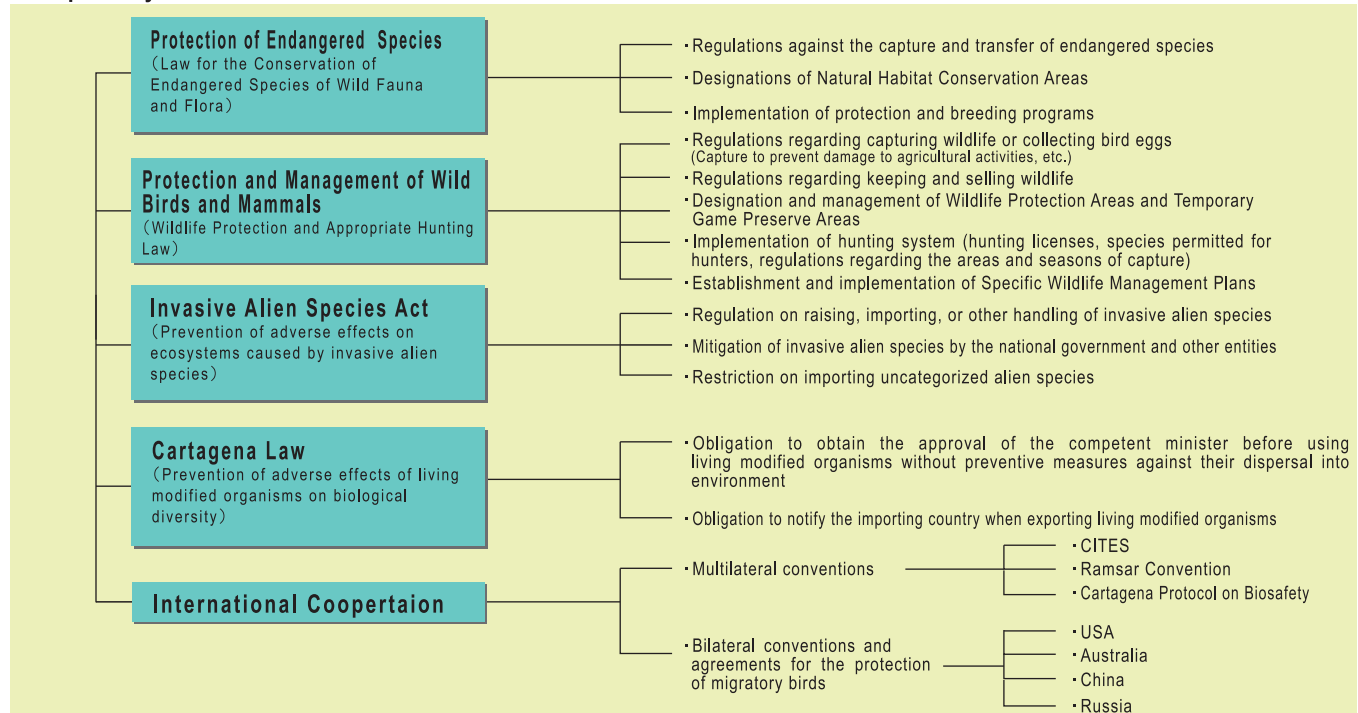


6. Protection and Management of Wildlife

Preservation of diverse species of fauna and flora for the sake of the co-existence of people and wild species requires a variety of approaches, such as conservation of habitat, prevention of overexploitation, implementation of the conservation program and the carrying out of appropriate management measures.

These approaches to protect Japan's wild species are encouraged through the "Law for Conservation of Endangered Species of Wild Fauna and Flora" (Species Conservation Law), "Wildlife Protection and Appropriate Hunting Law", "Invasive Alien Species Act" and "Law concerning the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms" (Cartagena Law). Regarding the protection of migratory birds, international cooperation is promoted through conventions and agreements.

Japan's System for Wildlife Protection



6.1 Protection of Endangered Species of Wild Fauna and Flora

Many species of fauna and flora are threatened with extinction, due to destruction and reduction of habitat areas by human activities and the impacts of overexploitation and alien species that disturb ecosystem. "Threatened Wildlife of Japan: Red Data Book" was published in 1991 based on studies by the Ministry of the Environment. The "Species Conservation Law" was enacted in 1993. Efforts have been made to protect endangered species through this law and other related acts.

Red List

(List of wildlife species fear of extermination)

Prevention of wildlife extinction driven by human impacts requires appropriate understanding of the current status of threatened species and promotion of public awareness. The Ministry of the Environment therefore evaluates the risk of extinction on each wildlife species that exhibit Japan from the biological viewpoint, and release the lists of threatened species (Red List). The detailed information about Red List species is compiled and published as the Red Data Book. The Red List are reviewed approximately every five years.

The Law for Conservation of Endangered Species of Wild Fauna and Flora (Species Conservation Law)

Wild fauna and flora are not only important components of ecosystems, but also essential components of the natural environment that sustains society. The Species Conservation Law aims to conserve nature and contribute to ensuring a healthy and cultural livelihood for people, both now and in the future, by preserving such endangered species.

This law institutionalizes mechanisms that designate endangered species as "Endangered Species of Wild Fauna and Flora", and take a variety of measures for species protection, such as restrictions on capture and transfer, and implementation of the conservation program.



Red Data Book

Number of Endangered Species in Japan (Number on the Red List)

(as of March, 2009)

	Taxonomic Group	Number of Species for Assessment	Extinct	Extinct in the Wild	Threatened		Near Threatened	Data Deficient	Total Number of Species	Local population Threatened	
					Endangered I						Endangered II (Vulnerable)
					A (Critically Endangered)	B (Endangered)					
Fauna	Mammals	180 (approx. 200)	4 (4)	0 (0)	42 (48)		18 (16)	9 (9)	73 (77)	19 (12)	
					35 (32)						7 (16)
					15 (12)	20 (20)					
	Birds	approx. 700 (approx. 700)	13 (13)	1 (1)	92 (89)		18 (16)	17 (16)	141 (135)	2 (2)	
					53 (42)						39 (47)
					21 (17)	32 (25)					
	Reptiles	98 (97)	0 (0)	0 (0)	31 (18)		17 (9)	5 (1)	53 (28)	3 (2)	
					13 (7)						18 (11)
					3 (2)	10 (5)					
	Amphibians	65 (65)	0 (0)	0 (0)	21 (14)		14 (5)	1 (0)	36 (19)	0 (4)	
					10 (5)						11 (9)
1 (1)					9 (4)						
Brackish and Freshwater Fish	approx. 400 (approx. 300)	4 (3)	0 (0)	144 (76)		26 (12)	39 (5)	213 (96)	17 (12)		
				109 (58)						35 (18)	
				61 (29)	48 (29)						
Insects	approx. 30,000 (approx. 30,000)	3 (2)	0 (0)	239 (171)		200 (161)	122 (87)	564 (421)	2 (3)		
				110 (89)						129 (82)	
Shellfishes	approx. 1,100 (approx. 1,000)	22 (25)	0 (0)	377 (251)		275 (201)	73 (71)	747 (548)	7 (5)		
				163 (86)						214 (165)	
Other Invertebrate	approx. 4,200 (approx. 4,200)	0 (0)	1 (1)	56 (33)		40 (31)	39 (36)	136 (101)	0 (0)		
				17 (10)						39 (23)	
Sub total for Fauna			46 (47)	2 (2)	1002 (700)		608 (451)	305 (225)	1963 (1425)	50 (40)	
					510 (329)		492 (371)				
Flora	Vascular Plants	approx. 7,000 (approx. 7,000)	33 (20)	8 (5)	1690 (1665)		255 (145)	32 (52)	2018 (1887)	-	
					1014 (1044)						676 (621)
					523 (564)	491 (480)					
	Excluding the Vascular Plants	approx. 25,300 (approx. 24,800)	41 (35)	2 (2)	463 (329)		118 (45)	172 (71)	796 (482)	-	
					287 (220)						176 (109)
	Bryophytes	approx. 1,800 (approx. 1,800)	1 (0)	0 (0)	229 (180)		22 (4)	33 (54)	285 (238)	-	
118 (110)					111 (70)						
Algae	approx. 5,500 (approx. 5,500)	5 (5)	1 (1)	110 (41)		40 (24)	37 (0)	193 (71)	-		
				89 (35)						21 (6)	
Lichens	approx. 1,500 (approx. 1,000)	5 (3)	0 (0)	60 (45)		39 (17)	48 (17)	152 (82)	-		
				41 (22)						19 (23)	
Fungi	approx. 16,500 (approx. 16,500)	30 (27)	1 (1)	64 (63)		17 (-)	54 (-)	166 (91)	-		
				39 (53)						25 (10)	
Sub total for Flora			74 (55)	10 (7)	2153 (1994)		373 (190)	204 (123)	2814 (2369)	-	
					1301 (1264)		852 (730)				
Total			120 (102)	12 (9)	3155 (2694)		981 (641)	509 (348)	4777 (3794)	50 (40)	
					1811 (1593)		1344 (1101)				

(1) The number of species of fauna for assessment (including sub-species etc.) is quoted from "A List of Native Species of Wildlife in Japan" (edited by the Environment Agency, 1993, 1995, 1998), and other sources.

(2) Among Flora, the number of species of vascular plants for assessment (including sub-species etc.) is quoted from the total given by the Japanese Society for Plant Systematics (JSPS).

(3) Among Flora (excluding the vascular plants), the number of species of bryophytes, algae, lichens and fungi for evaluation (including sub-species etc.) are obtained from studies by the Ministry of the Environment.

(4) The figures in the parentheses indicate the number of species listed on the previous Red List.

(5) Insects, shellfishes, other invertebrate animals and non vascular plants are grouped into the category of "Critically Endangered + Endangered" Endangered I, and are not classified as "Critically Endangered" nor "Endangered".

Brief definitions of categories are as follows:

Extinct: Species considered to be already extinct in Japan

Extinct in the Wild: Species existing in captivity only

Critically Endangered + Endangered: Species in danger of extinction

Vulnerable: Species facing growing danger of extinction

Near Threatened: Species with a fragile basis of their existence

Data Deficient: Species that cannot be assessed because of insufficient information

(Additional definition)

Threatened Local Population: isolated local population with high probability of extinction (animals only)

(1) Designation of Endangered Species of Wild Fauna and Flora

"Endangered Species of Wild Fauna and Flora" are classified into three categories as below:

① Designated National Endangered Species of Wild Fauna and Flora

Endangered species inhabiting and/or growing in Japan, designated on the basis of scientific knowledge of their existence, such as found in the Red List. Some of these species are classified as "Designated National Endangered Species" and are allowed to be bred on a commercial basis.

② Designated International Endangered Species of Wild Fauna and Flora

Endangered species that require international cooperation for species preservation (species listed in CITES (see, p.43) Appendix I and/or under Japan's bilateral conventions/agreements for protection of migratory birds).

③ Temporarily Designated Endangered Species

These are new species and some others that need to be preserved urgently from extinction. The Minister of the Environment makes a designation and the designation is limited to a period of 3 years. In December, 1994, eagle owls, Iriomote fireflies and Kumejima fireflies were designated as "Temporarily Designated Species". Eagle owls were also designated as "Designated National Endangered Species of Wild Fauna and Flora". In March, 2008, a species of stag beetle "Platycerus sue" became a designated species in this category.

(2) Regulations for Treatment of Animals

Such behavior as "capture, collect, kill and injure" of living animals classified as "Designated National Endangered Species of Wild Fauna and Flora" and "Temporarily Designated Species", is prohibited in principle. Also, exhibiting individuals of "Designated Endangered Species of Wild Fauna and Flora" for sale and distribution, and transfer(giving, selling, lending, receiving, buying and borrowing) are prohibited in principle.



Rebutia lady's slipper
(*Cypripedium macranthum* var. *rebunense*)



Short-tailed albatross
(*Diomedea albatrus*)



Blakiston's fish-owl
(*Ketupa blakistoni blakistoni*)

(3) Regulations for Habitat Conservation

Important habitats are designated as "Natural Habitat Conservation Areas" for the preservation of National Endangered Species of Wild Fauna and Flora. Within these areas, zones in great need of regulation are designated as "Conservation Areas", in which specific activities, such as erecting structures and felling trees, require the permission of the Minister of the Environment. Other zones within the areas are termed "Monitoring Areas", serving as buffer for Conservation Areas. Activities such as erecting structures in Monitoring Areas require prior notification to the Minister of the Environment.

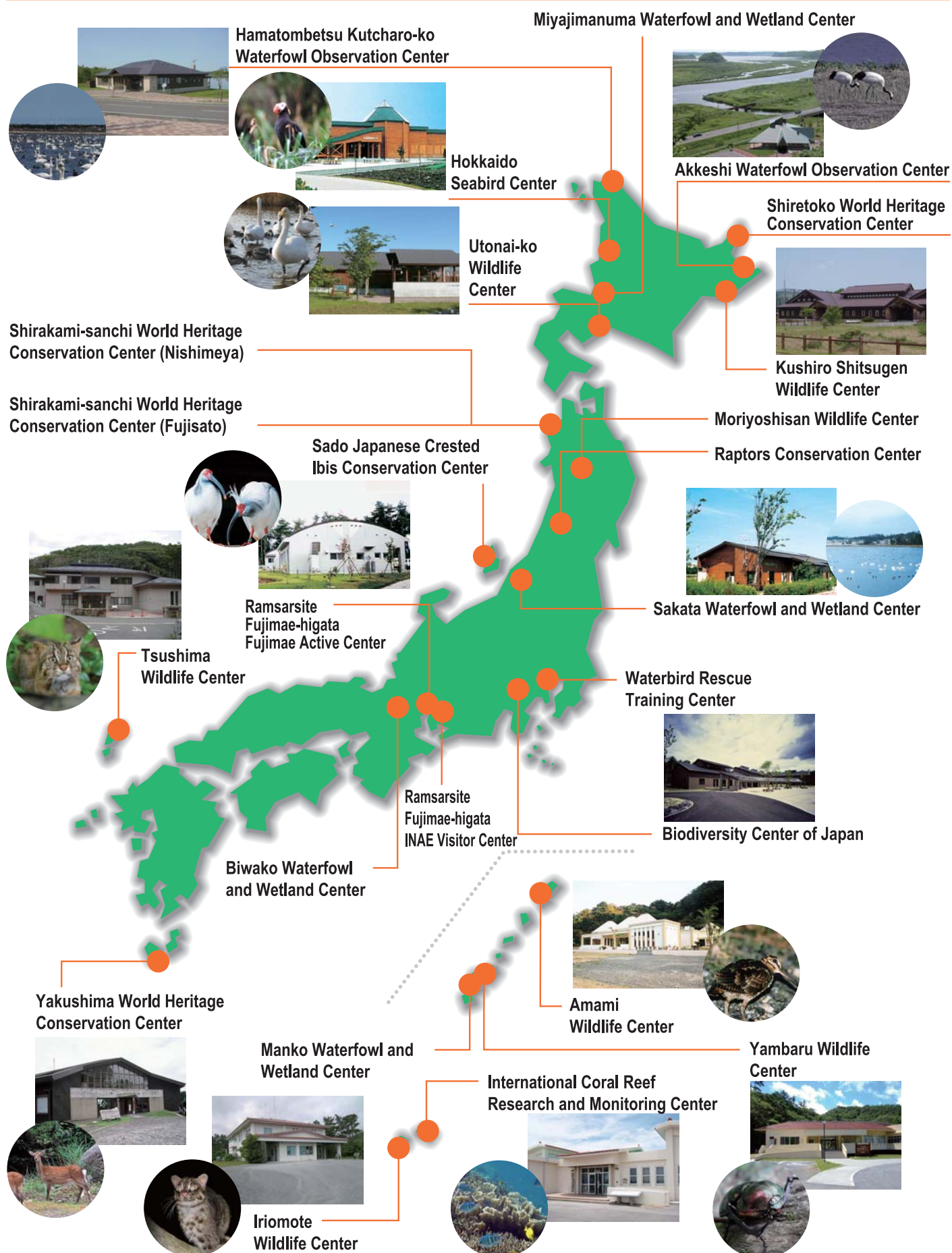
(4) Implementation of The Conservation Program

Some National Endangered Species of Wild Fauna and Flora, such as the Japanese crested ibis, the Blakiston's fish-owl, and the Iriomote wild cat, require intense measures for species survival. These species are the subject of programs for protection and breeding, including activities such as the maintenance and improvement of natural habitat, feeding, and captive breeding. The Ministry of the Environment implements conservation programs in cooperation with relevant government agencies and endeavors to protect endangered species.

Wildlife Centers

Wildlife Centers are the base institutions for promoting comprehensive activities for the conservation of regionally unique wildlife, especially National Endangered Species of Wild Fauna and Flora. Their activities include nature interpretation for visitors using exhibits and other visual aids for educational purposes; programs for protection and breeding of endangered species; and study and research. Eight centers were in operation as of March 2009.

Institutions for Wildlife Conservation



6.2 Protection and Management of Wild Birds and Mammals

(1) Overview

More than 700 species of wild birds and mammals (collectively, wildlife) inhabit Japan, the capture of them is strictly regulated on the basis of the Wildlife Protection and Appropriate Hunting Law (hereafter the "Wildlife Protection Law"; some marine mammals are excluded from the application of this law). The Wildlife Protection Law designates 49 species of wildlife as game, for which hunting is allowed.

Capture of wildlife requires either a hunting license issued under the Wildlife Protection Law, or a special permit for the purpose of scientific study, or for prevention damage to agricultural activities, etc.

Wildlife Protection Areas are designated and managed nationwide for the conservation of wildlife.

Some species of wildlife--whose populations are significantly increasing or decreasing, causing serious damage to people's agricultural, forestry and fishery activities and ecosystem -- require scientific and systematic management. For the reason, the Ministry of the Environment institutionalized wildlife management through Specified Wildlife Management Plan (see below). These promote various approaches, including increasing specialists dedicated to wildlife management.

(2) Wildlife Protection Areas

Wildlife Protection Areas are designated under the Wildlife Protection Law, to ensure the conservation of wildlife. National Wildlife Protection Areas are designated by the Minister of the Environment, and Prefectural Wildlife Protection Areas are designated by the governor of the prefecture concerned. Capture of wildlife is prohibited in these areas. As of December 31, 2008, 3,884 areas covering 3.64 million ha were designated nationwide. Where more strict regulation is needed, Special Protection Areas may be declared within Wildlife Protection Areas. In the Special Protection Areas, such activities as erecting structures, reclamation and felling trees require permission from the Minister of the Environment or the prefectural governor. As of December 31, 2008, there were 618 Special Protection Areas, covering 290,000ha.

(3) Hunting System

Hunting in Japan requires a hunting license that applicants can receive upon passing a hunting examination overseen by prefectural governors. The examination tests applicant's ability to identify game species, knowledge of hunting safety and the skills in handling hunting equipment, and so on.

Before hunting, hunters must register with the government of the prefecture in which s/he wishes to hunt and pay a hunting tax.

There are four types of hunting licenses: license for hunting with nets; one for trap hunting; "the first grade game shooting license" for using charge rifles, shotguns and air-guns; and "the second grade game shooting license" for using air-guns only. In order to ensure safe hunting and to maintain hunting resources sustainably, hunting activities are regulated as follows:

① Hunting seasons

In principle, the hunting season is from October 1 to January 31 of the following year in Hokkaido, and from November 15 to February 15 the following year in all other places.

② Areas where hunting is prohibited

Wildlife Protection Areas, Temporary Game Preserve Areas, Public Roads, Public Parks, the Grounds of Shrines and Temples, Cemeteries, etc.

③ Regulations on hunting methods and mass capture

④ Limitations on hunting quotas per day or per hunting season.

■ The number of hunting licenses issued, and of games taken

Year	No. of hunting licenses issued			No. of games taken		
	Class A	Class B	Class C	Birds	Mammals	Total
2001	34,681	169,521	6,869	1,680	307	1,987
2002	38,041	169,691	4,748	1,722	324	2,046
2003	41,439	152,258	3,775	1,208	305	1,513
2004	43,656	151,203	3,469	1,271	344	1,615
2005	47,552	152,780	3,290	865	316	1,181

■ Designation of Wildlife Protection Areas (as of December 31, 2008)

	National (as of August 1, 2008)		Prefectural (as of March, 2008)		Total	
	No. of Areas	Size (thousand ha)	No. of Areas	Size (thousand ha)	No. of Areas	Size (thousand ha)
Wildlife Protection Area	69	548	3,815	3,093	3,884	3,641
(Special Protection Area)	56	146	562	149	618	295



Rock ptarmigan
(*Lagopus mutus japonicus*)



Sika deer
(*Cervus nippon*)

(4) Overview of Specified Wildlife Management Plan System

Specified wildlife management plans are drawn up arbitrarily by prefectural governors at their own discretion. Governors should carry out "Management of population size, Management of habitats and Prevention of damage caused by wildlife" etc., in cooperation with various operating bodies. The plans will be monitored, and the findings of monitoring will be taken into consideration when the next plans are made so that

local population of each species will be properly conserved and controlled. A total of 99 Specified Wildlife Management Plans had been established by January, 2009, for 6 species: (Japanese (sika) deer, wild boars, Japanese macaque, bears antelopes, great cormorants)

Overview of Specified Wildlife Management Plan System

1 Overview of Plans

①Aims

Avoidance of frictions between wildlife and human activities and stable long-term maintenance of local wildlife populations

②Planning bodies

Plans established by prefectural governors

③Subjects

Local populations of the wildlife species that are rapidly increasing, such as sika deer and wild boar, or drastically decreasing, such as bear

④Contents

Descriptions of goals and methods for the management of population size and maintenance of habitats

2 Approach to carry out Plans

①Hunting regulations tailored to local circumstances

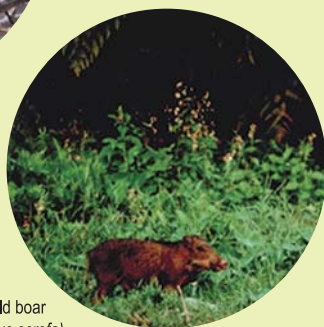
②Conservation and management of habitats

③Countermeasures to prevent and control damage caused by wildlife

④Others



Japanese macaque
(*Macaca fuscata*)



Wild boar
(*Sus scrofa*)

3 Role of Plans in Wildlife Management System

Basic Policies (national):

The national government sets up basic policies to implement the wildlife protection projects (applied nationwide), based on Article 3 of the Wildlife Protection Law.

Consistent

Wildlife Protection Project Plans (prefectural):

Prefectures make comprehensive plans to actively promote wildlife protection projects, based on Article 4 of the Wildlife Protection Law.

Consistent

※Items include: designation of protected areas, captive breeding, control of nuisance and dangerous wildlife, research, etc.

Specified Wildlife Management Plans (local):

Prefectures establish plans to control local populations of specific wildlife species, based on Article 7 of the Wildlife Protection Law.

※Items include: objectives of wildlife management, control of population sizes, conservation and management of habitats, etc.

Implementation of wildlife management projects (management of population size, management of habitats, prevention and control of damage caused by wildlife, etc.)

6.3 Measures Concerning Invasive Alien Species and Living Modified Organisms

Countermeasures against Invasive Alien Species and Other Related Actions

The species non-native to Japanese ecosystem (alien species) have been brought into Japan and some of them become established live in the wild. The problems caused by these species are emerging as follows: driving the native fauna and flora to extinction, harming people and damaging the agriculture, forestry and fisheries industries. Invasive Alien Species Act (IAS Act), which promulgated in June 2004, designates the alien species that are recognized or feared to cause these problems as Invasive Alien Species (IAS). This law has the purpose of preventing adverse effects caused by IAS through regulating raising, planting, storing, carrying, importing or other handling of IAS and through taking measures such as mitigation of IAS by the national government and other entities, with the aim to contribute to conservation of biodiversity, human safety and sound development of agriculture, forestry and fisheries.

(1) Designation of Invasive Alien Species (IAS etc.)

The alien species, which brought into Japan from overseas and recognized or feared to cause adverse effects on biodiversity, human safety, agriculture, forestry and fisheries are designated as IAS, and their importation and raising are restricted.

The Ministry of the Environment is publicizing procedures of the Invasive Alien Species Act and basic problems of invasive alien species on its homepage. (URL: <http://www.env.go.jp/nature/intro/>)

(2) Mitigation and Management

In the habitats of endangered species or the species unique to the area, the mitigation measures are to be taken according to the situation of damage.

Examples of these countermeasures include Japan mongoose eradication projects on Amami-Oshima Island in Kagoshima prefecture and Yambaru area on Okinawa Island, monitoring project of cane toad, which has potential to cause adverse effects on ecosystems, on Iriomote Island in Okinawa prefecture, and eradication projects of largemouth bass in the areas including Ramsar Sites.



Largemouth bass
(*Micropterus salmoides*)



Javan mongoose
(*Herpestes javanicus*)

List of Invasive Alien Species (IAS)

(as of January 1, 2008)

Taxon	Species
Mammals	Crab-eating macaque (<i>Macaca fascicularis</i>), Coypu / nutria (<i>Myocastor coypus</i>), Raccoon (<i>Procyon lotor</i>), Javan mongoose (<i>Herpestes javanicus</i>), Reeves's muntjac (<i>Muntiacus reevesi</i>), etc.
Birds	Laughing thrush (<i>Garrulax canorus</i>), Red-billed mesia (<i>Leiothrix lutea</i>), etc.
Reptiles	Snapping turtle (<i>Chelydra serpentina</i>), Green anole (<i>Anolis carolinensis</i>), Taiwan beauty snake (<i>Elaphe taeniura friesi</i>), etc.
Amphibians	Cane toad (<i>Bufo marinus</i>), Bullfrog (<i>Rana catesbeiana</i>), Asian tree frog (<i>Polypedates leucomystax</i>), etc.
Fishes	Channel catfish (<i>Ictalurus punctatus</i>), Bluegill (<i>Lepomis macrochirus</i>), Largemouth bass (<i>Micropterus salmoides</i>), etc.
Insects	Large earth bumblebee (<i>Bombus terrestris</i>), Argentine ant (<i>Linepithema humile</i>), Fire ant (<i>Solenopsis invicta</i>), etc.
Invertebrates other than insects	Red back spider (<i>Latrodectus hasseltii</i>), Signal crayfish (<i>Pacifastacus leniusculus</i>), Mitten crab (genus <i>Eriocheir</i>), Golden mussel (genus <i>Limnoperna</i>), etc.
Plants	Water lettuce (<i>Pistia stratiotes</i>), Cutleaf coneflower (<i>Rudbeckia laciniata</i>), Bur cucumber (<i>Sicyos angulatus</i>), etc.

All native species and subspecies are excluded.

※Full list is available at URL: http://www.env.go.jp/nature/intro/1outline/files/siteisyu_list_e.pdf.

Regulations on the use of Living Modified Organisms

There are various Living Modified Organisms (LMOs) used in such field as medicine, agriculture and forestry, industry etc. Meanwhile, the concern for the possibility of LMOs causing adverse effects on biological diversity are expressed, and the Cartagena Protocol put in force in September 2003 based on the Convention on Biological Diversity. The Cartagena Protocol stipulates the international framework regarding the import and export of LMOs. Responding to this protocol, the Cartagena Law became effective in February 2004. The purpose of the law is to ensure the precise and smooth implementation of the Cartagena Protocol, and thereby to contribute to the conservation of biodiversity. The Law stipulates the handling of LMOs such as the requirement of acquiring the approval of the competent minister to use LMOs in the open environment. As of the end of February, 2009, 137 cases of LMOs use in the open environment are approved.

Also, the Biosafety Clearinghouse of Japan (<http://www.bch.biodic.go.jp/>) has been established and provides the information on legal framework, approved LMOs and so on.



Cutleaf coneflower
(*Rudbeckia laciniata*)