | Iki City, Nagasaki | national | 9.3 | 1978-6-16 |
| | | Tsushima Asaga Bay | Tsushima City, Nagasaki | national | 9.5 | 1978-6-16 |
| | | Tsushima Kanzaki | Tsushima City, Nagasaki | national | 10.4 | 1978-6-16 |
| 11 | Nippou Coast | Urae | Saeki City, Ooita | national | 33.5 | 1974-2-15 |
| | | Nannboku Ura | Nobeoka City, Miyazaki | national | 48.7 | 1974-2-15 |

| | | | | | | |
|-----------|----------------|-----------------------------|-----------------------------|----------|------|-----------|
| 12 | Nichinan Coast | Nichinan | Nichinan City, Miyazaki | national | 55.9 | 1970-7-1 |
| 13 | Amami Islands | Kasari Penninsula Eastcoast | Amami City, Kagoshima | national | 93 | 1974-2-15 |
| | | Nadeko Zaki | Amami City, Kagoshima | national | 70 | 1974-2-15 |
| | | Setonaikai | Setouchi Town, Kagoshima | national | 58 | 1974-2-15 |
| | | Kametoku | Tokunoshima Town, Kagoshima | national | 70 | 1974-2-15 |
| | | Yoron Island | Yoron Town, Kagoshima | national | 155 | 1974-2-15 |
| 14 | Okinawa Coast | Okinawa Coast | Nago City, Okinawa | national | 140 | 1972-5-15 |
| | | Tokashiki | Tokashiki Town, Okinawa | national | 120 | 1978-12-9 |
| | | Zamami | Zamami Town, Okinawa | national | 233 | 1978-12-9 |

Note: There are two major categories of marine parks in Japan. They are those in National Park area and those in Quasi-National Park area. They are listed separately in the following table. 11 National Park areas hold 33 marine parks, and 14 quasi-national parks hold 31 marine park areas. The total areas covered by these marine parks are 1,409.6 and 1,385.4 ha respectively.

3.3 Republic of Korea

Nature reserves in Korean waters include tidal flat, sand dune, uninhabited and inhabited island, and underwater area, each with specific goals and targets. Korean government designates, monitors and manages these areas as appropriate with regulation, measures and enforcement. In total, 12 kinds of nature reserves are designated. They are 6 Ecosystem Conservation Areas, 4 Marine and Coastal National Parks, 6 Wetland Protected Areas, 6 Natural Heritage Protected Areas, 153 Special Islands, 544 Wildlife Protected Areas, 1 Man and Biosphere of UNESCO, 10 Fisheries Resources Protected Areas, 4 Fisheries Protection Areas, Fisheries Enhancement Areas, Fisheries Resources Managed Areas, and 6 Shellfish Production Areas.

3.3.1 Ecosystem Conservation Area

- Title of Nature Reserves: Ecosystem Conservation Area
- Basic Description of Nature Reserves: Ecosystem Conservation Area are actually 6 areas of 104.694 km². Two of them are designated, monitored and managed by ME and the rest by MOMAF
- Level of Nature Reserves: National
- Type of Nature Reserves: Ecosystem conservation
- Main Protected and Endangered Species
- Main Purposes of management: Ecosystem conservation
- Management sectors: marine and coastal

3.3.2 Marine and Coastal National Park

- Title of Nature Reserves: National Park
- Basic Description of Nature Reserves: Marine and Coastal National Park is designated, monitored and managed by Ministry of Environment (ME). First designation was made in 1968. National parks amount actually to 20 areas, of which 16 are land parks, 1 national monument, 2 marine and coastal parks, and 1 coastal park.
- Level of Nature Reserves: National
- Type of Nature Reserves: National Park
- Main Protected and Endangered Species
- Main Purposes of management: Nature protection
- Management sectors: Marine and coastal

3.3.3 Wetland Protected Areas

- Title of Nature Reserves: Wetland Protected Areas
- Basic Description of Nature Reserves: Wetland Protected Areas are actually 6 of 174.928 km². One of them is designated, monitored and managed by ME and the rest by Ministry of Maritime Affairs and Fisheries (MOMAF).
- Level of Nature Reserves: National
- Type of Nature Reserves: Protection

- Main Protected and Endangered Species:
- Main Purposes of management: Ecosystem Protection
- Management sectors: Marine and coastal

3.3.4 Natural Heritage Protected Areas

- Title of Nature Reserves: Natural Heritage Protected Area
- Basic Description of Nature Reserves: Natural Heritage Protected Areas are designated, monitored and managed by Cultural Heritage Administration, Ministry of Culture and Tourism, and amount 6 areas.
- Level of Nature Reserves: National
- Type of Nature Reserves: Protection
- Main Protected and Endangered Species
- Main Purposes of management: Protection
- Management sectors: Marine and coastal

3.3.5 Special Islands

- Title of Nature Reserves: Special Islands
- Basic Description of Nature Reserves: Special Islands are designated, monitored and managed by ME since 2000. The designation was made for especially uninhabited islands considering their natural status and biodiversity, and processed through 5 times till 2005. The identification and selection and investigation are still going on. Total designation is 153 islands. The actual designation represents 5.7 % in number and 11.7 % in surface area of total uninhabited islands (2,679 islands and 85,281 km²).
- Level of Nature Reserves: National
- Type of Nature Reserves: Protection
- Main Protected and Endangered Species
- Main Purposes of management: Protection
- Management sectors: Coastal

3.3.6 Wildlife Protected Areas

- Title of Nature Reserves: Wildlife Protected Area
- Basic Description of Nature Reserves: Wildlife Protected Areas are designated and managed by ME. First designation was made in 1984 and actually 544 areas of 1,391.69 km². Among them, marine and coastal "Wildlife Protected Areas" amount to 476 with 802.21 km².
- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: coastal

3.3.7 Man and Biosphere of UNESCO

- Title of Nature Reserves: Man and Biosphere
- Basic Description of Nature Reserves: Man and Biosphere of UNESCO is managed by ME and the area is identical with that of "Moon-seom and Beom-seom Natural Heritage Protected Area"
- Level of Nature Reserves: International
- Type of Nature Reserves: Conservation
- Main Protected and Endangered Species
- Main Purposes of management: Conservation
- Management sectors: Marine and coastal

3.3.8 Fisheries Resources Protected Areas

- Title of Nature Reserves: Fisheries Resources Protected Area
- Basic Description of Nature Reserves: Fisheries Resources Protected Area aims to protect the commercially important fisheries resources and is designated since 1978. Actually designation was made for 10 areas (Table 3) in the western and southern areas of the Korean peninsula. Its coverage is 3,869.8 km² including marine area of 2,625.05 km². It is designated and managed by MOMAF.
- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: Marine

3.3.9 Fisheries Protection Areas

- Title of Nature Reserves: Fisheries Protection Area
- Basic Description of Nature Reserves: Fisheries Protection Areas aims to protect spawning and nursery areas of commercially important fisheries resources. It was first designated in 1972 and actually consisted of 4 areas in the southern area.
- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: Marine and coastal

3.3.10 Fisheries Enhancement Areas

- Title of Nature Reserves: Fisheries Enhancement Area
- Basic Description of Nature Reserves: Fisheries Enhancement Area was made to protect mass occurring commercially important, sedentary animal and/or plant resources. It was first designated in 1992 but the duration was all expired.

- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: Marine and coastal

3.3.11 Fisheries Resources Managed Areas

- Title of Nature Reserves: Fisheries Resources Managed Area
- Basic Description of Nature Reserves: Fisheries Resources Managed Areas are existing on the law, but not designated yet.
- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: Marine and coastal

3.3.12 Shellfish Production Areas

- Title of Nature Reserves: Shellfish Production Area
- Basic Description of Nature Reserves: Shellfish Production Areas are in the southern area of the Korean peninsula. First designation was for Hansan-Geoje Bay in 1973 and actually amounted to 6. Their surface is 290.95 km².
- Level of Nature Reserves: National
- Type of Nature Reserves: Sustainable use
- Main Protected and Endangered Species
- Main Purposes of management: Sustainable use
- Management sectors: Marine and coastal

Table 4 Marine and Coastal Nature Reserves of Korea

| No. | Name of nature reserves | Location | Rank | Area (ha) | Date assigned |
|-----|---|-----------|----------|-----------|---------------|
| 1 | Nakdong River estuary | Busan | national | 34.20 | 1999-8-9 |
| 2 | Muan tidal flat | Jeonnam | national | 35.59 | 2001-12-28 |
| 3 | Jindo tidal flat | Jeonnam | national | 1.238 | 2002-12-28 |
| 4 | Suncheon tidal flat | Jeonnam | national | 28.0 | 2003-12-31 |
| 5 | Boseong-Beolgyo tidal flat | Jeonnam | national | 7.5 | 2003-12-32 |
| 6 | Ongjin-Jangbong islands tidal flat | Incheon | national | 68.4 | 2003.12.31 |
| 7 | Nakdong River estuary | Busan | national | 34.20 | 1989-3-10 |
| 8 | Sohwang sand dune | Chungnam | national | 0.121 | 2005-10-28 |
| 9 | Sinduri sanddune coastal ecosystem | Chungnam | national | 0.639 | 2002-10-9 |
| 10 | Moonseom and adjacent marine ecosystem | Jeju | national | 13.684 | 2002-11-5 |
| 11 | Oryukdo and adjacent marine ecosystem | Busan | national | 0.35 | 2003-12-31 |
| 12 | Daeijakdo and adjacent marine ecosystem | Incheon | national | 55.7 | 2003.12.31 |
| 13 | Hanryeo | Gyeongnam | national | 545,63 | 1968-12-31 |
| 14 | Taeon | Chungnam | national | 326.57 | 1978-10-30 |
| 15 | Dok-do Natural Heritage Protected Area | Gyeongbuk | national | 0.180 | 1982-11-16 |
| 16 | Seongsan Ilchul-bong Natural Heritage Protected Area | Jeju | national | 5.878 | 2000-7-18 |
| 17 | Moon-seom and Beom-seom Natural Heritage Protected Area | Jeju | national | 9.751 | 2000.7.18 |
| 18 | Chagui-do Natural Heritage Protected Area | Jeju | national | 6.721 | 2000-7-18 |
| 19 | Mara-do Natural Heritage Protected Area | Jeju | national | 6.860 | 2000-7-18 |

3.4 Russian Federation

In the Eastern area of the NOWPAP Region on the marine and coastal territory of Russia there are 7 state national reserves, 13 partial reserves and 1 natural park. The total area of the reserves makes about 9,5 millions ha, The same area of the partial reserves makes about 12,3 millions ha. Four of the seven reserves were awarded an international status of the Biospheric Reservation of UNESCO. One of them is marine reserve. Territories of four of seven reserves listed below and some of partial reserves directly adjoin to the sea coast and include a strip of adjoining water areas.

3.4.1 Far Eastern State Marine Nature Biospheric Reserve

Far Eastern State Marine Nature Biospheric Reserve was formed in 1978 within the system of the Russian Academy of Sciences. It is located in the Peter the Great Bay. The management of the Reserve activity has been assigned to the Institute of Marine Biology (IMB FEB RAS) by which initiative this reserve was organized and brings significant contribution to the research of biology of the Far Eastern seas. Unique in Russia, the marine reserve gives a notion about the nature and resources of the Peter the Great Bay as a whole and especially of the coastal part of Primorskii Krai. More than 3,300 species - both marine and terrestrial - are represented. The primary goals and directions of the reserve activity are: protection of the reserved territory and water area; description of marine and island biocenoses and their changes as a result of natural processes and anthropogenous influence; development of scientific bases for preservation and restoration of biocenoses aimed at the problem of gene pool preservation; elaboration of recommendations for the marine reserve activity; propagation of the wildlife management by organization of a museum and exhibitions, publication of the scientific and popular scientific literature on the sea nature and its preservation.

3.4.2 L.G. Kaplanov Lazovskiy State Nature Reserve

L.G. Kaplanov Lazovskiy State Nature Reserve was founded in 1935. The Reserve is located in the south-eastern part of Primorskii Krai, on the Sikhote Alin Ridge slopes, facing the sea. Total extent of borders makes 240 km, of them 36 km – along the sea coast. It includes 2 islands in the sea. Remarkable abundance in fauna and flora, dynamical polyclimatic structure, combination of intensive processes of speciation at preservation of the most ancient species of alive organisms have caused specific and kainogenetic variety of natural complexes not met anywhere in moderate latitudes, unique high biological productivity of wood ecosystems various and complex by their structure. In particular, Sikhote-Alin woods, natural complexes of the coastal part of the sea water area, and salmon rivers are referred to them. More than 8,000 species are represented in the Reserve.

3.4.3 K.G. Abramov Sikhote-Alin State Nature Biospheric Reserve

K.G. Abramov Sikhote-Alin State Nature Biospheric Reserve was established in 1935. It is located within the territory of three administrative areas of Primorskii Krai and consists of two detached continental territories and an adjoining sea water area making 29 square kilometers. The

Reserve is the oldest one in the region and has rich and fruitful experience of studies of protected natural complexes. More than 11,000 species both marine and terrestrial are under protection.

3.4.4 State Nature Reserve “Botchinskiy”

State Nature Reserve “Botchinskiy” was established in 1994. The Reserve is located on the northeast slopes of Sikhote Alin Ridge, in the eastern part of Khabarovsk Territory. The Reserve has a security zone where to a part of the Tartar Strait is included. Features of the Reserve consist in its location near to a boundary dividing the communities with the prevalence of southern and northern "Okhotsk" elements of flora and fauna. The Reserve is created for protection of the most northern grouping of the Amur tiger, spawning areas of valuable salmon fishes and wood ecosystems of the Northern Primorskii Krai in all their variety. The number of protected birds and plants consists of about 850 species.

3.4.5 State Marine Partial Reserve “Vostok Bay”

State Marine Partial Reserve “Vostok Bay” was established in 1989. It is located in the Peter the Great Bay, Eastern area of the NOWPAP Region. Partial Reserve is formed by the initiative of the Institute of Marine Biology, FEB RAS and is in its operative management. It is formed for preservation of the Vostok Bay natural complexes in their native-state status; for studying, preservation and reproduction of the water biological resources of the bay, valuable water objects and ecological systems; maintenance of the ecological balance and rational use of natural resources as a combination of the protected objects, mariculture plantations and a recreation zone within one area. The security zone of the Partial Reserve represents a shore 500 meters wide from a water edge. The number of organisms in the Reserve exceeds 2,600 species.

Table 5 Marine and Coastal Nature Reserves of Russian Federation

| No. | Name of nature reserves | Location | Rank | Area, ha | Date assigned |
|-----|---|----------------------|----------|----------|---------------|
| 1 | Far Eastern State Marine Nature Biospheric Reserve | Peter the Great Bay | global | 64,220 | 1978 |
| 2 | L.G. Kaplanov Lazovskiy State Nature Reserve | Primorskii Krai | national | 121,000 | 1940 |
| 3 | K.G. Abramov Sikhote-Alin State Nature Biospheric Reserve | Primorskii Krai | global | 401,430 | 1935 |
| 4 | State Nature Reserve "Botchinskiy" | Khabarovsk Territory | national | 267,300 | 1994 |
| 5 | V.L. Komarov Ussuriyskiy State Nature Reserve | Primorskii Krai | national | 40,430 | 1934 |
| 6 | State Nature Biospheric Reserve "Kedrovaja Pad" | Primorskii Krai | global | 17,900 | 1916 |
| 7 | Khankaiskiy State Nature Biospheric Reserve | Primorskii Krai | global | 39,290 | 1990 |

Table 6 Marine and Coastal Nature Partial Reserves and Natural Parks of Russian Federation

| No. | Name of nature partial reserves and natural parks | Location | Rank | Area, ha | Date assigned |
|------------|--|----------------------|---------------------------|-----------------|----------------------|
| 1 | State Marine Partial Reserve "Vostok Bay" | Peter the Great Bay | sub-national/ province | 1,820 | 1989 |
| 2 | Federal <u>Partial Reserve</u> "Barsovyi" | Primorskii Krai | national | 106,900 | 1979 |
| 3 | State Zoological <u>Partial Reserve</u> "Vasil'kovskiy" | Primorskii Krai | sub-national/ province | 34,000 | 1973 |
| 4 | State Zoological <u>Partial Reserve</u> "Chiernyye Skaly" | Primorskii Krai | sub-national/ province | 12,400 | 1984 |
| 5 | State Zoological <u>Partial Reserve</u> "Losinyiy" | Primorskii Krai | sub-national/ province | 26,000 | 1986 |
| 6 | State Zoological <u>Partial Reserve</u> "Goraliy" | Primorskii Krai | sub-national/ province | 4,700 | 1976 |
| 7 | State Zoological <u>Partial Reserve</u> "Borisovskoie Plato" | Primorskii Krai | sub-national/ province | 63,430 | 1996 |
| 8 | State Zoological <u>Partial Reserve</u> "Taiezhnyi" | Primorskii Krai | sub-national/ province | 29,000 | 1978 |
| 9 | State Zoological <u>Partial Reserve</u> "Tikhiy" | Primorskii Krai | sub-national/ province | 12,600 | 1957 |
| 10 | State Zoological <u>Partial Reserve</u> "Poltavskiy" | Primorskii Krai | sub-national/ province | 119,000 | 1963 |
| 11 | State Zoological <u>Partial Reserve</u> "Beriezoviy" | Primorskii Krai | sub-national/ province | 60,000 | 1963 |
| 12 | State Nature Landscape <u>Partial Reserve</u> "Verkhnebikinskiy" | Primorskii Krai | sub-national/ province | 746,500 | 1998 |
| 13 | Federal <u>Partial Reserve</u> "Tuminskiy" | Khabarovsk Territory | national | 143,100 | 1987 |
| 14 | Natural Park "Khasanskiy" | Primorskii Krai | sub-national/ province | 9,500 | 1997 |

4. Information of Management Organizations Related to Nature Reserves

4.1 P. R. China

SEPA administrates and manages nature reserve affairs of China as a head cross-sector leader, the other relevant administrative sectors such as State Oceanic Administration Bureau, State Forestry Administration Bureau, and Ministry of Agriculture are responsible for administrate and manage nature reserves approved by them. SEPA is also responsible to coordinate the affairs related to specific nature reserve which administrated by other governmental sectors.

State Environmental Protection Administration (SEPA)

Address: No.115 Xizhimennei Nanxiaojie, Beijing

Postcode: 100035

<http://www.zhb.gov.cn>

Main Responsibilities of SEPA concerning coastal and marine nature reserves is recoded as following:

- To supervise the marine and coastal development, utilization activities of natural resources and their impact on natural environment;

- To organize massive eco-environmental construction work and rehabilitation of ecological damages;

- To supervise and inspect the environmental protection in various kinds of nature reserves, scenic spots and forest parks;

- To supervise and inspect biodiversity conservation, wild life and species conservation, wetland environmental protection, and desertification combating;

- To provide recommendations to the State Council to approve on new national nature reserves;

- To supervise the management of national nature reserves, and;

- To serve as the head sector of biological species resources (including biological gene resources) administration and exotic invasive species administration.

In addition, other responsibilities of SEPA include:

- To organize the formulation and supervise the implementation of laws and regulations on nature and ecology conservation; to organize the formulation of bio-diversity conservation plans; to organize the formulation of planning of nature reserves plans in China; to recommend on the approval of nature reserves of various kinds of the state level; and to supervise the management of national level nature reserves.

State Oceanic Administration Bureau (SOA)

Address: No.1 Avenue, Fuxingmenwai, Beijing

Postcode: 100860

<http://www.soa.gov.cn>

Main Responsibilities concerning coastal and marine nature reserves of SOA: supervision and administration of the use of sea areas, responsible for prevention of marine pollution by marine construction projects, offshore exploration and exploitation, dumping of Wastes at Sea; administration of marine environment survey and monitoring and assessment; supervision of marine biodiversity and marine ecological protection; supervision of marine nature reserves.

State Forestry Administration Bureau

Address: No.18 Hepinglidongjie, Beijing

Postcode: 100714

<http://www.forestry.gov.cn/>

Main Responsibilities concerning coastal and marine nature reserves: Constituting and managing the national lists for key wild animals and plants, and release these lists under the permission of State Department; supervising the construction and management of nature reserves which belong to forest, landbased wildlife, and wetlands type.

Ministry of Agriculture

Address: No.11 Nongzhanguannanli, Chaoyang district, Beijing

Postcode: 100026

<http://www.agri.gov.cn>

Main Responsibilities concerning coastal and marine nature reserves : Responsible for protection of fishery water environment and aquatic wildlife.

4.2 Japan

As mentioned above all marine parks are under management of the National Park Division, Nature Conservation Bureau, and Ministry of the Environment Japan. Its address is 1-2-2 Kasumigaseki, Chiyada-ku, Tokyo 100-8975, Japan. The telephone number is +81-3-5521-8279 and Fax is +81-3-3595-1716. They have a good URL describing their activity at <http://www.env.go.jp/en/nature/npr/fcpr/index.html>

The bureau, to which the National Park Division is belonging to, has four divisions and attached branches. The most important organization other than National park division within the bureau is Biodiversity Center of Japan. Detailed activity of the center is described in their webpage at <http://www.biodic.go.jp/>. The center manages Japan Integrated Biodiversity Information System (J-IBIS), one of major database of biodiversity in Japan. The center is situated at 5597-1 Kenmarubi, Kamiyoshida, Fujiyoshida, Yamanashi, 403-0005, and its telephone number is 0555-72-6031.

4.3 Republic of Korea

4.3.1 Ministry of Environment

- Name: Ministry of Environment
- Acronym: ME

- Address: Government Complex-Gwacheon 1, Joongang-dong, Gwacheon-si, Gyeonggi-do
- Telephone: 82-2-2110-6549
- Fax: 82-2-504-9277
- E-mail:
- URL: <http://www.me.go.kr/>

The Ministry of Environment is the primary government agency responsible for the overall protection of Korea's environment. The Ministry's activities currently focus on improving the ambient environment (managing waste, securing and delivering clean water, ensuring air quality, and protecting ecosystems), harmonizing environmental and economic policymaking, and enhancing international cooperation on transnational environmental challenges such as the yellow dust phenomenon and climate change. The Ministry is also responsible for managing Korea's 20 national parks and resolving domestic disputes over natural resources.

4.3.2 Ministry of Maritime Affairs and Fisheries

- Name: Ministry of Maritime Affairs and Fisheries
- Acronym: MOMAF
- Address: 140-2 Gye-dong, Jongno-gu, Seoul
- Telephone: 82-2-3674-6990
- Fax: 82-2-3674-6996
- E-mail:
- URL: <http://www.momaf.go.kr>

The Ministry of Maritime Affairs and Fisheries (MOMAF) were established in August 1996, in order to integrate marine-related functions that had been scattered among 13 other government agencies. The integration was designed to help Korea become a leading marine power by giving priority to its marine policy and promoting the competitiveness of its marine industry. Currently, the Ministry has elaborated a new vision and strategy as a launch pad for Korea to be among the world's elite maritime nations. The initiative focuses on globalization and knowledge/information-based management, with which to proactively respond to the changes in the marine and fisheries environments. The newly proposed "Basic Plan for Marine Development (Ocean Korea 21)" aims at addressing the pending issues challenging the world in the 21st century, such as those involving food, resources, and environment and space restrictions. Its ultimate goal is to upgrade the competitiveness of Korea's marine industries through the Blue Revolution. The Plan, in conformity with the changed maritime/fisheries paradigm of the 21st century, has three basic objectives: creation of living oceans, establishment of knowledge-based marine industries and sustainable development of marine resources. It also has some 100 detailed strategies under them, among which is a core initiative for upgrading Korea's ports to the logistics hub of the Northeast Asian region. Based on the Plan, MOMAF will come up with annual implementation programs and lead Korea to be a marine power of the 21st century.

4.3.3 Cultural Heritage Administration, Ministry of Culture and Tourism

- Name: Cultural Heritage Administration

- Acronym: CHA
- Address: 139 Seonsa-ro, Seo-gu, Daejeon
- Telephone: 82-42481-4650
- Fax: 82-2-3292-8973
- E-mail:
- URL: <http://www.cha.go.kr/>

4.3.4 Korea National Park Authority

- Name: Korea National Park Authority
- Acronym: NPA
- Address: 252-2 Gongdeuk-dong, Mapo-gu, Seoul
- Telephone: 82-2-3279-2701
- Fax: 82-2-3292-8973
- E-mail:
- URL: <http://www.npa.or.kr/>

4.4. Russian Federation

4.4.1 Federal Supervisory Natural Resources Management Service on Primorski Krai

(1) and Khabarovsk Territory (2), Ministry of Natural Resources of the Russian Federation (Rosprirodnadzor)

Address (1): 31, Okeanskii Av., Primorski Krai, Vladivostok, Russia 690000

Tel: [7] (4232)407-808

Fax: [7] (4232)407-733

E-mail: sekretar@kpr.vladivostok.ru

URL: <http://control.mnr.gov.ru/part/?pid=507>

Address (2): 31, Gerasimov St., Khabarovsk Territory, Khabarovsk, Russia 680021

Tel: [7] (4212)342-461

Fax: [7] (4212)407-733

E-mail: nadzor@priroda.khn.ru

URL: <http://control.mnr.gov.ru/part/?pid=507>

The Federal Supervisory Natural Resources Management Service is a federal executive body performing control and supervision functions in the sphere of nature management.

The Federal Supervisory Natural Resources Management Service is under the authority of the Ministry of Natural Resources of the Russian Federation. Rosprirodnadzor carries out its powers within the specified scope of activity (<http://control.mnr.gov.ru/part/?pid=517>).

The Federal Supervisory Natural Resources Management Service exercises control and supervision:

- in the field of preservation, use, and reproduction of wildlife and wildlife habitat;
- in the field of organization and functioning of especially protected natural areas of federal importance;
- of the geological study, rational management, and conservation of the subsoil;
- of the condition, use, conservation, and protection of forest reserves, and of reforestation;
- of the use and protection of water bodies;
- of the observance of legislation of the Russian Federation and international rules and standards concerning the marine environment and natural resources of internal seas, the territorial sea, and exclusive economic zone;
- of the mineral and living resources conservation on the continental shelf; etc.

The Federal Supervisory Natural Resources Management Service also performs other functions in accordance with the Regulations on the Federal Service:

- is administrative organ for the Convention on International Trade in Endangered Species of Wild Fauna and Flora;
 - issues licenses for (permits):
 - getting, keeping and breeding of wildlife objects; import/export of zoological collections, wild animals (including endangered species), their parts or products to/from the Russian Federation;
 - export of wild animals, wild plants, zoolite bones, ivory, horns, hooves, corals, and similar materials;
 - export of animal and vegetable crude drugs;
 - export of fish, crustaceous, mollusks, and other marine invertebrates;
 - export of collection materials related to mineralogy and paleontology, semiprecious stones, and articles thereof; etc.
-
- Organizes and carries out the state ecological examination of reports, projects, analytical materials and other documentation, regulating economic and other activity which can affect use of natural resources;
 - Carries out monitoring of fauna objects, unique ecological systems, continental shelf, exclusive economic zone, internal sea waters and the territorial sea of the Russian Federation;
 - Carries out conducting the Red Book of the Russian Federation;
 - Carries out conducting a cadastre of especially protected natural territories of federal value;
 - Cooperates with the government bodies of foreign states and the international organizations in the specified scope of activity, etc.

4.4.2 Far Eastern Branch, Russian Academy of Sciences (FEB RAS)

Address: 50, Svetlanskaya St., Primorski Krai, Vladivostok, Russia 690600

Tel: [7] (4232)222-528

Fax: [7] (4232)228-750

E-mail: dvo@hq.febras.ru

URL: <http://www.febras.ru>

Up to the middle of 2006 three reserves were under the jurisdiction and management of the Institute of Marine Biology (<http://www.imb.dvo.ru/>) and Institute of Biology and Soil Sciences (<http://ibss.febras.ru/>) of the Far Eastern Branch, Russian Academy of Sciences. Now they are independent structural divisions of the FEB RAS.

Goals of the organizations are:

- Organization and realization of protection of the natural territories and water areas with a view of preservation of a biological variety and maintenance of protected natural complexes in their natural condition;
- Drawing up a cadastre of inhabitants, the description of dynamics of continental, sea and island communities as a result of natural processes and anthropogenous influences, development of scientific bases of preservation and restoration of biocoenoses;
- Realization of ecological monitoring; participation in the state ecological examination of projects and schemes of location of economic and other objects;
- Ecological education and enlightenment; assistance in preparation of scientific staff and experts in the field of environment preservation; propagation of wildlife management;
- Organization and execution of scientific research and work, including conducting the Annals of the Nature.

The basic lines of the scientific activity executed by the FEB RAS institutes in reserves are:

- Studying of biodiversity, ecology and evolution of flora and fauna, soil cover of the Asian - Pacific region; protection and reproduction of biological resources;
- Development of scientific bases and technologies for rational use, protection and reproduction of biological resources of the Russian Far East;
- Studying fauna and flora, ecology and biota efficiency on the shelf of the Far Eastern seas;
- Development of scientific bases for protection, reproduction and rational use of living resources of the shelf;
- Research of adaptations, ontogenesis and evolution of sea organisms.

4.4.3 Regional Environmental Institution «Administration of Especially Protected Nature Territories» (REI SPNT)

Address: 19, Nekrasov St., Ussuriisk, Primorski Krai, Russia 692519

Tel: [7] (4234)320-107

Fax: [7] (4234)320-107

E-mail: ooptprimorye@mail.ru

URL: <http://www.primorsky.ru/admin/nature/>

Activity of REI SPNT administration of regional rank is under management of the governmental authorities of Primorski Krai and Khabarovsk Territory. Maintenance of the established mode of especially protected natural territories is carried out according to the authorized positions or passports for separate categories of the SPNT.

SPNT Administration provides protection of territories of state natural partial reserves from all kinds of negative influences and carries out actions on restoration of natural complexes and biocenoses according to the status of a particular partial reserve. According to this status, constantly or temporarily it is forbidden or limited any activity within the protected territory if it contradicts the purposes of creation of state natural partial reserves or harms natural complexes and their components:

- Visiting reserves;
- Influences on fauna;
- Forest use, water use and using bowels;
- Gathering wild plants;
- Agriculture;
- Pollution of the territory.

For normal functioning of the partial reserves, for preservation of natural complexes and objects, rare species of plants and animals, objects of special protection, the SPNT Administration organizes the following nature protection actions:

- Regular nature protection spot-checks with the purpose of maintenance of the established mode of the territory protection and suppression of poaching;
- Actions on the territory accomplishment;
- Actions on decrease in anthropogenous loading on the territory: organization of regulated recreation;
- Biotechnical actions on preservation of animals;
- Preservation of rare species of animals and plants on the basis of the experts' recommendation;
- Account of the wild animals' number;
- Protection of habitat and wild animal migration ways, and also of endangered species;
- Fire-prevention actions;
- Silvicultural treatment.

5. Information on Activities, Measures, Laws and Regulations Related to Nature Reserves

5.1 Organizations

Four countries have established a well developed nature conservation administration mechanisms. Generally, two types of the administration mechanisms are carried out in these four countries.

One mechanism is “cross-sector” mechanisms, that means the nature conservation affairs, in despite of terrestrial and marine, are administrated by several governmental sectors, and each governmental sector has the specified target and duty on nature conservation. These sectors which have the relationship with nature conservation, however, seldom intervene the realms which controlled by other sectors. They manage the administration affairs in parallel and only cooperate with each other when these cooperation activities are needed. The countries adopt this mechanisms are China and Korea. Several government sectors of China, for example, have the duty of nature conservation administration. These sectors include State Environmental Protection Administration (SEPA) which is responsible for coordinating the overall nature conservation affairs with other governmental sectors, Ministry of Agriculture (MOA) which has its duty for farmlands and fishery, State Forestry Administration (SFA) which responsible for forestry species and ecosystems protection, and State Oceanic Administration (SOA) which responsible for environmental protection of marine and coasts of China, etc. Korea has the similar administration mechanism with China. Ministry of Construction and Transportation (MCT), Ministry of Maritime Affairs and Fisheries (MOMAF) and Ministry of Environment (ME) take charge of nature conservation affairs and frequently hold cross-sector conference and meetings to design the policies, strategies and action plans for nature conservation.

Another mechanism which adopted by Japan and Russia is “single-sector” mechanism. In this mechanism, however, nature conservation affairs are administrated by signal governmental sectors rather than several sectors. In Japan, for instance, the Ministry of Environment have the duty on law making, designation, nature reserve planning, and nature reserves classification, etc.

5.2 The Legal Systems

The four nations have gradually launched a series of laws, legislations and regulations regarding coastal and marine nature reserves. These laws, legislations and regulations have been integrated into well developed legal systems to ensure the establishment, management, protection and administration of marine and coastal nature reserves.

In China, for instance, the legal basis of the establishment of national nature reserves are *The Environmental Protection Law of the People’s Republic of China*, *Law of the People’s Republic of China on the Protection of Wildlife*, and *Fisheries Law of the People’s Republic of China*. On the basis of these laws, a regulation named *the Regulations for Nature Reserves of People’s Republic of China*, which will be introduced here after, are launched for the practise of nature reserves establishment and administration. Other several relevant laws and government sector legislations and regulations such as *Measures on Supervision and Inspection of National Nature Reserves*,

Measures on Management of Coastal and Marine Nature Reserves are also launched to practise the nature conservation laws and legislations. Detailed information about nature reserves (including marine nature reserves as well) regionalization, managing organizations, management activities and lawbreaking punishments are recorded in the regulations which launched by China government sectors relative with nature conservations.

According to the publication of the Ministry of Environment, the legal basis of Natural Parks of Japan is *The Natural Park Law*. The most important aims of this law are to conserve scenic areas of Japan, to promote their utilization, and to contribute to the health, recreation and culture for the people. The nature parks of Japan are classified into two categories: National Parks and Quasi-national parks, which are mentioned in the former paragraph of this report. Different conservation policies, management measures and sustainable use strategies are applied on National Parks and Quasi-national parks.

In Korea, the affairs of nature conservation are under administration of the following three ministries, Ministry of Construction and Transportation (MCT), Ministry of Maritime Affairs and Fisheries (MOMAF), and Ministry of Environment (ME). And totally 15 laws have been launched by these ministries. Ministry of Construction and Transportation has law concerning planning and uses of land, and designates and manages protection of fisheries resources. Ministry of Maritime Affairs and Fisheries (MOMAF) has laws on fisheries, mariculture, basic ocean and fisheries development, prevention of marine pollution, and fisheries management, then manages protection and enhancement area of fisheries, water pollution protection areas and fisheries management areas. Ministry of Environment (ME) has laws on wetland conservation; conservation of natural environment, natural parks, then manages special islands, marine and coastal natural parks, protection of natural birds, wetland protection areas and ecosystem conservation areas. The latter two areas concerned also MOMAF. Each law explicitly mentions the measures and enforcements in case of violation.

The legislation of the Russian Federation on especially protected natural territories is based on corresponding provisions of the Constitution of the Russian Federation and consists of the base federal law, other laws and regulations of the Russian Federation accepted according to it, and also laws and regulations of the Russian Federation constituents.

The relationships arising at using the grounds, water, wood and other natural resources of especially protected natural territories, are regulated by the corresponding legislation of the Russian Federation and the legislation of the Russian Federation constituents.

Property relationships in the field of use and protection of especially protected natural territories, organization and functioning of the state nature reserves and other nature protection establishments are regulated by the civil legislation if other is not stipulated by the federal law.

5.3 Nature Reserves Establishment and Administrations

At present, four countries have set up the well organized procedures for marine and coastal nature reserves establishment, and have arranged the integrated plans for management and administration of marine and coastal nature reserves. The administration systems and the procedures for nature reserve & national park establishment shall be introduced in the following paragraphs.

5.3.1 Nature Reserves Establishment

In China, for example, according to *the Regulations for Nature Reserves of People's Republic of China*, the establishments (locations, areas, etc.) of marine and coastal nature reserves are firstly proposed by central or local government sectors which relevant to nature reserves administration such as SEPA, MOA, SFA, etc, these proposals are usually named as plans of nature reserves. The plan usually compiled by the research institutes which have the qualification approved by. Nature Reserve Committee of Reviewing and Promotion After these plans are evaluated by the committee, nature reserves only can be established and the Administration Office (Bureaus) of nature reserves can be set after plans are approved by the committee.

At present, all the key marine and coastal nature reserves have arranged plans for themselves. These plans include the Master Plan of *Liaoning Dandong Yalu River Estuary Wetlands National Nature Reserves*, *Dongshan Changdao national nature reserves*, *Jiangsu Yancheng Tidal Flat Rare Birds National Nature Reserves*, and *Jiangsu Dafeng Pere Davis deer (*Elaphurus davidianus*) National Nature Reserves*, etc.

In Japan, according to *The Natural Park Law*, National Parks are designated by the Director General of the Environment Agency after conferring with related governmental agencies and consulting with the Nature Conservation Council, and Quasi-National Parks are designated by the Director General of the Environment Agency by proposal of the Governor of the Prefecture concerned after conferring with related governmental agencies and consulting with the Nature Conservation Council.

Conservation and regulations for facilities for utilization of National Parks are planned by the Environment Agency and revised about every five years. For Quasi-National Parks planning is conducted by the Prefectures concerned under the guidance of the Environment agency to follow the standards of National Parks.

According to the Federal Law of Russian Federation, the SPNT are the sites where have natural complexes, and objects which have special nature protection, scientific, cultural, aesthetic, recreational and health-improving value, and other places which need to be specially protection. Thus, these natural complexes and objects most significant are presented on a scale of the federal system of especially protected territories which basis is made by the state nature reserves.

Establishment of SPNT in Russia has long history of more than 100 years. At present, a SPNT network at a greater or smaller completeness covers all natural zones and all regions of the country.

There seven protected area in SPNT categories, they are described as following:

- (1) State nature reserves, including biospheric ones;
- (2) State nature partial reserves;
- (3) Natural parks;
- (4) National parks;
- (5) Nature sanctuaries;
- (6) Dendrology parks and botanical gardens;
- (7) Therapeutic localities and resorts.

In SPNT networks, especially protected natural territories of the federal and regional significance are established accordingly by the Government of the Russian Federation and by the Executive Branch of the Government of the Russian Federation constituents. Especially protected natural local

territories are established by laws and other normative legal acts of the Russian Federation constituents.

5.3.2 Nature Reserves Administration

Generally, the administrative activities and measures of marine and coastal nature reserves in China include nature reserves development planning, nature reserves supervision, wetland protection, scientific research, public awareness and educations, and international cooperation. These activities and measures are usually executed by the local Administration Offices/Bureaus (the lowest level in nature reserves conservation administration system) of nature reserves.

Nature reserves development planning The central government sectors which have duty to administrate coast and marine nature reserves frequently arrange national nature reserves strategic plans to build the administration capacity. These plans include *China Natural Conservation Outline*, *China Nature Reserves Development Plan Outline*, *China Nature Reserves Development Plan*, and *The Plan of National Wetland Protection Project (2005~2010)*. Most strategic national plans have been launched by central government of China, and the relevant sectors execute the plans through central level to local level. Beside the strategic plan released by central government, provinces, counties and nature reserves administration offices themselves also arrange series of plans for future development of nature reserves. In Liaoning Province, for instance, several plans such as *Liaoning Marine Nature Reserves Plan* and other thematic plans has been completed and executed.

Nature reserves supervision Inspections and are frequently arranged by relevant government sectors such as SEPA, MOA, SFA and the Nature Reserve Committee of Reviewing and Promotion. The aim of this measure is to ensure that the plans are performed well, unique ecosystems species and other protected targets in nature reserves are effectively protected, and the activities and measures that are executing in nature reserves contribute to protect species and ecosystems biodiversity in these nature reserves.

Scientific research Liaoning Dandong Yalu River Estuary Wetland National Nature Reserve, Dongshan Changdao National Nature Reserve, Jiangsu Yancheng Tidal Flat Rare Birds National Nature Reserve, and Jiangsu Dafeng Pere Davis deer National Nature Reserve have also widely cooperated with domestic and international scientific research facilities and agencies, the nature reserves administration offices allow them make scientific research projects about biological conservation in nature reserves. These research projects include species surveys, *in situ* conservation attempts for rare and endangered species, sustainable use of biological resources, and society poverty elimination. In four key nature reserves, 24-hour monitoring stations have also been built up to understand the changes of nature resources and ecosystem conditions in nature reserves. These measures provide well supports for scientifically management of nature reserves.

Public educations Diverse public educations of natural conservation for local residents have been carried out in four critical marine nature reserves, residents study the knowledge about biodiversity conservations by public educations, this help them know more about the significance of nature reserves and enhance their willingness to cooperate with the management of nature reserves.

International cooperation All four key national marine and coastal nature reserves administration offices consider international cooperation as the most important affairs in nature

reserves management. The administrations of these nature reserves strengthen the cooperation with overseas government departments, scientific institutes and Non-Government Organizations (NGOs), consulting overseas nature reserves the advanced experience about nature reserves management and conservation measures, and negotiating overseas government departments and NGOs about the investments for the nature reserves. These measures obviously improve the management capacity of the four nature reserves themselves.

Compared with China, the administration system of nature reserves in Japan is also well developed and the National Parks administration agencies play effectively role on marine and coastal nature reserves. The National Parks and Quasi-National Parks are administrated by 89 Rangers located in the parks. There are 41 Ranger's Offices under 10 National Park Offices supervised by the Environment Agency. According to the arrangement of areas in national parks (see the figure below), the marine park areas are considered equivalent to the special protection areas in the national and quasi-national parks. Activities listed below must be permitted by the Minister of the ministry of environment in National parks, and by the governor general of the prefecture in quasi-national parks. The activities under control of the law are:

- a) Building, rebuilding and modifying of constructions.
- b) Mining and taking off of soil and/or rocks.
- c) Showing advertisement panel.
- d) Taking, killing and damaging he species such as tropical fishes, corals, and algae that are appointed by the minister of environment with agreement by the minister of agriculture.
- e) Reclamation of the sea surface.
- f) Changing the topography of the sea floor.
- g) Mooring materials.

Discharging waste water.

It is also prohibited to do activities that may cause uncomfortable for those who are using the national parks and quasi-national parks. For example, leaving waste in the park is strictly banned. Also making strong smell, using loud speaker, occupying viewing points, approaching too tight to the users in order to sell materials etc. are not allowed.

For those special areas which marked by black, permission of works like construction is given by the Director General of the Environment Agency for National Parks and by the Governor of Prefecture concerned for Quasi-National Parks.

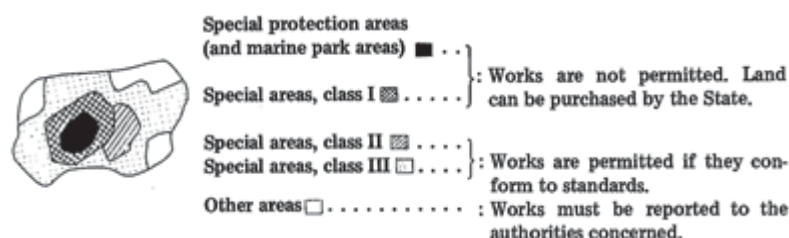


Fig. 1 Arrangement of areas in national parks

Inventory of species living in the marine park areas of Japan are now undergoing. The project name is Green Census, carried out by the ministry of environment. The information obtained through the census is in J-IBIS, and is available online as GIS information. The ministry of environment is

now planning a new initiative, named "Monitoring 1000". It is an activity to continue monitoring of environment at 1000 sites in Japan. Sites within marine park areas will be monitored in detail when the initiative will start in the near future.

In Russia Federation, a state nature reserve is established by the governmental regulation of the Russian Federation under condition of the Russian Federation constituents consent to refer its territory to the objects of the federal property; it is accepted upon submission by the governmental authorities of the Russian Federation constituents and a specially authorized state body of the Russian Federation in the field of the environment protection. Expansion of the state nature reserve territory is performed in the same order.

Governmental bodies of the Russian Federation managing the newly created state nature reserves, define the terms and stages of the formation of their organizational - economic infrastructure corresponding to the state nature reserve as a nature protection establishment. During the period previous to the creation of this infrastructure, the control over a mode of the state nature reserve is carried out by the corresponding federal executive authorities or other bodies authorized by them.

On the ground and water areas adjoining the territories of the state nature reserves the protective zones with the restricted mode of the wildlife management are created.

The decision on establishment of the protective zone of a state nature reserve is accepted by the executive authorities of the Russian Federation constituents, and the regulations about it are also approved by the executive authorities of the Russian Federation constituent.

State nature partial reserves of the federal importance are established by decisions of the Russian Federation Government on the basis of submission by executive authorities of the Russian Federation constituents and a specially authorized state body of the Russian Federation in the field of environment protection. According to the land legislation creation of the state nature partial reserves is agreed with the proprietors, owners, users of the ground and water areas where they are located.

State nature partial reserves of the regional importance are formed by executive authorities of the corresponding constituents of the Russian Federation as agreed with the corresponding institutions of the local authorities. According to the land legislation creation of state nature partial reserves is agreed with the proprietors, owners, users of the ground and water areas where they are located.

Change of borders, reorganization and abolition of the state nature partial reserves are carried out in the same order, as their formation.

Decision on a natural park establishment is taken by the government bodies of the Russian Federation constituents on submission by a specially authorized state body of the Russian Federation in the field of the environment protection as agreed by the local administration.

Creation of natural parks related to the withdrawal of the ground areas or water spaces, used for the nation-wide needs, is carried out by resolution of the executive authorities of the Russian Federation constituents as agreed with the Government of the Russian Federation.

6. Summary

In NOWPAP Region, about 108 marine and coastal nature reserves have been established according to the national feedbacks that are handed out by four countries. Of these, 18 nature reserves (4 national natural reserves and 14 natural reserves at local level) for P. R. China, 63 for Japan (all national level), 22 for Korea (all national level), 21 of Russia (7 state national reserves, 13 partial reserves and 1 natural park). These nature reserves protect more than 17,000 species, and provide sanctuaries for about 440 rare and endangered species in NOWPAP Region and distinctly promoted in-situ conservation and marine resources sustainable use of this region. These rare and endangered species include famous waterfowls such as red-crowned crane (*Grus japonensis*), whooper swan (*Cygnus cygnus*), mammals Pere David deer (*Elaphurus davidianus*), and plant Wild soybean (*Glycine soja*).

These nature reserves, again, involve most typical and unique ecosystems of NOWPAP Region. The major ecosystems protected by marine and coastal nature reserves include estuaries, intertidal zone, islands, salt marshes, and rocky and sandy beaches, etc. The nature reserves that established in NOWPAP Region protect marine and coastal ecosystems and provide fantastic sanctuaries and habitats for species presence in the region, and have positive effects to improve sustainable use nature resource in the around areas of nature reserves.

China, Japan and Korea have launched series of laws for nature reserves administration. These laws have become the legal basis of nature reserves conservation legislation and regulation arrangement in these countries. On the basis of these laws, legislations and regulations related to nature reserves conservation have been launched by relevant governmental sectors. The laws, legislations and regulations contribute distinctive legal systems for nature reserves conservation in China, Japan, Korea and Russia.

Although the aims of the most laws, legislations and regulations are launched both for marine and coastal and terrestrial nature reserves, some regulations that specifically for marine and coastal nature reserves, however, are still launched and implemented by governmental sectors which have responsibility to marine nature reserves administration. One example is from Bureau of Oceanic of China, two regulations, named as *The Administration Measures for Marine Nature Reserves* and *The Temporary Administration Measures for Special Marine Nature Reserves* have been launched by this agency in 1995 and 2005, respectively.

According the responsibilities by the legal systems of four countries, the marine and coastal nature reserves are mostly administrated by governmental sectors which have responsibility for environment protection. In China, the governmental sectors related to nature reserves administration are State Environmental Protection Administration, Ministry of Agriculture, State Forestry Administration, and State Oceanic Administration. The nature reserve administration mechanism of Korea is quite similar with what in China. The departments in charge of nature reserves are Ministry of Construction and Transportation, Ministry of Maritime Affairs and Fisheries, and Ministry of Environment. However, in Japan, only one sector, Ministry of Environment, takes in charge of nature reserves administration affairs in its administration mechanism.

Presently, about 108 marine and coastal nature reserves have been established by those governmental agencies in NOWPAP Region, as mentioned above. Series of activities and measures have been implemented in these protected areas to maintain the complexity of the unique

ecosystems and the survey of rare and endangered species in NOWPAP Region. In this report, China, Japan, Korea and Russia provide detailed information about their activities and measure which implemented in marine and coastal nature reserves.

In China, these activities and measures include nature reserves development plan prepared by central/local governmental sectors or nature reserve administration office, nature reserve supervision, wetland protection, scientific research, public awareness and educations, and international cooperation. These activities and measures are usually executed by the local Administration Offices (Bureaus) of nature reserves.

In Japan, Ministry of Environment takes in charge of marine and coastal nature reserves administration, the establishment of nature reserves is designated by Director General of the Environment Agency after conferring with related governmental agencies and consulting with the Nature Conservation Council, and the National Parks and Quasi-National Parks are administrated by 41 Ranger's Offices under 10 National Park Offices supervised by the Environment Agency. In marine park area, strictly administration measures are applied and destructive construction activities are prohibited by Ranger's Offices according to *The Nature Park Law* and other relevant regulations.

Impressive progresses have been made in marine and coastal nature reserves conservation of China, Japan, Russia and Korea in NOWPAP Region. Four countries set policies, strategies, activities and measure in marine and coastal nature conservation domain. These policies, strategies, activities and measure include the legal systems construction, administration system building, and local administration capacity building, etc. These effects improve the biodiversity conservation and sustainable use of coastal and resource in NOWPAP Region effectively.

Several constrains are also identified in this region even though outstanding progresses have been made by four countries. These constrains are as following:

1. The marine and coastal nature reserve quantity are still inadequate to protect the diverse and complexity of species and ecosystems;
2. The lack of species and nature resource surveys for nature reserves; surveys for species and nature resource of nature reserves are not completed in some nature reserves;
3. Database for nature reserves need to be strengthened in NOWPAP Region;
4. New research & technique support, such as GIS technique, for marine and coastal nature reserve selection is urgently needed in the region;
5. Public awareness and education should be strengthened further.

The other problem of four countries is the lack of the nature reserves established in offshore areas. The marine and coastal nature reserves in NOWPAP Region, however, are mostly established along coastline or on islands; there are a little nature reserves are established entirely for shallow seawater.

According to this situation, it is strongly recommended that UNEP provides a database that proves the necessity of establishing more marine parks and similar regions in four countries. We also suggest that more attentions should be given to the marine area in the region, and more nature reserves should be established in offshore seawater to protect marine species effectively.

Furthermore, the surveys about species and ecosystems biodiversity need to be strengthened in four countries to provide data and information about rare and endangered species, and typical and critical area which need to be protected, For instance, the species diversity of marine fauna and flora

of Japan in the marine parks are not well surveyed yet. As a consequence, no species could be listed as endangered species and only a few species could be nominated as marine protected species in the report of Japan. China has the similar problem with species and ecosystems biodiversity survey because of lack of funding and taxonomist of marine species. It is strongly recommended to carry out extensive inventory of marine fauna and flora in the marine parks. It is also necessary to establish a database that will manage data obtained through these inventory activities, and make data available for public who are interested in conservation of marine biodiversity.

The third problem is that new research & technique supports are urgently needed in the region. For China, Japan and Korea, attempts to identify and select new nature reserve sites. New technique supports, especially the GIS technique could be used as strong tools in the progress of nature reserve selections. Therefore, it is suggested that more researches and study projects about GIS application on marine and coastal nature reserve selection and management should be launched, and more funds should be given for the development of these projects.

Impressive progresses of public awareness and educations have been made in four countries. More people have realized the importance of marine and coastal species and ecosystems biodiversity. Nevertheless, more works still should be done for citizens in four countries. It is suggested that public awareness education should be reinforced in four countries, and public nature conservation awareness should combine with the public education such as marine and coastal nature reserve visiting, species and ecosystem knowledge education, etc. These activities should contribute to raise the enthusiasm in the citizens of four countries.

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**National Report of the People's Republic of China on Marine and Coastal
Nature Reserves in the NOWPAP Region**

1. Country

People's Republic of China

2. Issued Date of the National Report

30 April, 2007

3. NOWPAP DINRAC Focal Points

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3.3 Introduction to Institutions in Which the NOWPAP DINRAC Focal Points Work

The Marine Environmental Protection Division, the State Environmental Protection Administration (SEPA).

The SEPA is a ministerial-level authority directly under the State Council. The SEPA, as a department to make unified supervision and administration over nationwide environmental protection, is in charge of guidance, coordination and supervision of nationwide marine environmental protection, and is responsible for prevention and control of land-based pollution and administration of coastal construction projects.

Marine environmental protection division is affiliated with the department of pollution control of SEPA. The division is in charge of coastal and marine environmental protection in SEPA, such as prevention and control of land-based pollution, supervision and administration of coastal engineering and ship-dismantling projects.

Main Responsibilities of the Department of pollution control:

- To formulate and organize the implementation of laws, regulations and rules on pollution prevention of air, water, seas and oceans, noise, solid wastes, toxic chemicals and vehicle emission;
- to organize the implementation of environmental management systems such as registration of pollution discharge application, pollution discharge permit, deadline treatment of pollution sources and standard-attaining discharge, registration of import and export of toxic chemicals, operation permit of hazardous wastes and regulation of compulsive emission treatment by EP authority;
- to organize the formulation of environmental function zoning plans;
- to organize the formulation of pollution prevention plans for national level river basins and regions and to supervise the implementation of the plans;
- to undertake the examination and approval of the import and export permits of the wastes to be used as raw materials;
- to supervise and administrate the marine environmental pollution prevention related to coastal engineering projects, land-based pollution and ship-dismantling.

4. Current Situation of the Establishment of Marine and Coastal Nature Reserves

Marine and coastal nature reserves are representative natural areas which are delimited for protection of coastal and marine environment and resources. The establishment of coastal and marine reserves is one of the measures to conserve marine biodiversity and protect coastal and marine environment. Marine and coastal nature reserves not only maintain the productivity and function of ecosystems, but also preserve the genetic biodiversity of species by reducing disturbances and destructions from outside.

In the Yellow Sea region, China has coasts, estuaries, wetlands, islands and other important ecosystems. Since 1980s, China has established 18 natural reserves (4 national natural reserves

and 14 local natural reserves) in the Yellow Sea region. These natural reserves contribute to coastal and marine resource conservation and sustainable use.

5. Introduction of the Key Nature Reserves

There are four national-level nature reserves, seven provincial-level nature reserves and seven city/county-level nature reserves in the coastal & marine area of Yellow Sea. The following are the introduction of four national nature reserves:

5.1 Yalujiang River Estuary and Coastal Wetland National Nature Reserve, Dandong, Liaoning

Management organization : Dandong Yalujiang River Estuary and Coastal Wetland National Nature Reserve office

Address: No. 39-5 Liuwei Road, Zhenxing District, Dandong, Liaoning Province

Tel: 86-0415-212-2886

URL: <http://www.ddepb.gov.cn>

Liaoning Dandong Yalujiang River Estuary and Coastal Wetland National Nature Reserve locates in the Donggang City, Liaoning Province. The total area of the nature reserve is about 108057ha. The nature reserve was approved as county-level nature reserve in 1987 by the People's Government of Donggou county (renamed Donggang City in 1995). It was promoted to provincial-level nature reserves in 1995 and promoted to national-level nature reserves in 1997.

This nature reserve locates in the coastal zone. It has diverse habitat types such as reeds, marshes, lakes, intertide flat and estuary with special and diverse fauna and flora. There are 289 species in 64 families plants recorded in the area. Wild soybean (*Glycine soja*) is one of the plant species which is specially protected in China. A total number of 456 wild animal species are recorded, including 88 fishes, 3 amphibians, 240 Aves, 74 invertebrates and 54 zooplanktons.

Among these wild animals, 8 waterfowls such as red -crowned crane (*Grus japonensis*) and white crane (*Grus leucogeranus*) are in the list of the first class protected wild animals; 30 species such as whooper swan (*Cygnus cygnus*), white spoonbill (*Platalea leucorodia*) are in the list of the second class protected wild animals. The nature reserve is also one of the most important stage for migratory waterfowl in northeast Asia. 121 species of 227 migratory bird listed in *China-Japan Agreement for Protection of Migratory Birds and Habitats* are discovered in the nature reserve. The plant resources are also abundant in the nature reserve. The production of reeds is about 50,000 ton/y, and production of seafood hard clam (*Meretrix meretrix*) is about 90,000 ton/y. The nature reserve provides habitats for wildlife, and conserves the genetic and species diversity of wildlife.

5.2 Shandong Changdao National Nature Reserve

Management organization : Shandong Changdao National Nature Reserve office

Address: No. 16 Leyuan Street, Changshan Town, Changdao County, Shandong Province

Tel: 86-0535-321-2641

URL: N/A

Shandong Changdao national nature reserve locates in Changdao County, with the area of 5,300ha. The nature reserve was approved as provincial-level nature reserves in 1982 by the People's Government of Shandong Province, it was promoted to national nature reserves in 1988. The objective of this nature reserve is to protect the habitats of raptors such as hawks and other migratory birds.

The nature reserve locates between the Liaodong and Shandong peninsula, composed of 32 islands of Changshan Isle. These islands are important stages for migratory birds in their migratory routes. The well protected and favorable environment condition of the nature reserve provides food sources and habitats for both resident and migratory birds. About 240 Aves species are recorded in the protected area. 196 species of 227 migratory birds listed in *China-Japan Agreement for Protection of Migratory Birds and Habitats* are discovered in the nature reserve.

5.3 Jiangsu Yancheng Rare Bird National Nature Reserve

Management organization : Jiangsu Yancheng Rare Bird National Nature Reserve office

Address: No. 224333 Dongshou, Xinyang Dock, Yiyang County, Yancheng City, Jiangsu Province

Tel: 86-0515-264-2202

Email Address: ycnrnnews@126.com

URL: [Http://www.yccrane.com](http://www.yccrane.com)

The nature reserve locates in the coastal area of Yiyang, Dafeng, Binhai, Xiangshui, Dongtai counties of Yancheng City, with 453,000 ha. The nature reserve was established in 1984 as provincial-level nature reserve, it was promoted to national nature reserves in 1992. At the same year, the nature reserve entered into Man and the Biosphere (MAB) protection network by Educational, Scientific, and Cultural Organization, United Nations (UNESCO). In 2002, the nature reserve was listed in the *Wetlands of International Importance*. The conservation focus for this nature reserve is the rare birds such as red-crowned crane (*Grus japonensis*) and the intertidal flat ecosystem which is important to these rare species.

The intertidal flat is typical silt plain and its length is about 444 km long. There are Marshes and wetland in this area. Biological resources are also abundant. The core zone of the nature reserve is preserved well and has less disturbance. About 315 bird species are recorded in this area. 9 species are in first-class wild animals protected, 33 species are the second-class wild animals protected. The nature reserve is the biggest living place through winter for red-crowned crane (*Grus japonensis*) in the world. About 600 red-crowned crane (*Grus japonensis*) are through winter here each year. This area is also an important breeding base for international endangered species Saunder's Gull (*Larus saundersi*). The establishment of Yancheng nature reserve has special and important significance for migratory birds, especially red-crowned crane (*Grus japonensis*).

5.4 Jiangsu Dafeng Pere Davis Deer (*Elaphurus davidianus*) National Nature Reserve

Management organization: Jiangsu Dafeng Pere Davis deer (*Elaphurus davidianus*) National Nature Reserve office

Address: Pere Davis deer nature reserve, Dafeng county, Jiangsu Province

Tel: 86-0515-339-1912

Email Address: dingyuhua@china.com

URL: <http://www.chinamlw.org>

Dafeng nature reserve locates in Dafeng county of Jiangsu province, with total area of 2,667 ha. The nature reserve was set up in 1986 as provincial-level nature reserve. It was promoted to national nature reserve in 1997. In 2002, the nature reserve was listed in *Inventory of Wetlands of International Importance*. The aim of the establishment of this nature reserve is to protect Pere Davis deer (*Elaphurus davidianus*) and its habitat.

The nature reserve includes muddy flat, swamps, and salt marshes. The fauna and flora are also complex and highly diverse. The vegetation is dominated by White Cogongrass (*Imperata cylindrica*) and reeds (*Phragmites australis*). About 223 Vascular Macrophytes are recorded in the area. The wild animals have 20 mammals, 182 birds, 27 amphibians and reptiles, 150 fishes, 10 Echinodermata, 62 annelid, 8 coelenterate, 98 phytoplanktons. In August 1986, the Ministry of Forest and the World Wildlife Funds (WWF) introduced 39 Pere Davis deer (*Elaphurus davidianus*) to the nature reserve. The deer population was developed to 268 after 10 years. The nature reserve has another 4 first-class wild animals protected such as red-crowned crane (*Grus japonensis*) and white crane (*Grus leucogeranus*), etc., and has 19 second-class wild animals protected such as whooper swan (*Cygnus cygnus*) and Chinese river-deer (*Hydropotes inermis*), etc.. Since the nature reserves is one of the important living place through winter for migratory birds, 95 bird species were in the list of the protected targets of *China-Japan Agreement for Protection of Migratory Birds and Habitats*.

6. Human Pressures on Nature Reserves

6.1 Coastal Development

With development of China's eastern coastal zone, massive wetlands, and coastline are exploited for agriculture, industrial recreational purposes. These human activities produce disturbance and threats to coastal and marine nature reserves. For instance, threats to Yancheng nature reserve include drainage for agriculture and conversion to fish pond, and disturbance by construction project. Threats to Yalujiang river mouth national nature reserve include disturbance at roost sites and on feeding grounds by fishermen.

6.2 Marine Pollution

According to China Marine Environment Quality Bulletin (2005), the water quality of about 43,000 km² of the Yellow Sea failed to achieve the clean seawater quality, the most polluted area are Yalujiang River estuary, Jiaozhou Bay and partly coastal water in Jiangsu province, about 5.0% and 12.5% of the near shore seawater of Shandong and Jiangsu Province were classified as "exceeding four class water quality". Investigation demonstrates the main pollutants in the Yellow Sea are N, PO₄⁻², and oil, and according to *the Environment Quality Bulletin of Chinese Offshore Sea Regions (2005)*. Marine and offshore pollution threatens the biodiversity conservation by the nature reserves.

6.3 Beach Collection

Beach collection is one of the important approaches for coastal residents to increase their income. The collection usually can be classified as reeds and stover harvestry, crab, seashell and clamworm collection, and intertidal flat fishing. Beach over-collection activities make seriously threats to nature reserves and the biodiversity and habitats for wildlife. In Yancheng nature reserves, for example, reeds (*Phragmites australis*), white cogongrass (*Imperata cylindrica*) and Chinese Aeluropus (*Aeluropus sinensis*) have massive biomass and also the dominant species of vegetation. The residents around the nature reserves usually harvest these species every winter. The harvesting is obviously disturbing the habitats of wildlife in the nature reserves. Similar disturbances also occur in Yalujiang and Dafeng nature reserves. The collection of crab, seashell and clamworm and intertidal flat fishing also heavily threat the biodiversity of nature reserves.

6.4 Aquaculture

Aquaculture not only impacts on the integrity of habitats in and around nature reserves, but also has possibility to cause non-point pollution and alien species invasion.

Since 1980, aquaculture has been rapidly developing around Yancheng nature reserve. Several economic species, such as laver (*Porphyra spp.*), clam (*Meretrix sp.*), razor clam (*Sinonovacula constricta*), mullet (*Mugil cephalus*), prawn (*Penaeus spp.*) and crab (*Portunus spp.*) and some freshwater fishes were broadly cultured in this area. Aquaculture activities not only disturbed the nature reserve by massive project constructions, but also caused the pollution of water body in nature reserves.

7. Management Organizations Related to Nature Reserves

Chinese nature reserve administration is to combine integrated administration and sectoral administration. State Environmental Protection Administration is responsible for integrated administration of nature reserves all over the country. The other relevant administrative sectors such as State Oceanic Administration, State Forestry Administration, Ministry of Agriculture within respective authorities are in charge of administration of relevant nature reserves.

State Environmental Protection Administration

Address: No.115 Xizhimennei Nanxiaojie Beijing

Postcode: 100035

<http://www.zhb.gov.cn>

Main Responsibilities concerning coastal and marine nature reserves: Supervising the development and utilization activities of natural resources with impact on natural environment, major eco-environmental construction work and rehabilitation of ecological damages; supervising and inspecting the environmental protection in various kinds of nature reserves, scenic spots and forest parks; supervising and inspecting bio-diversity conservation, wild life and species conservation, wetland environmental protection, and desertification combating; proposing recommendations to the State Council on approving new national nature reserves of various kinds; supervising the

management of national nature reserves; and serving as the head organization in charge of biological species resources (including biological genetic resources) management and exotic invasive species management. In addition, Concrete responsibilities include: To organize the formulation and supervise the implementation of laws and regulations on nature and ecology conservation; to organize the formulation of bio-diversity conservation plans; to organize the formulation of planning of nature reserves plans in China; to recommend on the approval of nature reserves of various kinds of the state level; and to supervise the management of national level nature reserves.

State Oceanic Administration

Address: No.1 Avenue, Fuxingmenwai, Beijing

Postcode: 100860

<http://www.soa.gov.cn>

Main Responsibilities concerning coastal and marine nature reserves: Supervision and Management of use of sea areas, responsible for prevention of marine pollution by marine construction projects, offshore exploration and exploitation, Dumping of Wastes at Sea; Administration of marine environment survey and monitoring and assessment; Supervision of marine biodiversity and marine ecological protection; Supervision of marine nature reserves.

State Forestry Administration

Address: No.18 Hepinglidongjie, Beijing

Postcode: 100714

<http://www.forestry.gov.cn/>

Main Responsibilities concerning coastal and marine nature reserves: Constituting and managing the national lists for key wild animals and plants, and release these lists under the permission of State Department; supervising the construction and management of nature reserves which belong to forest, landbased wildlife, and wetlands type.

Ministry of Agriculture

Address: No.11 Nongzhanguannanli, Chaoyang district, Beijing

Postcode: 100026

<http://www.agri.gov.cn>

Main Responsibilities concerning coastal and marine nature reserves: Responsible for protection of fishery water environment and aquatic wildlife.

8. Activities and Measures (including laws and regulation) Related to Nature Reserves

8.1 Law and Regulation

So far, China has successively enacted and implemented a series of laws and regulations regarding coastal and marine nature reserves. They mainly include the followings:

“The Environmental Protection Law of the People’s Republic of China”

“The Marine Environmental Protection Law of the People’s Republic of China”

“Law of the People’s Republic of China on the Protection of Wildlife”(November 8, 1988)

“Fisheries Law of the People’s Republic of China”

“Regulations on the Nature Reserves of the People’s Republic of China”(December 1, 1994)

“Measures on Supervision and Inspection of National Nature Reserves”

“Measures on Management of coastal and marine nature reserves”

Other relevant laws and regulations: “The Forest Law of the People’s Republic of China”, “Law of the People’s Republic of China on Administration of the Use of Sea Areas”, “Regulations of the People’s Republic of China on the Prevention of pollution Damage to the Marine Environment” by Coastal Construction Projections, “Regulations of the People’s Republic of China on the Prevention of pollution Damage to the Marine Environment” by Marine Construction Projections, “Regulations of the People’s Republic of China on the Prevention of pollution Damage to the Marine Environment” by Land-based Pollutants, etc..

8.2 Other Measures

Plan Arrangement. The nature reserve administration organizations enhance management of nature reserves by making plans. At national level, China has made and implemented Program of nature reserve development plan in China (1996-2010), The outline of overall plan for national-level nature reserve in China. At local level, nature reserve administration organizations arranged series of plans for future development of nature reserves, for instance, *Liaoning Marine Nature Reserves Plan*, *Liaoning Dandong Yalujiang River Estuary and Wetlands National Nature Reserve plan*, *Dongshan Changdao national nature reserve plan*, *Jiangsu Yancheng Rare Bird National Nature Reserve plan*, and *Jiangsu Dafeng Pere Davis deer (*Elaphurus davidianus*) national nature reserve plan*.

Supervision Management. In accordance with laws and regulations concerning nature reserves, Made Compliance inspection and implementation by environmental protection administration together with forestry administration and oceanic management administration.

Wetland Protection. Enhancement of wetland protection is an important approach to conserve coastal wetland nature reserves. Wetland Protection will be enhanced by the plan of National Wetland Protection Project (2005~2010) .

Scientific Research. Liaoning Dandong Yalujiang River Estuary and Wetlands National Nature Reserve, Shandong Changdao national nature reserve, Jiangsu Yancheng Rare Bird National Nature Reserve, and Jiangsu Dafeng Pere Davis deer (*Elaphurus davidianus*) national nature reserve have also widely cooperation with domestic and international scientific research facilities and agencies. Four monitoring stations have been built up to study the changes of nature resources and ecosystem condition in nature reserves. These measures provide support for scientific management of nature reserves.

Public Education. Diverse public educations of natural conservation for local residents have been carried out in national nature reserves in the Yellow Sea. Local residents can study the knowledge about biodiversity conservation by public educations. This help them know more about the significance of nature reserves.

9. Inventory of Nature Reserves

Table 1 Inventory of national nature reserves in the coastal & marine areas of Yellow Sea

| No. | name | location | level | Important objects protected | Areas(hm ²) | Time of establishment |
|-----|--------------------|--|----------|---|-------------------------|-----------------------|
| 1 | Yalujiang estuary | Donggang City, Liaoning 120°21'39"—123°30'50"E 39°40'50"—40°50"N | national | Muddy flats, wetlands and migratory water fowls | 108,057 | 1987-07-01 |
| 2 | Changdao | Changdao County, Shandong 120°75'E, 38°17'N | national | Raptors and migratory birds | 5,300 | 1982-01-01 |
| 3 | Yancheng rare bird | Yancheng, Jiangsu Province 119°48'~120°56'N, 32°34'~34°28'E | national | Red-crowned crane and other rare bird species, and tidal flat wetland ecosystem | 453,000 | 1984-01-01 |
| 4 | Dafeng Davis Deer | Dafeng county, Jiangsu Province 120°74'E, 33°07'N | national | Pere Davis deer and their habitats | 2,776 | 1986-02-08 |

Source: Inventory of Chinese nature reserves, State Environment Protection Administration, Environmental Science Press, 2005

Table 2 Inventory of local nature reserves in the coastal & marine areas of Yellow Sea

| No. | name | location | level | Important objects protected | Areas(hm ²) | Time of establishment |
|-----|-------------------------------|---------------------------------|-------|---|-------------------------|-----------------------|
| 1 | Shanshan marine rare species | Dalian, Liaoning Prov. | city | beche-de-mer and abalone | 1,103 | 1986-12-01 |
| 2 | Changhai marine rare species | Changhai County, Liaoning Prov. | Prov. | <i>Stichopus japonicus</i> and <i>Haliotis discus hannai inocean</i> | 220 | 1985-04-01 |
| 3 | Changshan Isle marine species | Changhai County, Liaoning Prov. | city | <i>Stichopus japonicus</i> and <i>Haliotis discus hannai inocean</i> etc. | 413 | 2004-01-01 |
| 4 | Haiwang Nine | Changhai County, | city | Special littoral | 2,143 | 2000-08-01 |

| | | | | | | |
|----|---|------------------------------|--------|--|---------|------------|
| | Island | Liaoning Prov. | | geomorphy, landscape and birds | | |
| 5 | Laopian Island-Yuhuan g Ding | Dalian, Liaoning Prov. | city | Marine rare species and marine ecosystems | 1,580 | 2000-08-01 |
| 6 | Dagong Island | Qingdao, Shandong Prov. | Prov. | Marine ecosystems and birds | 1,603 | 2001-03-01 |
| 7 | Qingdao amphioxus | Qingdao, Shandong Prov. | city | Amphioxus (<i>Amphioxus Belcheri</i>) | 6,181 | 2004-08-01 |
| 8 | Miao Isle seals | Changdao, Prov. | Prov. | Common seals (<i>Phoca largha</i>) and habitats | 173,100 | 2001-06-01 |
| 9 | Qiansan Island | Rizhao, Shandong Prov. | city | Marine wildlife | 10,000 | 1992-12-01 |
| 10 | Qianliyan Island | Haiyang, Shandong Prov. | Prov. | Islands and marine ecosystem | 1,824 | 1999-12-01 |
| 11 | Rongcheng Chengshantu | Rongcheng, Shandong Prov. | Prov. | Marine ecosystems | 6,366 | 2002-12-01 |
| 12 | Rongcheng SanggouFjord nature reserves | Rongcheng, Shandong Prov. | county | Marine rare species | 13,333 | 1987-05-01 |
| 13 | Rongcheng whooper swan | Rongcheng, Shandong Prov. | Prov. | whooper swan and habitats | 10,500 | 1984-01-01 |
| 14 | Qidong in the north estuary of Yangtze river | Qidong, JiangsuProv. | Prov. | Red-crowned crane, white-crowned crane and other rare bird species | 47,734 | 1985-08-01 |

Source: Inventory of Chinese nature reserves, State Environment Protection Administration, Environmental Science Press, 2005

10. Summary

In the Yellow Sea region, China has several important ecosystems including coasts, estuaries, wetlands, islands. Since the end of 1980s, 18 coastal and marine natural reserves (4 national natural reserves and 14 natural reserves on local level) have been established in coastal and marine areas in the Yellow Sea Region. These natural reserves contribute to biodiversity conservation and sustainable use of marine resources in the region.

The purpose and significance of the establishment of national nature reserves are described as following: The Liaoning Dandong Yalujiang estuary and coastal wetland national nature reserve provides habitats for wildlife, and maintain the genetic and species diversity of these wildlife. Shandong Changdao national nature reserve provides undisturbed habitats for rare and endangered bird species. Yancheng national nature reserve is an important conservation and research center of red-crowned crane (*Grus japonensis*) and other migratory water fowls, and provides the living place through winter for migratory birds. Dafeng Pere Davis deer (*Elaphurus davidianus*) national nature reserve plays critical role in introducing Pere Davis deer (*Elaphurus davidianus*) to the nature reserve, and made artificial breeding of the deer. In 2002, Yancheng and Dafeng nature reserves have also been listed in Inventory of *Wetlands of International Importance*. The national nature reserves in the Yellow Sea region have significance for biodiversity conservation in global and regional scales.

Note:

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