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

DINRAC, Beijing, the People's Republic of China

September 2007

UNEP/NOWPAP/DINRAC/Publication No. 7

TABLE OF CONTENTS

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 42-48^0 N, 130-140^0 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 (*Elaphurus davidianus*)	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 Penninsula (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 crispate

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
Cirrhilabrus 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 scrlactinian 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 Tsusima 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 Penninsula 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 iwatensis
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 up heaved 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 Penninsula	Shakotan Town, Hokkaido	national	28.9	1972-10-16
		Otaru Coast	Otaru City, Hokkaido	national	14.7	1972-10-16
2	Shimokita Penninsula	Hotogegaura	Sai Village, Aomori	national	5.7	1975-12-11
		Taishima Island	Mutsu City, Aomori	national	3.6	1975-12-11
3	South Bousou	Katsuura	Katuura City, Chiba	national	14.5	1974-7-7
4	Sado Yahiko Yoneyama	Tokaifu	Sado City, Niigata	national	10	1971-1-22
		Aikawa	Sado City, Niigata	national	6	1971-1-22
		Ogi	Sado City, Niigata	national	5	1971-1-22
5	Noto Penninsula	Konoura	Tamasu 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	Kaiyou 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
		Tsusima 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 km^2. 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 km^2. 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 km^2).
- 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 km^2. Among them, marine and coastal “Wildlife Protected Areas” amount to 476 with 802.21 km^2.
- 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 km^2 including marine area of 2,625.05 km^2. 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 km^2.
- 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	Taean	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 andwater 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, maricultre 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	globall	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	globall	17,900	1916
7	Khankaiskiy State Nature Biospheric Reserve	Primorskii Krai	globall	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 Partial Reserve “Barsovyi”	Primorskii Krai	national	106,900	1979
3	State Zoological Partial Reserve “Vasil’kovskiy”	Primorskii Krai	sub-national/ province	34,000	1973
4	State Zoological Partial Reserve “Chiernyie Skaly”	Primorskii Krai	sub-national/ province	12,400	1984
5	State Zoological Partial Reserve “Losinyiy”	Primorskii Krai	sub-national/ province	26,000	1986
6	State Zoological Partial Reserve “Goraliy”	Primorskii Krai	sub-national/ province	4,700	1976
7	State Zoological Partial Reserve “Borisovskoie Plato”	Primorskii Krai	sub-national/ province	63,430	1996
8	State Zoological Partial Reserve “Taiezhnyi”	Primorskii Krai	sub-national/ province	29,000	1978
9	State Zoological Partial Reserve “Tikhiy”	Primorskii Krai	sub-national/ province	12,600	1957
10	State Zoological Partial Reserve “Poltavskiy”	Primorskii Krai	sub-national/ province	119,000	1963
11	State Zoological Partial Reserve “Beriezovyiy”	Primorskii Krai	sub-national/ province	60,000	1963
12	State Nature Landscape Partial Reserve “Verkhnebikinskiy”	Primorskii Krai	sub-national/ province	746,500	1998
13	Federal Partial Reserve “Tumninskiy”	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/fcpn/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 laud 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.

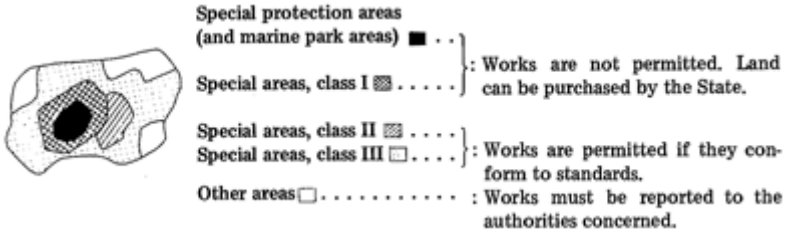

Fig. 1 Arrangement of areas in national parks

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 Davis 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 counties. 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 coast 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

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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 invertibrates 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
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Email Address: ycnnrnews@126.com
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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 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 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 km^2 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, PO_4^{-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 genic resources) management and exotic invasive species management. In addition, Concrete responsiblities 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,resposible 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(hm2）	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(hm2）	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.	*Stichopus japonicus* and *Haliotis discus hannai inocean*	220	1985-04-01
3	Changshan Isle marine species	Changhai County, Liaoning Prov.	city	*Stichopus japonicus* and *Haliotis discus hannai inocean* 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-Yuhuang 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 (*Amphious Belcheri*)	6,181	2004-08-01
8	Miao Isle seals	Changdao, Prov.	Prov.	Common seals (*Phoca largha*) 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 Chengshantou	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:

Main Sources of the report are:

- Web sites of related Agencies/Institutions/Organizations.
- National Report on Coastal and Marine Environmental Data and Information in the Northwest Pacific Region. UNEP/NOWPAP/DINRAC/Publication No. 1. DINRAC, Beijing, October, 2004.
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National Report of Japan on Marine and Coastal Nature Reserves in the NOWPAP Region

1. Country

Japan

2. Issued Date

December 20, 2006

3. NOWPAP DINRAC Focal Points

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3.2 Introduction to Institutions in Which the NOWPAP DINRAC Focal Point Works

Seto Marine Biological Laboratory has been established in 1922 as a marine biological research station of the Faculty of Science, Kyoto Imperial University in the area called Kikyou daira of Bansho Zaki Cape by purchasing the land from Seto Kanayama Town.

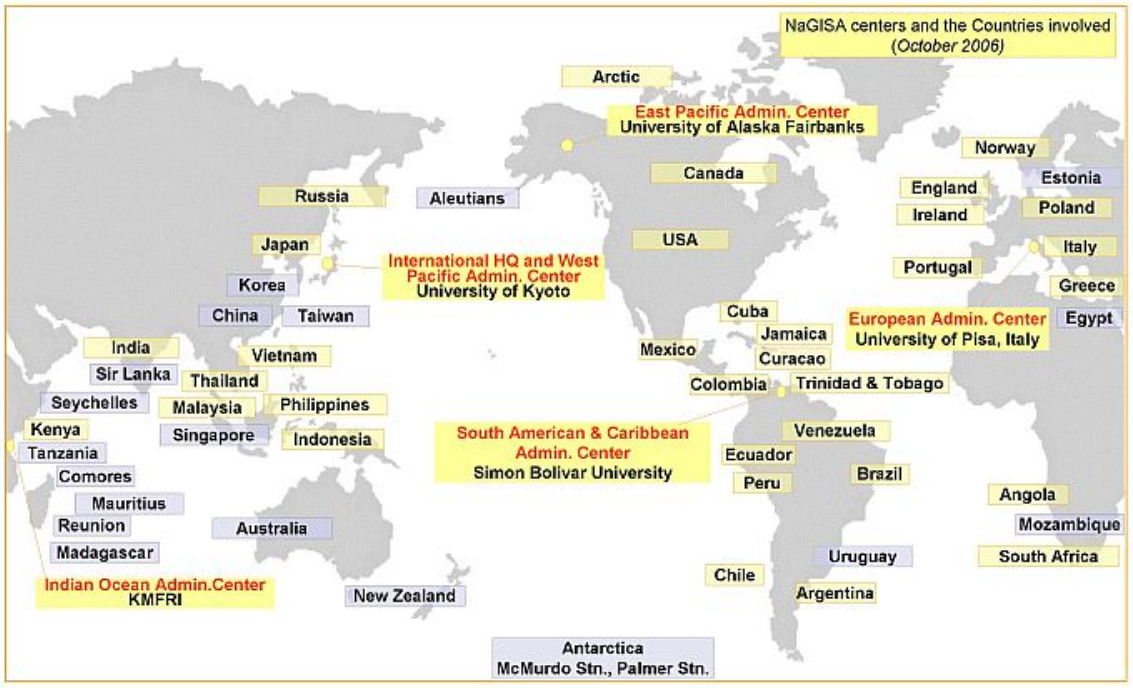
Currently, the laboratory consists of 40,630m2 land, 26,530m2 Hatake-Jima Island (an experimental field) and 5,680m2 buildings. The environments around the laboratory are well conserved. The staffs of the laboratory carry out natural historic research, such as, taxonomy and ecology, of marine organisms living around the laboratory. Many visiting researchers use the facility. In addition, marine courses of not only Kyoto University but also other universities also are held in the laboratory. The aquarium attached to the laboratory is open to the public.

The recent most important activity of the Seto Marine Biological Laboratory is project NaGISA (Natural Geography In Shore Area) that is one of the huge international marine biological initiative named Census of Marine Life (CoML). NaGISA is a collaborative effort aimed at inventorying and monitoring costal biodiversity. The Japanese word nagisa, refers to the narrow coastal zone where the land meets the sea; the area people know best and impact most. As one of the first Census of Marine Life field projects NaGISA has take an ambassadorial role linking CoML goals and local interests, encouraging international cooperation and capacity building.

NaGISA plans to complete a habitat specific, qualitative survey of the world ocean shores. By employing a simple, cost efficient, low-tech sampling protocol that can be adopted by many research groups and countries with the intent of promoting local community involvement (outreach and education). The ultimate goal is a series of well-distributed standard transects from the high

inter-tidal zone to the depth of 20m covering the world, which can be repeated over a 50-year or greater time frame.

The international headquarters of NaGISA are in Seto Marine Biological Laboratory and regional centers are currently organized in again Seto Marine Biological Laboratory Japan, plus Fairbanks USA, Pisa Italy and Caracas Venezuela.



Map 1. Project map of NaGISA (Natural Geography in Shore area). That covers through out the world, and providing data of marine biodiversity in coastal zone. (after http://www.nagisa.coml.org/)

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

Generally nature conservation activity at national governmental level is under handling of the Ministry of Environment.

Based on the Nature Conservation Law, the "Basic Policy on Conservation of the Natural Environment" was decided by the Japanese Cabinet in 1973. Part one of the policy declares the concept of conservation of natural environment. According to the policy, they evaluated the value of nature as follows “1. Nature provides the resources necessary for human economic activities and 2. Nature is in itself an essential element of human life”.

It also strongly emphasized the tight relationships among human, nature and human activities. Then the law said “In view of this part played by nature in our social life, it might be said with reason that we must in the first place appreciate highly the value of nature and make a sprit of protection and conservation of nature our daily rule. From this standpoint, we are required to adopt a more well-rounded way of thinking based on ecology which illuminates the equilibrium existing among the various components of nature. We must cope with problems concerning conservation of the natural

environment with the view that, principally, no human activity shall be allowed to disturb those subtle balances among such elements as sunlight, atmosphere, water, earth, and living beings."

However, it is clear that human beings have used nature for their life, and use of the nature without any damage to the nature is obviously impossible. Thus the law said that "under these circumstances it might be suggested that a more positive and far-sighted attitude is required to cope with nature conservation, so as to brace for further trouble in the future. In other words, we must not only protect nature from destruction but also take active measures to restore and re-arrange the natural environment as our common goods. For this, the invaluable nature rich in flora and fauna, wild animals, land with unique topographical features and the like, must be conserved in an ample area with the view to prevent any conceivable further damage in the near future."

Under the above policy, six fundamental directions of the actual policy for nature conservation were set. They were described as follows:

- Nature Conservation Law and associated legal institutions of various kinds are to be employed in a comprehensive manner permitting a systematic conservation of nature in her diversity.

- Natural areas to be conserved must be properly administered in accordance with their specific characteristics. For this purpose, we must, while endeavoring to elaborate the relevant administrative system, encourage purchases of privately-owned land when deemed necessary.

- When a large-scale development project of any kind potentially destructive to the natural environment is to be executed, the executer concerned must carry out prior surveys which range from forecasts of the extent of impact resulting from the project on the natural environment to comparative studies on alternative projects. The result of such prior surveys is to be reflected in the project and the work is to be carried out with the consent of local residents. He must see to it that measures can be taken for nature conservation whendeemed necessary even after the development work.

- Much is still to be learned about the mechanism of nature. We must vigorously encourage studies on human activities in relation to nature, ecological cycle of materials and techniques ensuring the conservation of the ecosystem. For this purpose, we must endeavour to establish a research system, elaborate an information network and train technicians who are capable of turning the work of researchers into concrete measures. Moreover, we must carry out scientific surveys in various fields ranging from flora and fauna, wild animals, topography, and geology to the invisible mechanism of nature often neglected, in order to grasp precisely the actual state of the natural environment in our country.

- To ensure sufficient conservation of the natural environment, it is essential that every single individual in our country appreciate and activate the sprit of conservation and protection of nature. For this, environmental education is to be vigorously promoted shools as well as in communities in order to deepen the insight of the people into the relation between man and nature and eventually to cultivate love and morality in regard to nature.

- It is one of the major purposes of nature conservation to respond to the longing of our people for nature. Sound outdoor recreation which ensures man's contact with nature will assume more and more importance in the daily life of the people, and actually, there is a growing demand for it. On the other hand, such activity is threatening to destroy the irreplaceable nature where it is excessively concentrated in one particular local area. Therefore, policies encouraging out door recreation must be readjusted in a manner ensuring a proper conservation of the natural environment.

Under above policies, the real actions taken by the Ministry of Environment can be classified in to two major systems. They are Nature conservation and Natural Parks. Major activities related to marine environment are in the latter category. Thus in this report, details are described in the following sections regarding marine parks set in National Parks and Quasi-national parks.

There are five Wilderness Areas (5,600ha) and eight Nature Conservation Areas (7,400ha) set by the Ministry of Environment. All these areas are designated to protect terrestrial area from the activities of human beings, but marine area is not covered.

At the local government level, there are 465 nature conservation areas and they cover as large as 79,000 ha. However, again, no marine area is included in these conservation areas.

There are also natural parks set by local governments. In Japan there are 294 such natural parks, and they cover 2,030,000 ha of land. In this report, however, they were not considered, because little information about these natural parks was available, although some, e.g. Uwa Sea and Omura Bay, obviously contain marine region. Also it should be noticed that the most important area, “marine parks” are only set inside National and Quasi-national parks.

5. Introduction of the Key Nature Reserves

There are 33 marine park areas in National Parks and 31 areas in Quasi-national Parks. In this report, 3 marine parks in National Parks and 6 ones in Quasi-national parks were selected as key nature reserves in Japan. Two criteria were 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.

All nature reserves listed below is at the National level, and its type is national park.

All of them are managed by NATIONAL PARK DIVISION, NATURE CONSERVATION BUREAU, MINISTRY OF THE ENVIRONMENT. Details of the division will be described in Section 6.

Unfortunately in the marine park area, quantitative survey of species living in the area is not carried out yet. It is thus not possible to show data other than species name regarding marine protected species. Also due to lack of abundance data, there is no information regarding endangered species in the area.

5.1 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 Penninsula (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 in the Eastern area of NOWPAP Region, and 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 crispate

Fig. 1 Typical rich algal scene found in Shiro marine park (after http://www.coremoc.go.jp/park/1_rekisi/rekisi.html)

5.2 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 and Eastern area of NOWPAP Region 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
Cirrhilabrus temminckii
Pectiniidae
Chaetodontidae
Thalassoma cupido

Fig. 2 Rich corals growing in the Fukue marine park (after http://www.pref.nagasaki.jp/sizen/1-kaityukouen/umi.html).

5.3 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 situated middle Eastern area of NOWPAP Region. This area is 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

Fig. 3 Establishment of visitor center in Takeno marine park.
The house is used by divers to observe the underwater scences (after http://www.sizenken.biodic.go.jp/pc/live/camera/30/shisetsu/30.htm)

5.4 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 scrlactinian coral, and Pectiniidae is a family name of pectens.

Acropora sp.
Tubastraea coccinea
Pectiniidae
Petroscirtes breviceps

5.5 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 reef 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 Tsusima 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

5.6 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 Penninsula 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.

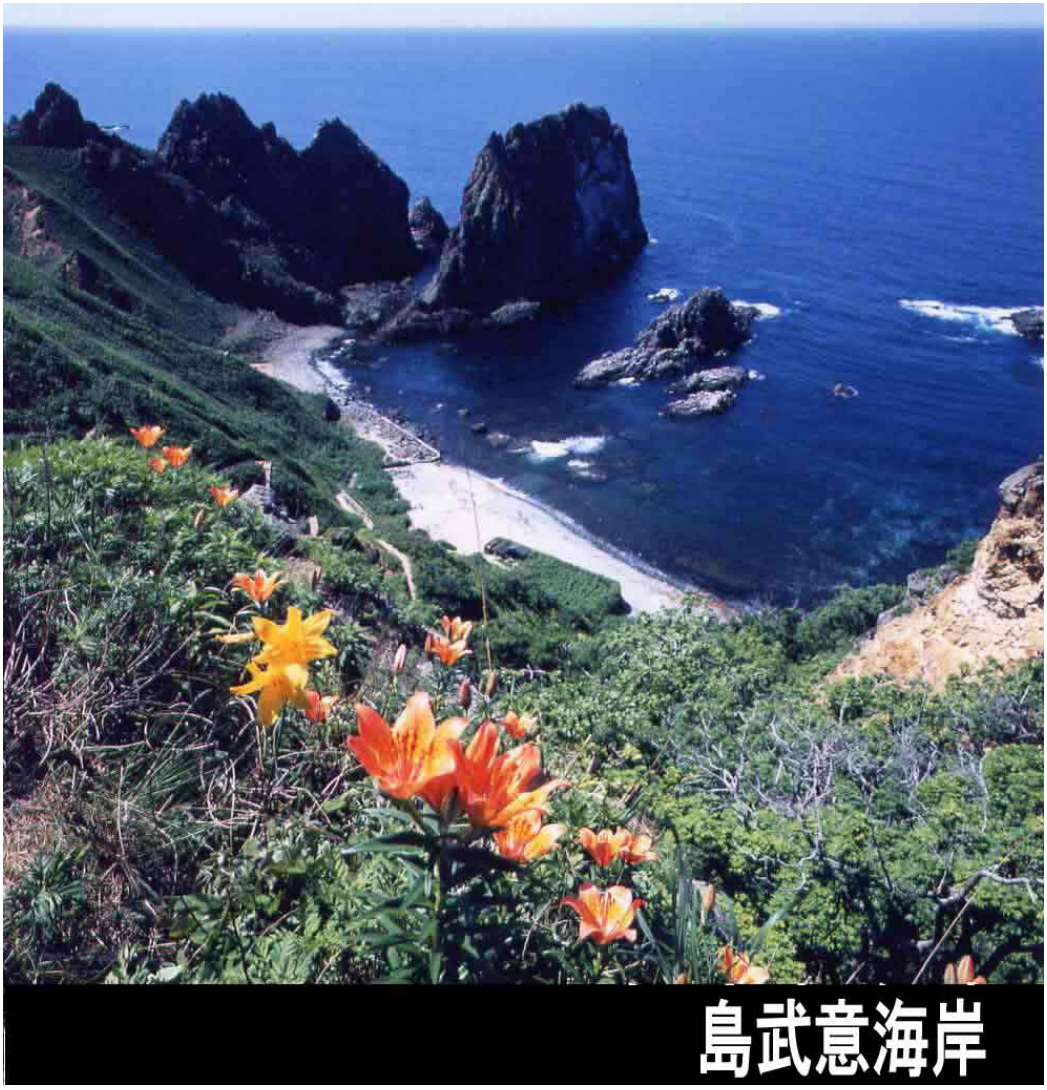
Following five species are recognized as marine protected species from this marine park.

Rhizopsammia minuta mutsuensis

Phyllospadix iwatensis

Actinia equina

Haliplanella lineata



Metridium senile

Fig. 4 Beautiful scenes of Shakotan Penninsula marine park areas.

5.7 Sado-Yahiko-Yoneyama Quasi-National Park

Sado Island is the largest island in Japan. The landscape of topography is full of variety of up heaved coast. This area is well known as the area where the last individuals 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

5.8 Wakasa-wan Quasi-national Park

Wakasa Bay is a large bay situated in the middle of Eastern area of NOWPAP Region. It has 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

6. Management Organisations Related to Nature Reserves

As mentioned above all marine parks are under management of the National Park Division, Nature Conservation Bureau, 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/fcpn/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 J-IBIS, Japan Integrated Biodiversity Information System, 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.

The division also manage 8 regional environmental offices with some branches and 71 ranger offices situated in national parks. Details of these offices are listed in Table 1.

Regional Environment Office

Office	Address	Tel No. Fax No.
Hokkaido Regional Environment Office	Kita-1, Nishi-10-1, Chuo-ku, Sapporo, Hokkaido, 060-0001	011-251-8700 011-219-7072
Kushiro Nature Conservation Office	10-3, Saiwai-cho, Kushiro, Hokkaido, 085-8639	0154-32-7500 0154-32-7575
Tohoku Regional Environment Office	3-2-23, Hon-cho, Aoba-ku, Sendai, Miyagi, 980-0014	022-722-2870 022-722-2872
Kanto Regional Environment Office	11-2, Shintoshin, Chuo-ku, Saitama-shi, Saitama, 330-6018	048-600-0516 048-600-0517
Niigata Office	5-1, Bandaijima, Niigata-shi, Niigata, 950-0078	025-249-7575 025-290-6675
Nikko Nature Conservation Office	9-5, Hon-cho, Nikko, Tochigi, 321-1434	0288-54-1076 0288-53-4154
Hakone Nature Conservation Office	164 Kyufudaba, Motohakone, Hakone, Ashigarashimo, Kanagawa, 250-0522	0460-4-8727 0460-4-9349
Chubu Regional Environment Office	3-4-6, Nishiki, Naka-ku, Nagoya, Aichi, 460-0003	052-955-2130 052-951-8889
Nagano Nature Conservation Office	1108, Asahi-machi, Nagano-shi, Nagano, 380-0846	026-231-6570 026-235-1226
Matsumoto Nature Conservation Office	124-7, Azumi, matsumoto, Nagano, 390-1501	0263-94-2024 0263-94-2651
Kinki Regional Environment Office	1-7-31, Otemae, Chuo-ku, Osaka-shi, Osaka, 540-6591	06-4792-0700 06-4790-2800
Chugoku-Shikoku Regional Environment Office	18-28, Kuwata-cho, Okayama-shi, Okayama, 700-0984	086-223-1577 086-224-2081
Hiroshima Office	16-11, Hachobori, Chuo-ku, Hiroshima, 730-0013	082-511-0006 082-211-0455
Takamatsu Office	2-1-1, Kotobuki-cho, Takamatsu, Kagawa, 760-0023	087-811-7240 087-822-6203
Yonago Nature Conservation Office	124-16, Higashi-machi, Yonago, Tottori, 683-0067	0859-34-9331 0859-34-9330
Kyusyu Regional Environment Office	1-6-22, Onoue, Kumamoto-shi, Kumamoto, 862-0913	096-214-0311 096-214-0354
Fukuoka Office	2-6-23, HakataekiHigashi, Hakata-ku, Fukuoka-shi, Fukuoka, 812-0913	092-437-8851 092-481-6565
Aso Nature Conservation Office	1180,Kurokawa,Aso, Kumamoto,869-2225	0967-34-0254 0967-34-2082
Naha Nature Conservation Office	5-21,Yamashita-cho,Naha,Okinawa,900-0027	098-858-5824 098-858-5825

Table 1. Regional Environmental Offices belonging to Nature Conservation Bureau of the Ministry of Environment Japan.

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

The systems of nature conservation related to the natural parks are described in the publication of the ministry of Environment as follows (Ministry of Environment, 1982).

The legal basis of Natural Parks is the Natural Park Law. The Law aims to conserve scenic areas, to promote their utilization, and to contribute to the health, recreation and culture of the people. To cope with this Law, Natural Parks of different order are designated.

National Parks: 27 parks, 2.02 million hectares (ca. 5.4% of the area of the country)

Quasi-National Parks: 52 parks, 1.25 million hectares (ca. 3.0% of the area of the country)

Prefectural Nature Parks: 293 parks, 2.05 million hectares (ca. 5.5% of the total area of the country)

Designation and planning of the National Parks and Quasi-National Parks are carried out in the following scheme.

7.1 Designation

National Park: Designated by the Director General of the Environment Agency after conferring with related governmental agencies and consulting with the Nature Conservation Council.

Quasi-National Park: 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.

7.2 Planning

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.

7.3 Classification of Park Areas and Regulations in Them

Special areas: 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.

7.4 Administrative System

The 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.

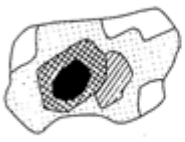


Fig. 5 Arrangement of areas in national parks.

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.
h) 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 laud speaker, occupying viewing points, approaching too tight to the users in order to sell materials etc. are not allowed.

The history of marine parks in Japan go back to 1970. In 1962, when International Union of Conservation of Nature holded the 1st world national park congress in Seattle, USA, they agreed a recommendation to the participating government suggesting to set marine protected area in the national park area in order to conserve the habitat of shallow water marine organisms that are facing critical situations.

Respecting the recommendation, research to set marine park area and survey of candidate area were started. As a result of these efforts, it was decided to establish marine park areas inside national and quasi-national parks, and in 1970, the law of national parks were modified so as to appoint areas that have pristine marine scenes as marine park areas.
So far 63 areas are appointed as marine park areas in Japan (Fig. 1). Details of these marine parks are listed in Tables 2 and 3.

Inventory of species living in these areas 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.

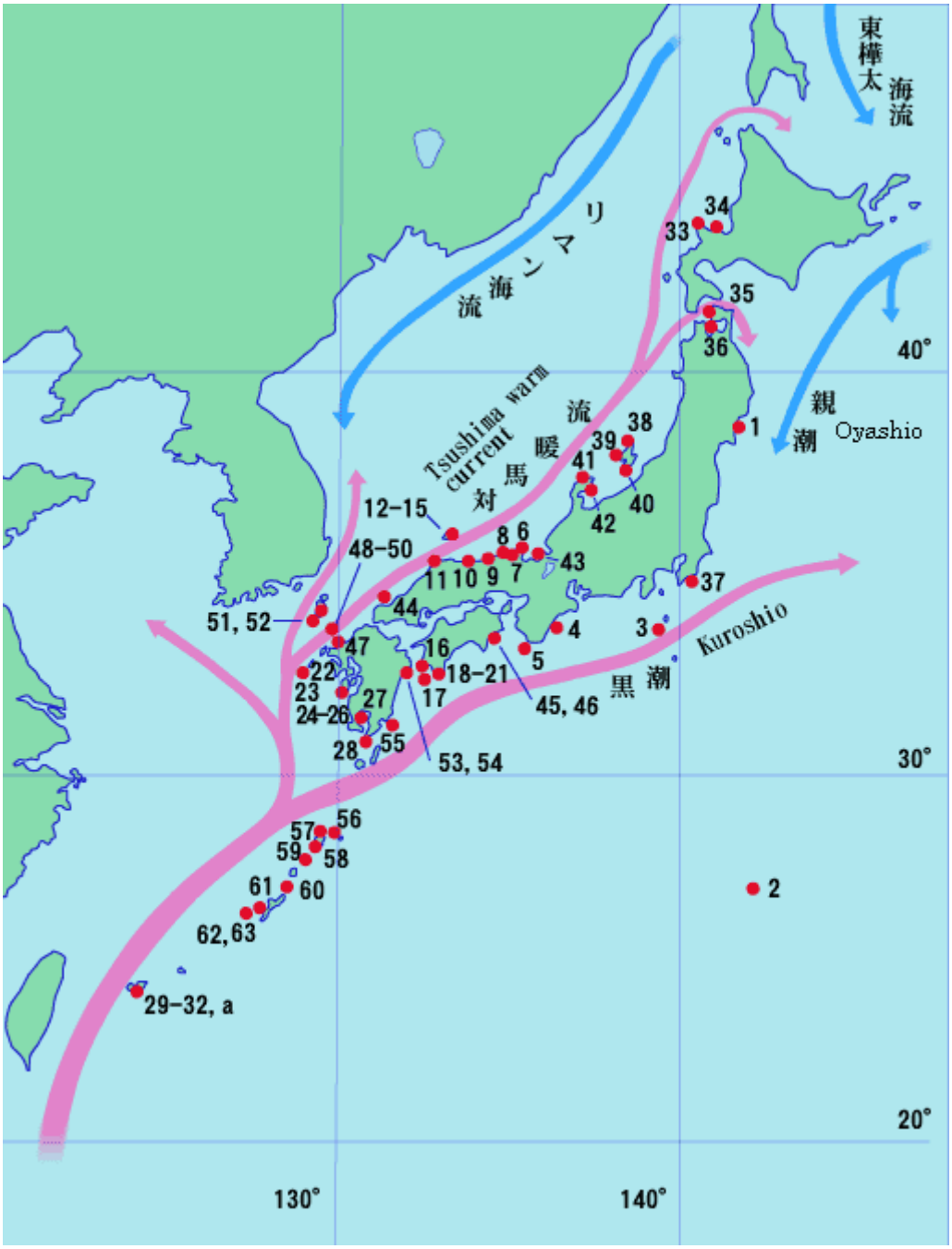


Fig. 6 Distribution of marine park areas in Japan (after http://www.env.go.jp/nature/nco/kinki/kushimoto/peji.htm)

8. Inventory of Nature Reserves

The 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. A total of 11 National Park areas holds 33 marine parks, and 14 quasi-national parks hold 31 marine park areas. The total area covered by these marine parks are 1,409.6 and 1,385.4 ha respectively.

Table 2. Marine Park Area in National Park Area.at March 31, 2006.

Name of National Park	Name of Marine Park Area	City	Prefecture	Date assigned	Number places	Area (ha)
Rikuchu Kaigan	Kesen'numa	Kesen'numa City	Miyagi	January 22, 1971		
Ogasawara	Ogasawara	Ogasawara Village	Tokyo	October 16, 1972		4
Fuji Hakone Izu	Miyake Jima Island	Miyake Village	Tokyo	November 7, 1994		
Yoshino Kumano	Kumano Nada, Niki Shima Island	Kumono City	Mie	December 19, 1975		
	Kushimoto	Kushimoto Town	Wakayama	July 1, 1970		
San'in Kaigan	Goshikihama	Kyoutango City	Kyoto	April 6, 1990		
	Toyooka	Toyooka City	Hyogo	January 22, 1971		
	Takeno	Toyooka City	Hyogo	January 22, 1971		
	Hamasaka	Shin Onsen Town	Hyogo	January 22, 1971		
	Uratomi Kaigan	Iwami Town	Tottori	January 22, 1971		
Daisen Oki	Shimane Penninsula	Izumo City	Shimane	October 16, 1972		
	Jodogaura	Okinosima Town	Shimane	December 11, 1975		
	Shiro	Okinosima Town	Shimane	December 11, 1975		
	Kuniga	Nishinoshima Town	Shimane	December 11, 1975		
	Kaisi	Kaishi Town	Shimane	September 18, 1997		

Ashizuri Uwakai	Uwakai	Ainan Town	Ehime	November 10, 1972		
	Okinosima Island	Sukumo City	Kouchi	November 10, 1972		
	Tatsukushi	Tosa Shimizu City	Kouchi	November 10, 1972		
	Kasai	Ootsuki Town	Kouchi	November 10, 1972		
	Tutomezaki	Ootsuki Town	Kouchi	August 21, 1995		
	Shirigai	Ootsuki Town	Kouchi	August 21, 1995		
Saikai	Fukue	Goto City	Nagasaki	October 16, 1972		
	Wakamatsu	Shin Kami Goto Town	Nagasaki	October 16, 1972		
Unzen Amakusa	Tomioka	Reihoku Town	Kumamoto	July 1, 1970		
	Amakusa	Amakusa City	Kumamoto	July 1, 1970		
	Ushibuka	Amakusa City	Kumamoto	July 1, 1970		
Kirishima Yaku	Sakurajima Island	Kagoshima City	Kagoshima	July 1, 1970		
	Sata Misaki	Minami Oosumi Town	Kagoshima	July 1, 1970		
	Kuriu	Yaku Town	Kagoshima	February 19, 2002		
Iriomote	Taketomi Jima Island, Takidonguchi	Taketomi Town	Okinawa	July 1, 1977		
	Taketomi Jima Island, Shimobishi	Taketomi Town	Okinawa	July 1, 1977		
	Kuro Shima Island, Kyan'gu	Taketomi Town	Okinawa	July 1, 1977		
	Aragusuku Jima Island, Mai	Taketomi Town	Okinawa	July 1, 1977		
Total 11 Parks	Total 33 areas				81	1,409.6

Table 3 Marine park areas in Quasi-National parks at March 31, 2006

Name of Quasi-National Park	Name of Marine Park Area	City	Prefecture	Date assigned	Number places	Area (ha)
Niseko Shakotan Otaru Coas	Shakotan Penninsula	Shakotan Town	Hokkaido	October 16, 1972		
	Otaru Coast	Otaru City	Hokkaido	October 16, 1972		
Shimokita Penninsula	Hotogegaura	Sai Village	Aomori	December 11, 1975		
	Taishima Island	Mutsu City	Aomori	December 11, 1975		
South Bousou	Katsuura	Katuura City	Chiba	June 7, 1974		
Sado Yahiko Yoneyama	Tokaifu	Sado City	Niigata	January 22, 1971		
	Aikawa	Sado City	Niigata	January 22, 1971		
	Ogi	Sado City	Niigata	January 22, 1971		
Noto Penninsula	Konoura	Tamasu City	Ishikawa	January 22, 1971		
	Uchiura	Noto Town	Ishikawa	January 22, 1971		
Wakasa Bay	Mikata	Wakasa Town	Fukui	January 22, 1971		
Kitanagato Coast	Susa Bay	Hagi City	Yamaguchi	September 18, 1997		
Muroto Anan Coast	Awa Oshima Island	Muki Town	Tokushima	January 22, 1971		
	Awa Takegashima Island	Kaiyou Town	Tokushima	October 16, 1972		
Genkai	Genkai	Karatsu City	Saga	July 1, 1970		
Iki Tsushima	Iki Tatsunoshima Island	Iki City	Nagasaki	June 16, 1978		
	Iki Tenagajima Island	Iki City	Nagasaki	June 16, 1978		
	Iki Tsumagashima Island	Iki City	Nagasaki	June 16, 1978		
	Tsushima Asaga Bay	Tsushima City	Nagasaki	June 16, 1978		
	Tsusima Kanzaki	Tsushima City	Nagasaki	June 16, 1978		
Nippou Coast	Urae	Saeki City	Ooita	February 15, 1974		
	Nannboku Ura	Nobeoka City	Miyazaki	February 15, 1974		

Nichinan Coast	Nichinan	Nichinan City	Miyazaki	July 1, 1970		
Amami Islands	Kasari Penninsula Eastcoas	Amami City	Kagoshima	February 15, 1974		
	Nadeko Zaki	Amami City	Kagoshima	February 15, 1974		
	Setonaikai	Setouchi Town	Kagoshima	February 15, 1974		
	Kametoku	Tokunoshima Town	Kagoshima	February 15, 1974		
	Yoron Island	Yoron Town	Kagoshima	February 15, 1974		
Okinawa Coast	Okinawa Coast	Nago City	Okinawa	May 15, 1972		
	Tokashiki	Tokashiki Town	Okinawa	December 9, 1978		
	Zamami	Zamami Town	Okinawa	December 9, 1978		
Total 14 Parks	Total 31 Areas				67	1,385.4

9. Summary

Marine protected area in Japan is mainly governed by the ministry of environment. The major activity to protect marine biodiversity is setting marine park areas within national and quasi-national parks. So far 63 marine parks were set in Japan, and human activities that may harm the biodiversity in the area are strictly prohibited.

However, marine conservation acts are not enough compared to the activities carried out in the terrestrial regions. Especially the activities of local governments such as prefectures are rare. It is strongly recommended that UNEP provide a database that proves the necessity of establishing more marine parks and similar regions in Japan.

The species diversity of marine fauna and flora in the marine parks are not well documented yet. As a consequence, in this report, no species could be listed as endangered species, and only a few species could be nominated as marine protected species. In the future, 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.

Reference

The Ministry of Environment Japan (1982) THE NATURAL ENVIRONMENT OF JAPAN. The Printing Bureau, Ministry of Finance, Japan.

National Report of Republic of Korea on Marine and Coastal Nature Reserves in the NOWPAP Region

1. Country

Republic of Korea

2. Issued Date

30 December, 2006

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

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

5. Introduction of the Key Nature Reserves

5.1 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 km^2. 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

5.2 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

5.3 Wetland Protected Areas

- Title of Nature Reserves: Wetland Protected Areas
- Basic Description of Nature Reserves: Wetland Protected Areas are actually 6 of 174.928 km^2. 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

5.4 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

5.5 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 km^2).
- Level of Nature Reserves: National
- Type of Nature Reserves: Protection
- Main Protected and Endangered Species
- Main Purposes of management: Protection
- Management sectors: Coastal

5.6 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 km^2. Among them, marine and coastal “Wildlife Protected Areas” amount to 476 with 802.21 km^2.
- 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

5.7 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

5.8 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 km^2 including marine area of 2,625.05 km^2. 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

5.9 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

5.10 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

5.11 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

5.12 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 km^2.
- 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

6. Management Organizations Related to Nature Reserves

6.1 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/
- Introduction of the organization: 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.

6.2 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
- Introduction of the organization: The Ministry of Maritime Affairs and Fisheries (MOMAF) was 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, 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.

6.3 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/
- Introduction of the organization:

6.4 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/
- Introduction of the organization:

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

Laws governing the nature reserves in Korea are actually 15 and attributed to 4 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.

8. Inventory of Nature Reserves

No.	Name of Nature Reserves	Location	Level of Nature Reserves	Items protection	Area (ha)	Time Establishment
1	Nakdong River estuary	Busan	National	Ecosystem	34.20	1999.8.9
2	Muan tidal flat	Jeonnam	National	Ecosystem	35.59	2001.12.28
3	Jindo tidal flat	Jeonnam	National	Ecosystem	1.238	2002.12.28
4	Suncheon tidal flat	Jeonnam	National	Ecosystem	28.0	2003.12.31
5	Boseong-Beolgyo tidal flat	Jeonnam	National	Ecosystem	7.5	2003.12.32
6	Ongjin-Jangbong islands tidal flat	Incheon	National	Ecosystem	68.4	2003.12.31
7	Nakdong River estuary	Busan	National	Ecosystem	34.20	1989.3.10
8	Sohwang sand dune	Chungnam	National	Ecosystem	0.121	2005.10.28
9	Sinduri sanddune coastal ecosystem	Chungnam	National	Ecosystem	0.639	2002.10.9
10	Moonseom and adjacent marine ecosystem	Jeju	National	Ecosystem	13.684	2002.11.5
11	Oryukdo and adjacent marine ecosystem	Busan	National	Ecosystem	0.35	2003.12.31
12	Daeijakdo and adjacent marine ecosystem	Incheon	National	Ecosystem	55.7	2003.12.31
13	Hanryeo	Gyeongnam	National	Nature	545,63	1968.12.31
14	Taean	Chungnam	National	Nature	326.57	1978.10.30
15	Dadohae	Jeonam	National	Nature	2,321.51	1981.12.31
16	Byunsan	Jeonbuk	National	Nature	154.72	1988.6.11
17	Hong-do Natural Heritage	Jeonnam	National	Nature	5.866	1965.4.7

	Protected Area					
18	Dok-do Natural Heritage Protected Area	Gyeongbuk	National	Nature	0.180	1982.11.16
19	Seongsan Ilchul-bong Natural Heritage Protected Area	Jeju	National	Nature	5.878	2000.7.18
20	Moon-seom and Beom-seom Natural Heritage Protected Area	Jeju	National	Nature	9.751	2000.7.18
21	Chagui-do Natural Heritage Protected Area	Jeju	National	Nature	6.721	2000.7.18
22	Mara-do Natural Heritage Protected Area	Jeju	National	Nature	6.860	2000.7.18

9. Summary

Korean government designates, monitors and manages nature reserves of wetland, including tidal flats, sand dunes, uninhabited and inhabited island, and underwater ecosystems. In total 12 kinds of nature reserves are managed with Ecosystem Conservation Areas, Marine and Coastal National Parks, Wetland Protected Areas, and Natural Heritage Protected Areas as the key nature reserves. The number and surface of them are still underrepresented considering the geographical location of the Korean peninsula and the diversity of the ecosystems therein. Hence, national attempts to identify and select new sites as nature reserves are in progress or in planning, and the number as well as the surface will augment in the near future. Application of the GIS techniques to the nature reserves is in progress and then management of nature reserves will have s strong tool. Nevertheless, the measures and enforcement, as well as public participation and outreach are still weak or lacking in Korean nature reserves and deserve more effort.

National Report of the Russian Federation on Marine and Coastal Nature Reserves in the NOWPAP Region

1. Country

Russian Federation

2. Issued Date

10 October, 2006

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Introduction to Institutions in Which the NOWPAP DINRAC Focal Points Work

V.I.Il'ichev Pacific Oceanological Institute (POI), FEB RAS

The POI of Vladivostok (http://www.poi.dvo.ru) was established in 1973. POI is a multipurpose scientific institution, which modern research laboratories provide solving the most complicated problems of the ocean study and exploration. In the disposal of the Institute there are two coastal experimental stations located in the eastern section of the NOWPAP area. The Institute has an opportunity to conduct studies in cruises on board the research vessels of the FEB RAS. POI undertakes studies in the bounds

of the Federal Program «The World Ocean», it has participated in the studies under the International Projects, among them the World Ocean Circulation Experiment (WOCE), IOC Sub-commission for the Western Pacific (WESTPAC), JGOFS, JASC, NEAR-GOOS, NOWPAP, KOMEX, GODAR, Circulation Research of the East Asian Marginal Seas (CREAMS) and others. The Institute has stable scientific ties with many Institutes and Organizations all over the world.

The Institute involves 9 scientific Departments and focuses its research on the following objects:

- complex hydro-physical, hydro-chemical and hydro-biological studies of the ocean and sea water masses, their physical fields (acoustic, optical, electromagnetic, temperature), some parameters (sea-roughness, ocean currents, vortices, internal waves, ice cover, etc.), energy and mass exchange and the interaction of the ocean and atmosphere, marine ecosystem state;
- studies of geology, geophysics, geochemistry and mineral resources of the Pacific Ocean; and
- development of new methods and creation of technical means for investigating the ocean and atmosphere, development and application of the remote control methods, creation and analysis of the oceanographic data bases.

Objects of studies in the field of ocean geochemistry and ecology are complex biogeochemical approaches to estimate the marine ecosystem state; estimation of anthropogenic dumping effect on the sea environment. Modern methods of hydrophysics, hydrochemistry, and hydrobiology are widely used; new devices are developed, numerical experiments are carried out. The POI is studying spatial-temporal variability of heavy metals and oil hydrocarbons content in the seawater, the hydrochemical fields influenced by "rapid" processes, nature and anthropogenic factors effecting the ecosystem state. It studies biochemical mechanisms of the hydrobionts reaction to the environment pollution by heavy metals. The forms of nonorganic microelements in the seawater are investigated; processes of energy and matter transfer in the water ecosystems are studied.
POI is maintaining the Russian NEAR-GOOS Delayed Mode Data Base (http://pacificinfo.ru/en/near-goos/).

Far Eastern Regional Hydrometeorological Research Institute (FERHRI)

FERHRI (http://www.ferhri.ru) was established in Vladivostok at 1950. FERHRI carries out extensive research on meteorology, oceanography, land hydrology, climate and ecology of the Russian Far East, Eastern Siberia, Northwest Pacific Ocean and its marginal seas. The scientific fleet of FERHRI includes the research vessels of different class. The Institute has taken part in numerous national and international research programs. In addition to the field studies, FERHRI oceanographers have developed new methods for the prediction of the basic ocean parameters (ice characteristics, thermal conditions, storm surges, tsunami, etc.). FERHRI researchers are also involved in tropical cyclone studies, including compiling typhoon catalogues and developing forecast methods for the typhoon formation, transport and evolution. In 1994, the Regional Oceanographic Data Center (RODC) was established at FERHRI. RODC is a branch of the World Data Center B (Obninsk).

The Institute consists of 5 scientific Departments, which carry out studies in the fields of oceanography, meteorology and tropical cyclones, long-term weather forecasts and climate studies, marine ecology. FERHRI specialists are actively involved in marine pollution studies in the Northwest the Pacific including its marginal seas and the coastal zone. During the last years, bottom sediment pollution by trace metals, chlorinated hydrocarbons and other anthropogenic pollutants in the Chukchi and Bering seas, in some coastal areas of Russia and Democratic People's Republic of Korea, People's Republic of China and along Vietnam shelf have been investigated. Background ecological survey (including measurements of the pollutant content in the seawater and bottom sediments, plankton and benthos characteristics, etc.) have been carried out within the oil and gas fields along Sakhalin Island shelf since 1990. The Institute is also working for other Sakhalin Island shelf projects in developing new methods, models and techniques that allow assessments necessary for the Environmental Impact Assessment (EIA). It has experience in the modeling the oil spill and drilling discharge transport as well as calculating the Maximum Permissible Discharges and Emissions (MPD and MPE).

FERHRI is involved in several multi- and bilateral research projects in the Northern Pacific. To name a few, CREAMS has been implemented in collaboration with Japanese, Korean and US researchers since 1994. Since 2002, the Institute has been involved in the Argo Project. The Institute is also maintaining the Russian NEAR-GOOS Real Time Data Base. This database contains the data obtained aboard the Voluntary Observing Ships and at the coastal observation stations.

POI and FERHRI are involved in a large-scale national program "Unified System of Information on the World Ocean Conditions" – the most significant one in the field of the oceanographic data management in Russia.

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

4.1 The General Concept of Especially Protected Natural Territories Establishment

One of the basic elements and conditions of biodiversity preservation and steady development of any country including Russia is creation and development of a system of especially protected natural territories (SPNT - http://zapoved.ru/). According to the Federal Law "About especially protected natural territories" (http://zapoved.ru/?act=docs_more&id=3), the SPNT are sites of the land, water surface, air space above them where natural complexes and objects are located which have special nature protection, scientific, cultural, aesthetic, recreational and health-improving value and which are withdrawn by decisions of government bodies in full or in part from the economic use, and for which it is established the mode of special protection. Especially protected natural territories are referred to the objects of national property and have exclusive value for preservation of biological and landscape variety

as the basis of biosphere. Thus, the natural complexes and objects most significant for these purposes, both reference, and unique ones, 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 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 (Administrative body "Far East Federal District of the Russian Federation"). 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 $42\text{-}48^0$ N, $130\text{-}140^0$ E. The total area of all SPNT just in Primorski Krai makes 21799,9 square kilometers, including reservoirs and sea water areas or 13,14 % of all its territory (in the long term being extended to 17 %). With a view of SPNT protection against adverse anthropogenous influence on adjoining sites of the ground and water space the protective zones or districts with a regulated mode of economic activities can be created.

In view of the mode of especially protected natural territories and the status of nature protection establishments there are the following SPNT 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.

All listed categories, except for national parks, are presented within the territories of Primorski Krai and Khabarovsk Territory in the Eastern area of the NOWPAP Region. According to the purposes and subjects of the given report only the data on the first three categories of SPNT are submitted here.

The state nature reserves are the nature protection, research, and environment education establishments of the federal status which are aimed at preservation and studying of the natural course of natural processes and phenomena, genetic fund of flora and fauna, some species and communities of plants and animals, typical and unique ecological systems.

A status of the state nature biospheric reserve is given to the state nature reserves which are included into the international system of biospheric reservations, carrying out global ecological monitoring.

The following tasks are assigned to the state nature / biospheric reserves:

- Realization of natural territories protection with a view of preservation of a biological variety and maintenance of protected natural complexes and objects in their natural condition.
- Organization and carrying out of scientific researches, including keeping the Annals of the Nature.

- Realization of ecological monitoring within the framework of a nation-wide system of the environmental monitoring.
- Approbation and introduction of methods for the rational wildlife management which is not destroying environment and not wasting the biological resources.
- Ecological education.
- Participation in the state ecological examination of projects and schemes of allocation of economic and other objects.
- Assistance in preparation of scientific staff and experts in the field of environment protection.

State nature partial reserves are the territories (or water areas) having special value for preservation or restoration of natural complexes or their components and maintenance of the ecological balance.

Depending on specific targets of protection of environment and natural resources the state nature partial reserves can be:

- Complex (landscape) - intended for preservation and restoration of the natural complexes (natural landscapes).
- Biological (botanical and zoological) - intended for preservation and restoration of a number of rare and endangered species (subspecies, populations) of plants and animals, and also the species valuable in the economic, scientific and cultural respect.
- Paleontologic - intended for preservation of places of finds and congestions of remains or fossilized samples of mineral animals and plants having special scientific value.
- Hydrological (marsh, lake, river, sea) - intended for preservation and restoration of valuable water objects and ecological systems.
- Geological - intended for preservation of valuable objects and complexes of the lifeless nature (peat-lands, ore and mineral deposits, remarkable relief forms and related landscape elements.

Natural parks are the nature protection recreational establishments which are under the supervision of the Russian Federation constituents which territories (or water areas) include natural complexes and objects having significant ecological and aesthetic value, and are intended for use in the nature protection, educational and recreational purposes.

The following tasks are assigned to the natural parks:

- Preservation of the environment, natural landscapes.
- Creation of conditions for rest (including popular) and preservation of recreational resources.
- Development and introduction of effective methods for wildlife management and maintenance of ecological balance in conditions of recreational use of the natural parks territories.

National parks are nature protection, environment education, and research establishments which territories (or water areas) include natural complexes and objects having special ecological, historical and aesthetic value and which are intended for use in the nature protection, educational, scientific and cultural purposes and for regulated tourism.

The following primary goals are assigned to the national parks:

- Preservation of natural complexes, unique and reference natural sites and objects.
- . Preservation of historical and cultural objects.
- . Environmental education of the population.
- Creation of conditions for regulated tourism and rest.
- Development and introduction of scientific methods for wildlife management and environmental education.
- . Realization of ecological monitoring.
- Restoration of the broken natural and historical and cultural complexes and objects.

Now in Primorski Krai the territories for creation of several national parks are reserved. Two of them can be created in 2006.

4.2 SPNT Status

Especially protected natural territories can be of the federal, regional or local significance.

Especially protected natural territories of the federal significance are the federal property and are under the supervision of federal bodies of the government.

Especially protected natural territories of the regional significance are the property of the Russian Federation constituents and are under the supervision of the government bodies of the Russian Federation constituents.

Especially protected natural local territories are the property of the municipal bodies and are under the supervision of the local authorities.

Territories of the state nature reserves and national parks are referred to especially protected natural territories of the federal importance. Territories of state nature partial reserves, nature sanctuaries, dendrology parks and botanical gardens, therapeutic localities and resorts can be attributed either to especially protected natural territories of the federal significance, or to especially protected natural territories of the regional significance. Natural parks are especially protected natural territories of the regional significance. Therapeutic localities and resorts can be declared especially protected natural local territories.

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.

Within the territory of the state nature reserves the especially protected natural complexes and objects (ground, waters, bowels, flora and fauna), having nature protection, scientific, environment-

educational importance as samples of the natural environment, typical or rare landscapes, places of preservation of genetic fund of flora and fauna are completely withdrawn from economic use.

The Earth, waters, bowels, flora and fauna, located on the territories of the state nature reserves, are rendered to use (possession) of the state nature reserves on the basis of rights stipulated by federal laws.

The property of the state nature reserves is the federal property.

Buildings, constructions, historical and cultural and other objects of the real estate are assigned to the state nature reserves exercising the right of operative management.

Withdrawal or other termination of rights for the ground areas and other natural resources included into the state nature reserves are forbidden.

Natural resources and real estate of the state nature reserves are completely withdrawn from commerce.

Regulations about any concrete state natural reserve, its status are affirmed by the body authorized by the Government of the Russian Federation.

4.3 Procedure of the State Nature Reserves Establishment

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.

4.4 Procedure of the State Nature Partial Reserves Establishment

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.

4.5 Procedure of the Natural Parks Establishment

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.

4.6 General Characteristics of the Established Reserves

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. Almost all of them are located within the limits of Primorski Krai territory. Only 1 reserve and 1 partial reserve are in the north of the region, in Khabarovsk Territory. The total area of the reserves makes about 9520 square kilometers, including the sea water area - 660 square kilometers and Khanka Lake - 56,9 square kilometers. The total area of the partial reserves makes about 12300 kilometers. The natural park has the area of 95,4 square kilometers.

Of them:

- 4 reserves, the partial reserves and a nature park are under the jurisdiction and management of the Russian Federation Ministry of Natural Resources which can perform its activity directly through the territorial bodies in cooperation with the other federal agencies of the executive power, executive bodies of the Russian Federation constituents, municipal authorities, public associations, and other organizations.

- 3 reserves, including a specialized marine state reserve, are under the jurisdiction and management of the Far Eastern Branch, Russian Academy of Sciences, and its two constituent institutes.
- 4 reserves possess an international status of Biospheric Reservation of UNESCO (1979). One of them is included into the list of the World Natural Heritage of UNESCO under the nomination of “Central Sikhote Alin”.

13 state partial reserves include:

- 11 biological (zoological) partial reserves which primary goals are protection, restoration, reproduction of wild animals, including rare and endangered species and their habitat.
- 1 landscape reserve which tasks are: preservation and restoration of the natural landscape, maintenance of the ecological balance in the area of Central Sikhote Alin, performance of functions of experimentally - demonstrative territory on restoration and enrichment of specific structure of flora and fauna.
- 1 complex sea partial reserve which tasks are preservation and restoration of the Vostok Bay natural complexes in their natural status, maintenance of the ecological balance and rational use of natural resources as a combination of protected objects, maricultre plantations and a recreation zone within one water area.

Within the territory of Primorski Krai there are 212 nature sanctuaries of regional significance, by the total area of 485 square kilometers.

Within the territory of Primorski Krai there are especially protected natural territories of recreational purpose with the area of 986,2 square kilometers. Especially protected natural territories of recreational purpose are land territories and water areas possessing natural recreational resources, intended or used for the organization of mass rest, tourism and health improvement, where a special mode of using is established. The mode of using recreational territories forbids any activity preventing their use on a special-purpose designation or leading to the destruction of a recreational resource.

The specific structure of animals and plants in reserves and partial reserves is rather diverse and counts more than 10000 species that is related to a variety of their habitat. Owing to unique structure of fauna and flora, Primorski Krai takes a leading place by amount of species listed in the regional Red Book: 283 species (subspecies) of animals and 343 species of plants, and also 55 species of fungi and a plenty of other kinds of objects.

Existing and planned SPNT are called to provide preservation of not only separate populations of plants and animals, but also natural communities and ecosystems involving the protected objects. As a whole all SPNT system should be aimed at preservation of a variety of natural complexes, characteristic for each zone and zonation type; the basic habitats of vertebrate animals; communities with the maximal variety for the given complex, density or productivity; sites with an unusual combination of species or rare formations.

5. Introduction of the Key Nature Reserves

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... Almost all of them are located within the limits of Primorski Krai territory. Only 1 reserve and 1 partial reserve are in the north of the region, in Khabarovsk Territory.

Four of the seven reserves considered in given section of the report were awarded an international status of the Biospheric Reservation of UNESCO. One of them is marine reserve. Its territory covers extensive sites of the Peter-the-Great Bay water area. Territories of four of seven reserves directly adjoin to the sea coast and include a strip of adjoining water areas.

5.1 Far Eastern State Marine Nature Biospheric Reserve

The Reserve was established in 1978. The Reserve is formed within the system of the Russian Academy of Sciences. 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 Primorski Krai. The reserve consists of four sites that occupy about 10 % of the Peter-the-Great Bay area, 12 small islands, and also a site of the continental coast. Around the sea borders of the reserve a marine protective zone 3 miles wide is established, and a 500-meter coastal one. Species composition of animals and plants of the reserve comprises more than 3300 species - both marine and terrestrial - that is resulting from a variety of living environment conditions. The climate of territory has monsoonal character.

The reserve protects 40 % of the plants species known in Primorski Krai. Waters and the reserve bottom are occupied by 2130 species of animals and plants. In total it is described: 925 species of Vascular plants, 640 - Invertebrates, 270 - Fish, 35 - Marine mammals, 370 – Birds, 1736 – Algae, 7 – Amphibia and Reptilia.

In a coastal protective zone of the reserve there are dappled deer, Amur tiger, Far Eastern leopard, Amur wood cat, black vulture, erne and more than 280 species of migrant birds; bagwhales, killer whales, dolphins, sharks and exotic inhabitants of tropical waters come into the waters of the reserve.

The reserve has an international status of the Biospheric Reservation of UNESCO.

There are coastal, island and marine ecosystems, animals and plants, and also three nature sanctuaries and some archeological objects under protection of reserve.

Main subjects for protection are:

- animals – Far Eastern trepang, Japanese scallop, Pacific needlefish, giant octopus, king crab, large-scaled rudd, Japanese sandfish, eastern rockfish, sea calf, Chinese egret, spoon-bill, island cricket;
- plants - Japanese yew, omatsu, Boston ivy, tiger and nodding lilies, Schlippenbach's rosebay, caltrop, etc.

Among categories of especially protected, rare and endangered species there are 62 species of Vascular plants, 7 – Marine invertebrates, 9 - Fish, 4 - Mammals, 28 – Birds, 37 – Algae, 3 – Amphibia and Reptilia.

Main purposes of establishing are: preservation of the environment of the richest in the seas of Russia coastal fauna, flora and a genofund of marine organisms, and also animals and vegetation of islands; description of marine and island communities and their dynamics under the influence of natural and anthropogenous impacts; carrying out of research and realization of educational activity in the field of protection of the nature.

The primary goals and lines 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 the museum and exhibitions, publication of the scientific and popular scientific literature on the sea nature and its preservation.

The reserve actively participates in the international projects.

5.2 L.G. Kaplanov Lazovskiy State Nature Reserve

The Reserve was established in 1935. The Reserve is located in the south-eastern part of Primorski Krai, on the Sikhote Alin Ridge slopes, facing the sea. The reserve territory is referred to the southern-seaside mountain-valley province of Sikhote-Alin physical-geographical area; according to the landscape zoning - to a landscape zone of the broad-leaved and mixed forest of the Far East, and according to the botanic-geographical zoning - to a southern sub-zone of the mixed coniferous-broad leaved forest. Total extent of borders makes 240 km, of them 36 km – along the sea coast. It includes 2 islands in the sea.

The reserve is located in a coastal climatic area of a moderate zone of the Far East. More than 90 % of the reserve territory is covered by woods.

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.

The reserve protects 60 % of the plants species known in Primorski Krai. In total it is described: 1284 species of Vascular plants, 672 - Muscoid and Lichen, 19 - Fish, 60 - Mammals, 356 – Birds, 775 – Algae, 16 – Amphibia and Reptilia, 3200 – Insect.

Here are the native population of wild dappled deer, Amur tiger, Amur wood cat, goral, Siberian stag, bear, wild boar, roe deer, lynx, rare species of drongo and painted snipe.

The reserve has a status of the federal importance.

Under protection of the reserve there are natural ecosystems, animals and plants, three unique natural objects, 6 nature sanctuaries and an archeological object.

The Lazovskiy Reserve is the second-largest one on the territory of Primorski Krai; it preserves natural complexes and objects of Ussuri cedar-broad-lived woods of the east slopes of Sikhote-Alin unique in biodiversity and productivity.

Among the categories of especially protected, rare and endangered species there are 55 species of Vascular plants, 15 – Invertebrates, 9 - Fish, 12 - Mammals, 67 – Birds, 1 – Amphibia, 10 - Muscoid and Lichen, 11 – Insect, 5 - Fungi.

Many species of animals and birds of the reserve are subject to special protection: wild dappled deer, Amur tiger, Amur wood cat, goral, Himalayan black bear, scaly-sided merganser, mandarin duck, long-billed ringed plover, Japanese snipe, fish-hawk, buzzard, erne, black stork.

The purpose of establishing: preservation and studying of the natural complexes of the mixed coniferous-broad leaved forest of Southern Sikhote-Alin, rare and valuable animals.

The basic structural departments of the Reserve are the State Inspection of Conservancy (three forest ranger stations, management personnel, operative patrol group), Department of Ecological Education (Eco-Center, Nature Museum), and Scientific Department.

Ecological-educational activity of the Eco-Center has been supported by the welfare funds of WWF, USAID, ISAR, Macarthur, regional and federal committees on the environment protection, youth affairs, and also by private citizens. As well, the Eco-Center employees have an operational experience with the short-term and long-term grants of the international and domestic charitable organizations.

The Scientific Department conducts studying dynamics of natural processes, and researches of rare and disappearing species of animals and plants.

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

The Reserve was established in 1935. The Reserve is located within the territory of three administrative areas of Primorski 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 the protected natural complexes.

About 97 % of the territory is covered by wood ecosystems. The climate is monsoonal.

In the Russian Far East the reserve has not equal in riches and a variety of ecosystems. Presence of a direct access to the sea coast is also important.

In total it is described: 2000 species of Vascular plants, 1370 - Muscoid and Lichen, 64 - Fish, 80 - Mammals, 390 – Birds, 1000 – Algae, 22 – Amphibia and Reptilia, 3500 – Insect, 62 – Invertebrates.

The reserve is a nature protection, research and ecological-educational establishment of the federal importance.

The international status of the Reserve - Biospheric Reservation of UNESCO (1979). In 2001 the Reserve territory was included into the list of the World Natural Heritage of UNESCO under the nomination of “Central Sikhote Alin”.

Under protection of the reserve there are natural ecosystems, natural processes and phenomena, genetic fund of flora and fauna, 6 unique natural objects, numerous monuments of archeological cultures. Among the categories of especially protected, rare and endangered species there are 207 species of Vascular plants, 1 – Invertebrates, 9 - Fish, 4 - Mammals, 112 – Birds, 15 - Muscoid and Lichen, 13 – Insect, 3 - Fish.

Many species of animals and birds of the reserve are subject to special protection: wild dappled deer, Amur tiger, Amur wood cat, goral, Manchuria hare, racoon dog, pale-headed chiffchaff, rock thrush, and grosbeak.

The purposes of establishing: preservation and studying of the natural complexes of the mixed coniferous-broad leaved forest of Southern Sikhote-Alin, genetic fund of flora and fauna, rare and valuable animals.

Main directions of the reserve activity are:

Organization and realization of the nature territories protection with a view of preservation of a biological variety of the protected natural complexes and objects of Central Sikhote-Alin; their maintenance in natural condition. Organization and carrying out of scientific research and activity, including transactions of the Nature Annals. Realization of ecological monitoring. Environmental education and enlightenment. Assistance in preparation of the scientific staff and experts in the field of environment preservation. Participation in the State Ecological Expertise of projects and schemes for allocation of economic and other objects.

At the reserve there is a museum of the nature and also open-air cages where some Amur tigers are contained.

5.4 V.L. Komarov Ussuriyskiy State Nature Reserve

The Reserve was established in 1934. The reserve is located in a southern part of Primorski Krai within the territory of two administrative districts; originally it was established for the protection of a mountain - wood landscape of southern Primorski Krai. Its riches are a rather large forest area of undisturbed liana coniferous - broad-lived woods which have been almost not kept on the territory of the Russian Far East and adjacent countries. It has no sea border. The climate is monsoonal.

The reserve protects 40 % of the plants species known in Primorski Krai. About 99 % of the territory is covered by wood ecosystems.

In total it is described: 900 species of Vascular plants, 705 - Muscoid and Lichen, 24 - Fish, 68 - Mammals, 190 – Birds, 685 – Algae, 13 – Amphibia and Reptilia, 3000 – Insect, 2313 – Fungi.
It is a unique place of constant dwelling of the dappled deer, Amur tiger, Amur wood cat, Siberian stag, Himalayan black bear, wild boar, roe deer, lynx, leopard, badger, squirrel, mink, otter, Indian marten, rare birds and relic species of insect.

The reserve is a nature protection, research and ecological-educational establishment of the federal importance.

Under protection of the reserve there are natural ecosystems, natural processes and phenomena, genetic fund of flora and fauna, unique natural objects.

Among the categories of especially protected, rare and endangered species are 15 species of Vascular plants, 2 – Invertebrates, 4 - Mammals, 24 – Birds, 12 – Insect, 23 - Fungi.

The purposes of establishing: nature protection, research and ecological education. It is aimed at preservation and studying of the natural development of natural processes and phenomena, genetic fund of flora and fauna, individual species and communities of plants and animals, typical and unique ecological systems.

Main directions of the reserve activity are:

Organization and realization of the nature territories protection with a view of preservation of a biological variety of the protected natural complexes and objects of Central Sikhote-Alin; their maintenance in natural condition. Organization and carrying out of scientific research and activity, including transactions of the Nature Annals. Realization of ecological monitoring. Environmental education and enlightenment. Assistance in preparation of the scientific staff and experts in the field of environment preservation. Participation in the State Ecological Expertise of projects and schemes for allocation of economic and other objects.

Here, actions on restoration of populations of the Himalayan bear and Amur tiger are carried out. There is a Nature Museum and Eco-Center in the reserve.

5.5 State Nature Biospheric Reserve “Kedrovaja Pad”

The Reserve was established in 1934. The reserve is located in a southern part of Primorski Krai between the western coast of the Amur Bay and the border of China, 180 km from Vladivostok. The

reserve is one of the oldest in the Far East and in Russia. It is a unique place of constant dwelling of the Far East leopard. The climate is monsoonal.

The environment in this region has suffered from damages from human activities, especially forest fires, and Kedrovaja Pad is the only area still in native conditions and the only example of south-Ussury taiga. The coniferous-broadleaf forests of the reserve combine elements of the northern taiga and subtropical forests, but in this area southern flora predominates. The overlap of southern and northern species of plants and animals explains high biodiversity with many endemic and relict species of the Far East such as the Amur tiger, Amur leopard and Himalayan bear goral.

The reserve protects 60 % of the plants species known in Primorski Krai. About 70 % of the territory is covered by woods.

In total it is described: 920 species of Vascular plants, 409 - Muscoid and Lichen, 12 - Fish, 60 - Mammals, 333 – Birds, 273 – Algae, 16 – Amphibia and Reptilia, 2000 – Insect, 1827 – Fungi, 800 – Invertebrates.

Here are nests of rather rare birds and spawning area of salmons is located.

The reserve is a nature protection, research and ecological-educational establishment of the federal importance. The international status of the Reserve - Biospheric Reservation of UNESCO (2004).

Under protection of the reserve there are natural ecosystems, natural processes and phenomena, genetic fund of flora and fauna.

Among the categories of especially protected, rare and endangered species are 112 species of Vascular plants, 2 – Invertebrates, 4 - Mammals, 22 – Birds, 41 – Insect.

The purposes of establishing: preservation and studying of the natural complexes of the mixed coniferous-broad leaved forest of Southern Sikhote-Alin, genetic fund of flora and fauna, rare and valuable animals.

Only scientific research is allowed here. The buffer zone is contiguous to the core area and here such activity as hunting, forest felling and bush and grass burning is allowed only if is compatible with the conservation objectives. The main objective is to protect the core area from direct and indirect impacts of human activities.

5.6 Khankaiskiy State Nature Biospheric Reserve

The Reserve was established in 1990. The Reserve is located in a coastal zone of the water area of Khanka Lake in the western part of Primorski Krai. The Biosphere Reserve includes a part of Khanka Lake and is composed of open lowlands with meadows, wetlands, swamps, and many small lakes. Khanka Lake, which is shared between Russia and China, is one of the largest freshwater lakes in the Eastern Asia. The reserve territory consists of 5 isolated sites. Reserve and the variety of ichthyofauna of the lake have no analogues among other freshwater bodies in the Palaearctic (74 fish species). The

unique ornithofauna of the Khanka Lake Basin includes Japanese crane, white-napped crane, and Far East stork, reed parrotbill and intermediate egret.

The climate, landform, and soil features contribute to make this area one of the most developed agricultural areas in the Russian Far East. There are many farms, a dense communication network, inhabited areas and specialized enterprises. A major concern of the Biosphere Reserve is to avoid pollution from agriculture and industry.

In total it is described: 709 species of Vascular plants, 75 - Fish, 48 - Mammals, 347 – Birds, 523 – Algae, 14 – Amphibia and Reptilia, 140 – Fungi, 533 – Invertebrates.

The reserve is a nature protection, research and ecological-educational establishment of the federal importance. The international status of the Reserve - Biospheric Reservation of UNESCO (2005).
Under protection of the reserve there are natural ecosystems, natural processes and phenomena, genetic fund of flora and fauna, unique natural objects.

Among the categories of especially protected, rare and endangered species there are 49 species of Vascular plants, 6 – Invertebrates, 10 - Mammals, 51 – Birds, 10 – Fish, 1 – Reptilia 12 – Insect.

The primary goal of the reserve is preservation of the natural complex being under protection of the International Convention “On the water-marsh land, having an international value, mainly as habitats of water-birds”, and also improvement of ecological condition in the lake basin.

The main duty of the nature conservancy services of the Reserve is struggle against poaching, and also protection of Khanka Lake water area from the chemical pollution incoming from the adjacent territories. Here, the international programs on preservation, restoration, and grounded fishery are carried out. Ecological tourism is being developed. Here it is located a Zoological Station of the Institute of Biology and Soil Sciences of the Far Eastern Branch, Russian Academy of Sciences.

The given territory is under action of the international agreements: Soviet (Russian) - Japanese Convention “On protection of migrating and endangered birds and their habitat” (1973, prolonged in 1991); Soviet - Korean (Democratic People's Republic of Korea) Convention “On protection of migrating and endangered birds and their habitat” (1987); Soviet (Russian) - Korean (Republic of Korea) Convention “On protection of migrating and endangered birds and their habitat” (1994).

5.7 State Nature Reserve “Botchinskiy”

The Reserve 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 protective zone where to a part of the Tatar 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 Primorski Krai in all their variety. Special object of protection - a paleontology monument - the site of the fossilized Upper Tertiary florae.

In total it is described: 647 species of Vascular plants, 14 - Fish, 42 - Mammals, 200 – Birds, 14 – Fish, etc.

The reserve is a nature protection, research and ecological-educational establishment of the federal importance. Under protection of the reserve there are natural ecosystems, natural processes and phenomena, genetic fund of flora and fauna, unique natural objects.

Flora and fauna of the reserve is rich in rare and endemic species.

Among the categories of especially protected, rare and endangered species there are 34 species of Vascular plants, 1 - Mammals, 1 – Fish, etc.

The purposes of establishing: nature protection, research and ecological education. It is aimed at preservation and studying of the natural development of natural processes and phenomena, genetic fund of flora and fauna, individual species and communities of plants and animals, typical and unique ecological systems.

Main directions of the reserve activity are:

Organization and realization of the natural territories protection with a view of biological variety preservation and maintenance of the protected natural complexes and objects of Ussuri taiga in their natural condition. Organization and carrying out of scientific research, including the Annals of the Nature. Realization of ecological monitoring. Ecological education and enlightenment. Assistance in preparation of the scientific staff and experts in the field of the environment preservation. Participation in the state ecological examination of projects and schemes of allocation of economic and other objects.

The Reserve has a Department of Rangers, Scientific and Ecological Enlightenment departments.

6. Threats and Human Pressure on Natural Reserves

The environment, natural landscapes and ecosystems, fauna and flora of the region are steadily induced to the human influence. Territories of the river valleys are transformed into cultivated land and are cut by roads; flat places and foothills of Sikhote-Alin are strongly impoverished as a result of timber cuttings. Owing to industrial harvesting and forest fires on the significant area it took place a change of cedar-broad-leaved woods to secondary, mainly deciduous woods. As a result, a whole series of the narrow-areal species of fauna and flora appeared to be critically endangered.

Use of bioresources has become aggravated as well. As a result of poaching and subsequent smuggling in the adjacent areas of Primorski Krai and Khabarovsk Territory, more than 160 species of the wild nature and fauna have been damaged. Preservation of a unique biodiversity, rare and endangered species and subspecies is provided first of all by the status of the reserved / specially protected natural territories (SPNT), by the activity of anti-poaching rangers and the restrictions imposed by the nature protection legislation.

The basic threats for the reserve ecosystems are related to the consequences of economic operating of the reserve natural resources and to the population residing in its territory. The greatest dangers for the forest areas, inhabitants of wood, river and coastal complexes of the reserve are escalating poaching, catastrophic natural phenomena (fires, flooding, etc.), technogenic incidents, degradation of landscapes and broken ecosystems, “wild” tourism. In many areas rules of hunting and fishing are not observed, catching and shooting of rare animal species takes place, the non-authorized storage of fruits and plants is carried out; destructive technologies of timber cuttings are applied. Last years poaching capture of valuable species of fish and seafood has especially sharply increased. Scarce forces and means for full prevention of these phenomena lead to the increase of the material and ecological damage and biodiversity degradation.

Major factors of threats and negative influence on SPNT are:

- **Visiting:** All kinds and forms of visiting the territory with the various purposes (scientific, cognitive, cultural, religious, etc.), including all forms of tourism and rest.
- **Influence on fauna**: All kinds of getting (shooting, catching, gathering) animals, their parts and derivatives, destruction of their coverts, nests and dwellings, and also any other direct influence on flora and fauna in any purposes, including biotechnical actions, deliberate or unintended introduction of animals.
- **Wood exploitation:** All kinds of wood cutting (damage of timber stand up to a stage of the termination of growth) in any purposes and on any scales, and also other direct influence on trees and bushes, including creation of wood cultures and care of them.
- **Gathering of wild-growing plants** and other kinds of using flora (except for wood exploitation)**:** gathering of plants, their parts and derivatives (thus, gum, etc.) in any purposes.
- **Agriculture**: All kinds and forms of agricultural activity, including land capture and scarifying, land improvement and irrigation, crop, planting and cultivation of cultures, cattle grazing and preparation of hay (fodder), allocation of beehives and apiaries, deliberate or inadvertent introduction of any kinds of plants alien to local flora, in any purposes.
- **Pollution:** All kinds and forms of polluting the territory, natural environment and its components, including industrial pollution, application of pesticides and fertilizers, chemical means of protection of plants, dump and emissions of waste products and polluting substances, dust, arrangement of dumps, burial of waste products.
- **Settlements** and related objects**:** Creation and existence of rural and city settlements, and also separate elements of their infrastructure, including inhabited and industrial buildings, constructions, linear communications (roads, overpasses, electric mains, oil- and gas mains, bridges, etc.).
- **Water use** and changes of the water mode: All kinds of the water resources use, purposeful or inadvertent change of the water mode and properties of water resources, including irrigation, regulation of drain (creation of dams and reservoirs).

- **Using of the bowels:** Investigation and extraction of minerals, including drilling and different ways of mining, exploitation of mineral resources, any destruction of integrity of the soil cover, natural outcrops of minerals and rocks.
- **Accidents:** Any phenomena (events) of complex destructive influence menacing to integrity or existence of protected complexes and objects - flooding, landslips, landslides, avalanches, hurricanes, tornados, fires, explosions, failures on thermal and power networks, pipelines, chemically and radioactively dangerous objects.

Other threats and external factors of the negative influence on SPNT are:

- **Local adverse factors:** Physical-geographical, social and economic characteristics of the SPNT-external environment (adjoining territories) which promote display of threats and negative effects, increase their probability and influence, prevent efficient control. SPNT administration opportunities on change of these conditions are absent or are essentially limited.
- **Regional and global factors:** Forces and phenomena which action overcomes borders of the countries and regions (trans-marginal transport of pollution, global change of climate, excessive large-scale operation of natural resources, etc.). Their effect can grow in concrete territory and strengthen the action of local adverse factors, influences and threats.
- **Infrastructure of SPNT organization:** Adequate supply with staff, communication, transport.
- **Management and planning.**
- **Researches, monitoring and quality of estimations.**
- **State policy in relation to SPNT.**

In 2001-2002 WWF and IUCN have in common carried out an independent estimation of the management efficiency of separate specially protected natural territories of Russia with the use of the international technique of the listed factors account and attraction of the large number of experts (http://www.wwf.ru/about/what_we_do/reserves/russia/). Generally, this technique allows receiving quantitative estimations of tendencies and dynamics of changes of protected territories state, areal of adverse influences, destruction degrees and restoration terms of natural complexes.

Information basis for similar estimations and forecasts are regular scientific researches and complex monitoring of the protected territories. On their basis, created are maps of sensitivity and allowable anthropogenous loadings within the territory, complex GIS with databases on the natural environment condition, demographic characteristics and parameters of operation of natural resources, biodiversity and distribution of rare and endangered species of fauna and flora (http://gis.dvo.ru/).

The detailed analysis of the listed factors influence on the condition of natural ecosystems has been not finished yet for each of the reserved territories and is a subject of the long-term programs of special researches.

7. Management Organizations Related to Nature Reserves

The state nature reserves and partial reserves have various statuses and are under the jurisdiction and management of the Ministry of Natural Resources, Administration of the territorial authorities, and Russian Academy of Sciences.

In the Far East federal district the Federal Supervisory Natural Resources Management Service (Rosprirodnadzor) of the Ministry of Natural Resources of the Russian Federation carries out its activity directly and through the territorial bodies (Directorates) in interaction with other federal executive authorities, executive authorities of the Russian Federation constituents, municipal authorities, public associations, and other organizations.

Under the jurisdiction and management of Directorates of Rosprirodnadzor on Primorski Krai and Khabarovsk Territory there are all especially protected natural territories of federal importance, including - State Biological Partial Reserve "Barsovyi" and State Nature Reserves "Sikhote-Alinskiy", "Lazovskiy", "Khankaiskiy" and "Botchinskiy".

Under the jurisdiction and management of the Far East Branch, Russian Academy of Sciences, and its institutes (Institute of Marine Biology, Institute of Biology and Soil Sciences) there are State Reserves «Far Eastern Marine», "Ussuriyskiy" and « Kedrovaja Pad'».

11 state natural partial reserves and 1 natural park are under the jurisdiction and management of Primorski Krai and Khabarovsk Territory Administrations and are directly subject to the Regional Environmental Institutions « Administration of Especially Protected Nature Territories ».

7.1 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

Introduction of the organization

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.

7.2 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

Introduction of the organization

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.

7.3 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/

Introduction of the organization

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.

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

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.

State administration in the field of the wildlife management and environment protection is based on a system of the legislative and other legal acts regulating the specified relations. They are more than 30 federal laws and about 200 subordinate acts.
(http://zapoved.ru/?act=docs).

Current Russian Federation Laws which are regulatory acts intended to conserve environment and biodiversity are:

- On Protection of Environmental (1992);
- On Protected Territories (1995);
- On the Animal Kingdom (1995);
- Forest Code of the Russian Federation (1997);

and the series of special Russian Federation decrees and departmental acts regulating relations between physical and legal entities and defining the rights and functions of specially empowered state agencies in the area of natural use.

At a regional level corresponding legal acts and long-term programs of the wildlife management and rational use of natural resources are operating. They determine a system of the ecological, economic and social purposes for particular territories.

The government management and state control over organization and functioning of especially protected natural territories of federal significance are carried out by the Government of the Russian Federation and the state bodies of the Russian Federation specially authorized in the field of the environment protection.

The government management and state control over organization and functioning of state nature partial reserves, nature sanctuaries, dendrology parks and botanical gardens, therapeutic localities and resorts of regional significance are carried out by the governmental bodies of the Russian Federation

constituents and the state bodies of the Russian Federation specially authorized in the field of the environment protection.
Management and control over organization and functioning of especially protected natural local territories are carried out by local authorities.

The Ministry of Natural Resources of the Russian Federation (http://www.mnr.gov.ru) exercises coordination and control of the activity of the Federal Nature Management Supervision Service (http://control.mnr.gov.ru/), the Federal Subsoil Use Agency (http://www.rosnedra.com/), the Federal Forestry Agency (http://les.mnr.gov.ru/), and the Federal Water Resources Agency (http://voda.mnr.gov.ru/) being under its authority. The Ministry of Natural Resources of the Russian Federation is guided in its activity by the Constitution of the Russian Federation, federal constitutional laws, federal laws, acts of the President of the Russian Federation and the Government of the Russian Federation, international agreements of the Russian Federation. The Ministry of Natural Resources of the Russian Federation carries out its activity in concert with other federal executive bodies, executive bodies of the subjects of the Russian Federation, and institutions of local governing, as well as with public associations and other organizations (http://www.primorsky.ru/admin/; http://www.adm.khv.ru/; http://www.wwf.ru/).

The state nature reserves traditionally are the supreme form of the natural territories protection. They have the strictest legal regime. The earth and its bowels, waters, flora and fauna, located in the territory of the reserve, are rendered to using (possession) by the reserve exercising the rights stipulated by the corresponding Federal laws. Their withdrawal or other termination of the rights is forbidden.
Within the territory of the reserve any activity contradicting the reserve tasks and a mode of special protection of its territory is forbidden, including:

- The actions changing a hydrological regime of the grounds.
- Prospecting and mining, destruction of soil cover, outcrops and rock.
- Logging, storing up medical plants and technical raw materials.
- Mowing, pasturage of cattle, gathering and preparation of wild-growing fruits, berries, mushrooms, nuts, seeds and other kinds of using flora.
- Construction and allocation of the industrial and agricultural enterprises and their separate objects, construction of buildings and constructions, roads and overpasses, transmission lines and other communications, except for those necessary for the reserve activity maintenance.
- Trade, sports and amateur hunting, other kinds of using fauna, except for cases stipulated for each reserve separately.
- Introduction of living organisms with a view of their acclimatization, application of mineral fertilizers and chemical means of plants protection.
- Timber-rafting.
- Transit run of domestic animals.

- Presence, passage and travel of extraneous persons and motor transport outside of roads and general purpose waterways.
- Gathering zoological, botanical and mineralogical collections, except for stipulated by subjects and plans of scientific researches of the reserve.
- Flight of helicopters and planes lower than 2000 meters above the reserve without coordination with the administration, and also supersonic flights above the reserve.
- Other activity breaking natural development of natural processes, menacing a status of natural complexes and objects, and also preventing performance of the tasks assigned to the reserve.

Within the reserve territory allowable are actions and activity directed to:

- Preservation of natural complexes in their natural status, restoration, and also prevention of changes of natural complexes and their components as a result of anthropogenous influence.
- Maintenance of conditions providing sanitary and fire-prevention safety of people, animals, natural complexes and objects.
- Prevention of dangerous natural phenomena (snowslide, rock fall, mudflow, etc.) threatening people's life and settlements.
- Carrying out scientific researches, including ecological monitoring.
- Conducting environmental education, organization of tourist ecological routes, and eco-museums.
- Realization of control functions.

In the reserve territory it is allocated a zone completely protected from any influence. Quite often along the reserve borders there are protective zones which are carrying out a buffer function at the expense of restrictions for certain kinds of economic activities.

A protective zone is established with the purpose of:

- Reduction of negative influence of economic activities on the natural complexes and objects of the reserve.
- Restoration of natural density and improvement of conditions for existence of rare and especially valuable species of animals and plants at the expense of expansion of their habitat and growth.
- Diversion of a superfluous livestock of the animals living in the reserve, by carrying out biotechnical actions with the purpose of further animal distribution in hunting areas, and also animal number regulation in a protective zone by catching or shooting.
- Carrying out the scientific and scientific - practical actions stipulated by the activity plan of the reserve.
- Organization of permanent supervision over a status of the natural complexes influenced by economic activities and reactionary use of the territory of a protective zone.

Besides, in each reserve there are specially selected sites for partial economic use.

Protection of natural complexes and objects in the reserve territory is carried out by special State Inspection of patrolling the territory of the state nature reserve which workers are on the staff of the reserve.

In each reserve it is carried out research activity. It is directed to studying natural complexes and long-term monitoring of natural processes with the purpose of estimation, forecast of ecological situation, development of scientific bases of the wildlife management, preservation of a biological diversity of biosphere, reproduction and rational use of natural resources.

On the territories of state nature partial reserves and their separate sites constantly or temporarily it is forbidden or limited any activity if it contradicts the purposes of creation of the state nature partial reserves or damages natural complexes and their components, including:

- Scarifying.
- Logging, mowing, pasturage of cattle, gathering and preparation of mushrooms, berries , nuts, seeds, medical plants and other kinds of using flora.
- Trade, sports and amateur hunting, fishery, getting of the animals that have been not attributed to hunting and fishery objects, other kinds of using fauna.
- Gathering zoological, botanical and mineralogical collections, and also paleontologic objects.
- Granting the ground areas for building, and also for collective gardening and truck farming.
- Carrying out hydromeliorative and irrigational job, prospecting research and mining.
- Construction of buildings and constructions, roads and pipelines, transmission lines and other communications.
- Application of pesticides, mineral fertilizers, chemical means of plant protection and growth factors.
- Timber-rafting.
- Explosive works.
- A transit and parking of motor transport, ships and other floating vehicles, camping, tourist parking and camps, other forms of rest of the population.
- Any other kinds of economic activities, recreational and other wildlife management interfering preservation, restoration and reproduction of natural complexes and their components.

For normal functioning of the existing nature partial reserves of regional value, preservation of natural complexes and objects, rare species of plants and animals, objects of special protection the following nature protection actions are carried out:

- Regular nature protection spot-checks with the purpose of maintenance of the established mode of the territory protection and poaching suppression.
- Actions on developing the territory.
- Actions on decrease of anthropogenous loading in the territory: organization of regulated recreation.
- Biotechnical actions on preservation of animals.
- Actions on 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 migration paths of the wild animals, and also rare and endangered species.
- Fire-prevention actions.
- Silvicultural treatment.
- Realization of the activity in interaction with the federal bodies of the state ecological control, other federal bodies, institutions of local government, public organizations.
- Propagation of the wildlife management.

Territories of partial reserves are constantly used for research by employees of various establishments and the most various structures. In Primorski Krai such job is basically performed by 4 research organizations, their bases or stations. Among them: Institute of Biology and Soil Sciences, FEB RAS (State Zoological Partial Reserve “Borisovskoie Plato”), Marine Biological Station "Vostok" of the Institute of Marine Biology, FEB RAS (State Marine Partial Reserve “Vostok Bay”), Primorski State Agricultural Academy (State Zoological Partial Reserves “Borisovskoie Plato” and “Poltavskiy”), Ussuriyskiy State Pedagogical Institute (State Marine Partial Reserve “Vostok Bay”, State Zoological Partial Reserves “Borisovskoie Plato” and “Poltavskiy”). The saved up scientific potential allows using the available information at designing and inventories of territories, to establish necessary modes of protection.

In the territories of natural parks various modes of special protection and use are established depending on ecological and recreational value of natural areas. Proceeding from this, on the territories of natural parks it can be allocated nature protection, recreational, agricultural and other functional zones, including zones of protection of historical and cultural complexes and objects:

- In the territories of natural parks it is forbidden any activity leading to the change of historically developed natural landscape, decrease or destruction of ecological, aesthetic and recreational qualities of natural parks, violation of a mode of the maintenance of history and culture monuments.
- In natural parks the activity leading to decrease of ecological, aesthetic, cultural and recreational value of their territories can be forbidden or limited.
- Questions of social and economic activity of the legal persons located in territories of natural parks and their protective zones, and also projects of settlements development are agreed with natural parks.

In 2000, the Department of the environment protection and ecological safety of the Ministry of Nature Resources of the Russian Federation ratified “The Basic directions of the development and organization of activity of the state nature reserves of the Russian Federation for the period till 2010” (http://zapoved.ru/?act=pressa_more&id=8). In this document the following requirements on organization and development of the state nature reserves are formulated:

- Protection of natural complexes and objects.
- Research activity.

- Environmental education activity and outreach.
- Ecological sightseeing activity and development of cognitive tourism.
- Perspective planning.
- Integration of reserves into social and economic sphere of regions.

9. Inventory of Nature Reserves

No.	**Name of Nature Reserves**	**Location** (longitude/ Latitude)	**Level of Nature reserves**	**Items for protection**	**Area** (square kilometers)	**Time of Establishment** (YYYY-MM-DD)
1	Far Eastern State Marine Nature Biospheric Reserve	Russia, Primorski Krai, 130 ^{O} 45 ' – 131^{O} 30' E / 41 ^{O} 25 ' – 42 ^{O} 42 'N	Global	Coastal, island and marine ecosystems. Biocenoses. Biodiversity	642,2	1978-03-24
2	L.G. Kaplanov Lazovskiy State Nature Reserve	Russia, Primorski Krai, 133 ^{O} 40 ' – 134^{O} 11 ' E / 42 ^{O} 49 ' – 43 ^{O} 23 ' N	National	Natural forest complexes. Population of rare and endangered animals/plants. Salmon rivers. Nature and archeological sanctuaries	1210	1940-05-14
3	K.G. Abramov Sikhote-Alin State Nature Biospheric Reserve	Russia, Primorski Krai, 135 ^{O} 45 ' – 136^{O} 35 ' E / 44 ^{O} 49 ' – 45 ^{O} 41 ' N	Global	Biodiversity. Landscape diversity. Population of rare and endangered animals/plants. Nature and archeological sanctuaries	4014,3	1935-02-10
4	V.L. Komarov Ussuriyskiy State Nature Reserve	Russia, Primorski Krai, 132 ^{O} 16 ' – 132^{O} 47 ' E / 43 ^{O}	National	Natural forest complexes. Biodiversity.	404,3	1934-08-07

		33 ' – 43 O 44 ' N		Population of rare and endangered animals/plants		
5	State Nature Biospheric Reserve "Kedrovaja Pad"	Russia, Primorski Krai, 131 O 24 ' – 131 O 36 ' E / 43 O 01 ' – 43 O 09 ' N	Global	Natural ecosystems. Natural forest complexes. Biodiversity. Population of rare and endangered animals/plants.	179	1916 XX-XX
6	Khankaiskiy State Nature Biospheric Reserve	Russia, Primorski Krai, 132 O 07 ' – 133 O 14 ' E / 44 O 34 ' – 45 O 14 ' N	Global	Biodiversity. Migrating and endangered birds and their habitat. Natural ecosystems.	392, 9	1990-12-29
7	State Nature Reserve "Botchinskiy"	Russia, Khabarovsk Territory, 138 O 57 ' – 139O 50 ' E / 47 O 40 ' – 48 O 44 '	National	Natural forest complexes. Biodiversity. Population of rare and endangered animals/plants. Paleontologic monuments	2673	1994-05-25
8	State Marine Partial Reserve "Vostok Bay"	Russia, Primorski Krai, 132 O 42 ' – 132O 47' E / 42 O 52 ' – 42 O 56 ' N	Sub-National/province	Coastal and marine ecosystems. Biodiversity. Biocenoses.	18,2	1989-04-20
9	Federal Partial Reserve "Barsovyi"	Russia, Primorski Krai, 131 O 05 ' – 131 O 42 ' E / 42 O 53 ' – 43 O 24 ' N	National	Natural ecosystems. Biodiversity. Population of rare and endangered	1069	1979-06-20

				animals/plants		
10	State Zoological Partial Reserve "Vasil'kovskiy"	Russia, Primorski Krai, 134 ^{O} 50 ' – 135 ^{O} 14 ' E / 43 ^{O} 24 ' – 43 ^{O} 45 ' N	Sub-National/province	Natural ecosystems. Biodiversity. Salmon rivers. Population of rare and endangered animals/plants	340	1973-03-02
11	State Zoological Partial Reserve "Chiernyie Skaly"	Russia, Primorski Krai, 135 ^{O} 35 ' – 135 ^{O} 50 ' E / 44 ^{O} 13 ' – 44 ^{O} 21 ' N	Sub-National/province	Natural ecosystems. Biodiversity. Salmon rivers. Population of rare and endangered animals/plants	124	1984-04-29
12	State Zoological Partial Reserve "Losinyiy"	Russia, Primorski Krai, 138 ^{O} 22 ' – 138 ^{O} 41 ' E / 46 ^{O} 57 ' – 47 ^{O} 10 ' N	Sub-National/province	Natural ecosystems. Biodiversity. Salmon rivers. Population of rare and endangered animals/plants	260	1986-11-28
13	State Zoological Partial Reserve "Goraliy"	Russia, Primorski Krai, 136 ^{O} 40 ' – 136 ^{O} 48 ' E / 45 ^{O} 03 ' – 45 ^{O} 09 ' N	Sub-National/province	Natural ecosystems. Biodiversity. Population of rare and endangered animals/plants	47	1976-04-14
14	State Zoological Partial Reserve "Borisovskoie Plato"	Russia, Primorski Krai, 131 ^{O} 11 ' – 131 ^{O} 36 ' E / 43 ^{O} 17 ' – 43 ^{O} 38 ' N	Sub-National/province	Natural ecosystems. Biodiversity. Population of rare and endangered animals/plants	634,3	1996-09-10
15	State Zoological	Russia, Primorski	Sub-Nationa	Natural forest	290	1978-06-23

	Partial Reserve "Taiezhnyi"	Krai, 134 O 52 ' – 135 O 10 ' E / 45 O 15 ' – 45 O 28 ' N	l/province	complexes. Population of rare and endangered animals/plants		
16	State Zoological Partial Reserve "Tikhiy"	Russia, Primorski Krai, 133 O 07 ' – 133 O 21 ' E / 44 O 10 ' – 44 O 18 ' N	Sub-Nationa l/province	Wetland and lakes ecosystems. Population of rare and endangered animals/plants	126	1957-12-01
17	State Zoological Partial Reserve "Poltavskiy"	Russia, Primorski Krai, 131 O 21 ' – 131 O 43 ' E / 43 O 42 ' – 44 O 15 ' N	Sub-Nationa l/province	Natural forest complexes. Population of rare and endangered animals/plants	1190	1963-XX-XX
18	State Zoological Partial Reserve "Beriezovyiy"	Russia, Primorski Krai, 134 O 08 ' – 134 O 21 ' E / 43 O 44 ' – 44 O 04 ' N	Sub-Nationa l/province	Natural forest complexes. Population of rare and endangered animals/plants	600	1963-XX-XX
19	State Nature Landscape Partial Reserve "Verkhnebikinskiy"	Russia, Primorski Krai, 136 O 36 ' – 137 O 52 ' E / 46 O 06 ' – 47 O 18 ' N	Sub-Nationa l/province	Natural forest complexes. Population of rare and endangered animals/plants. Nature and archeological sanctuaries	7465	1998-09-15
20	Federal Partial Reserve "Tumninskiy"	Russia, Khabarovsk Territory, 140 O 00 ' – 140 O 30 ' E / 49 O 25 ' – 50 O 00 ' N	National	Natural ecosystems. Biodiversity. Salmon rivers. Population of rare and endangered	1431	1987-07-14

				animals/plants		
21	Natural Park "Khasanskiy"	Russia, Primorski Krai, 130 ^{O} 38 ' – 130 ^{O} 47 ' E / 42 ^{O} 17 ' – 42 ^{O} 28 ' N	Sub-National/province	Natural ecosystems. Population of rare and endangered animals/plants. Nature sanctuaries and archeological monuments	95	1997-06-24

10. Summary

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. Almost all of them are located within the limits of Primorski Krai territory. Only 1 reserve and 1 partial reserve are in the north of the region, in Khabarovsk Territory. The total area of the reserves makes about 9520 square kilometers, including the sea water area - 660 square kilometers and Khanka Lake - 56,9 square kilometers. The total area of the partial reserves makes about 12300 kilometers. The natural park has the area of 95,4 square kilometers.

Reserves have various status and purpose:

- 4 reserves, the partial reserves and a nature park are under the jurisdiction and management of the Russian Federation Ministry of Natural Resources which can perform its activity directly through the territorial bodies in cooperation with the other federal agencies of the executive power, executive bodies of the Russian Federation constituents, municipal authorities, public associations, and other organizations.
- 3 reserves, including a specialized marine state reserve, are under the jurisdiction and management of the Far Eastern Branch, Russian Academy of Sciences, and its two constituent institutes.
- 4 reserves possess an international status of Biospheric Reservation of UNESCO (1979). One of them is included into the list of the World Natural Heritage of UNESCO under the nomination of "Central Sikhote Alin".

13state partial reserves include:

- 11 biological (zoological) partial reserves which primary goals are protection, restoration, reproduction of wild animals, including rare and endangered species and their habitat.
- 1 landscape reserve which tasks are: preservation and restoration of the natural landscape, maintenance of the ecological balance in the area of Central Sikhote Alin, performance of

functions of experimentally - demonstrative territory on restoration and enrichment of specific structure of flora and fauna.

- 1 complex sea partial reserve which tasks are preservation and restoration of the Vostok Bay natural complexes in their natural status, maintenance of the ecological balance and rational use of natural resources as a combination of protected objects, maricultre plantations and a recreation zone within one water area.

Within the territory of Primorski Krai there are 212 nature sanctuaries of regional significance, by the total area of 485 square kilometers.

Within the territory of Primorski Krai there are especially protected natural territories of recreational purpose with the area of 986,2 square kilometers.

The specific structure of animals and plants in reserves and partial reserves is rather diverse and counts more than 10000 species that is related to a variety of their habitat. Owing to unique structure of fauna and flora, Primorski Krai takes a leading place by amount of species listed in the regional Red Book: 283 species (subspecies) of animals and 343 species of plants, and also 55 species of fungi and a plenty of other kinds of objects. Concrete data on specific structure of flora and fauna for each of protected territories are not full enough and representative yet. Completeness of these data depends on status of protected territories and degree of their level of scrutiny.

The basic threats for the reserve ecosystems are related to the consequences of economic operating of the reserve natural resources and to the population residing in its territory. The greatest dangers for the forest areas, inhabitants of wood, river and coastal complexes of the reserve are escalating poaching, catastrophic natural phenomena (fires, flooding, etc.), technogenic incidents, degradation of landscapes and broken ecosystems, “wild” tourism. In many areas rules of hunting and fishing are not observed, catching and shooting of rare animal species takes place, the non-authorized storage of fruits and plants is carried out; destructive technologies of timber cuttings are applied. Last years poaching capture of valuable species of fish and seafood has especially sharply increased. Scarce forces and means for full prevention of these phenomena lead to the increase of the material and ecological damage and biodiversity degradation.

In each reserve it is carried out research activity. It is directed to studying natural complexes and long-term monitoring of natural processes with the purpose of estimation, forecast of ecological situation, development of scientific bases of the wildlife management, preservation of a biological diversity of biosphere, reproduction and rational use of natural resources. In many cases this activity is carried out within the framework of the international projects, in cooperation with international, public organizations and various funds.

Comments

Main sources of information used for compilation of the Report are:

1. Web-sites of Agencies/Institutions/Organizations.

2. NOWPAP/DINRAC Questionnaires for Database on Marine and Coastal Natural Reserves in the NOWPAP Region, filled by NFP with assistance of concerned institutions/organizations or persons.

3. Annual Reports of Activities of institutions/organizations which are available as hardcopies and Internet files.

4. Books, proceedings and papers of some related Int'l Conferences and Workshops which are available as hardcopies and Internet files (e.g. Bersenev Yu.I, Yavnova N.V. (2006) Especially protected natural territories of the Primorski Krai, 64 pp., Rosprirodnadzor/WWF of Russia, Vladivostok (in Russian).

5. Personal communications and consultations.