

Perspectives of the protected areas in Japan

–Current situation and gaps for
conservation of biodiversity–

The Nature Conservation Society of Japan

Takeharu SHUMIYA*, Hiroaki Okonogi, Teppei Dohke, Chihiro
Tsujiura, Tomoko Shimura, Mariko Abe, Keitaro Hara, Masahito
Yoshida, and Akira Kameyama



The Nature Conservation Society of Japan (NACS-J)



Research

Advocacy

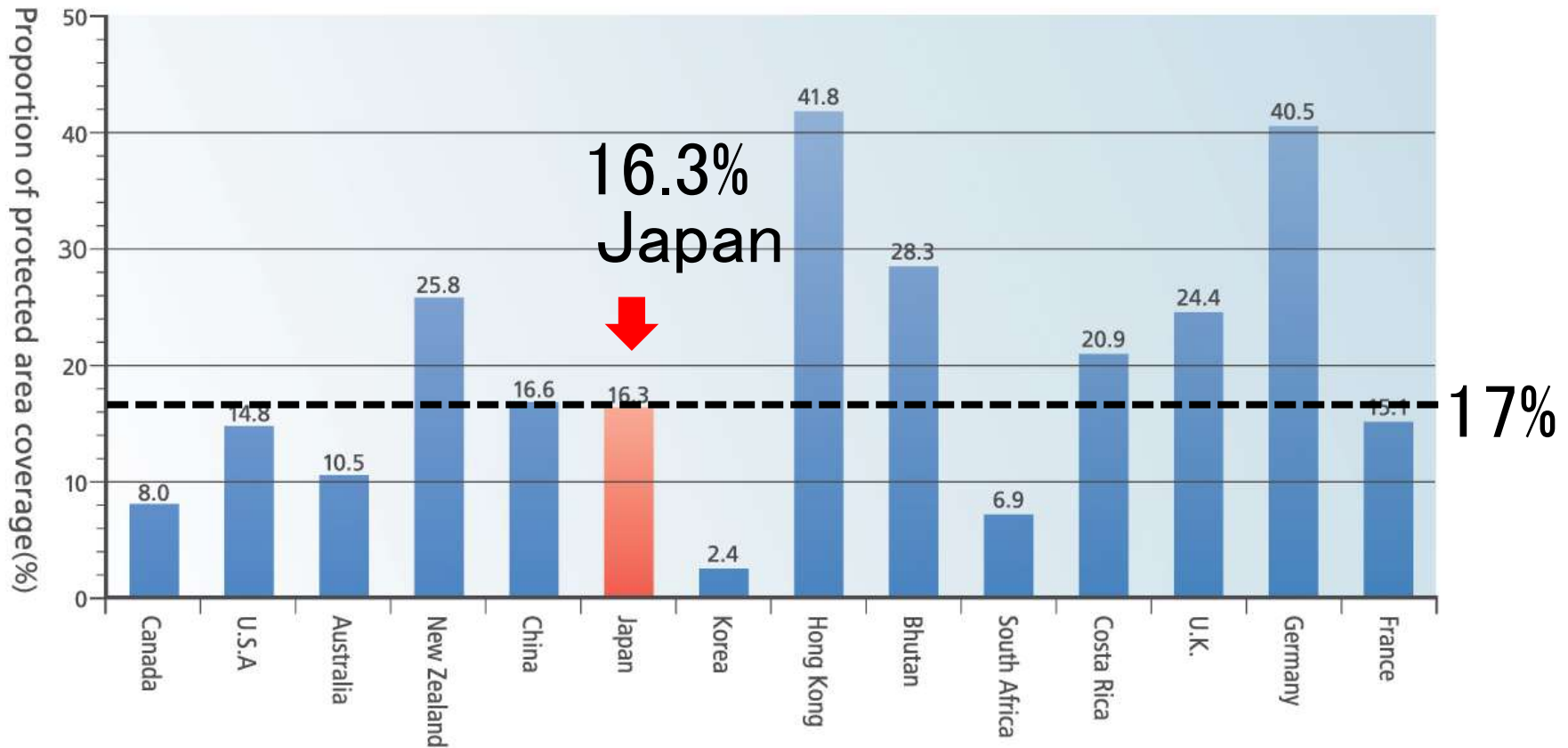


We are an independent and advocacy NGO dedicated ourselves to conservation of ecosystem and biological diversity around 60 years.

Education & Awareness



Coverage of PAs in Japan & the World



North
America

Oceania

Asia

Afri
-ca

Central
America

Europe

Have Japan already achieved 17% of Aichi target?

From World Database on Protected Areas (2010)

Introduction

- Overview for various types of Japan PAs
- How many percentage of total area of JP is covered by overall JP PAs?
- How many gaps do exist between PAs and important natural area.

Japan is a Biodiversity hotspot in the world

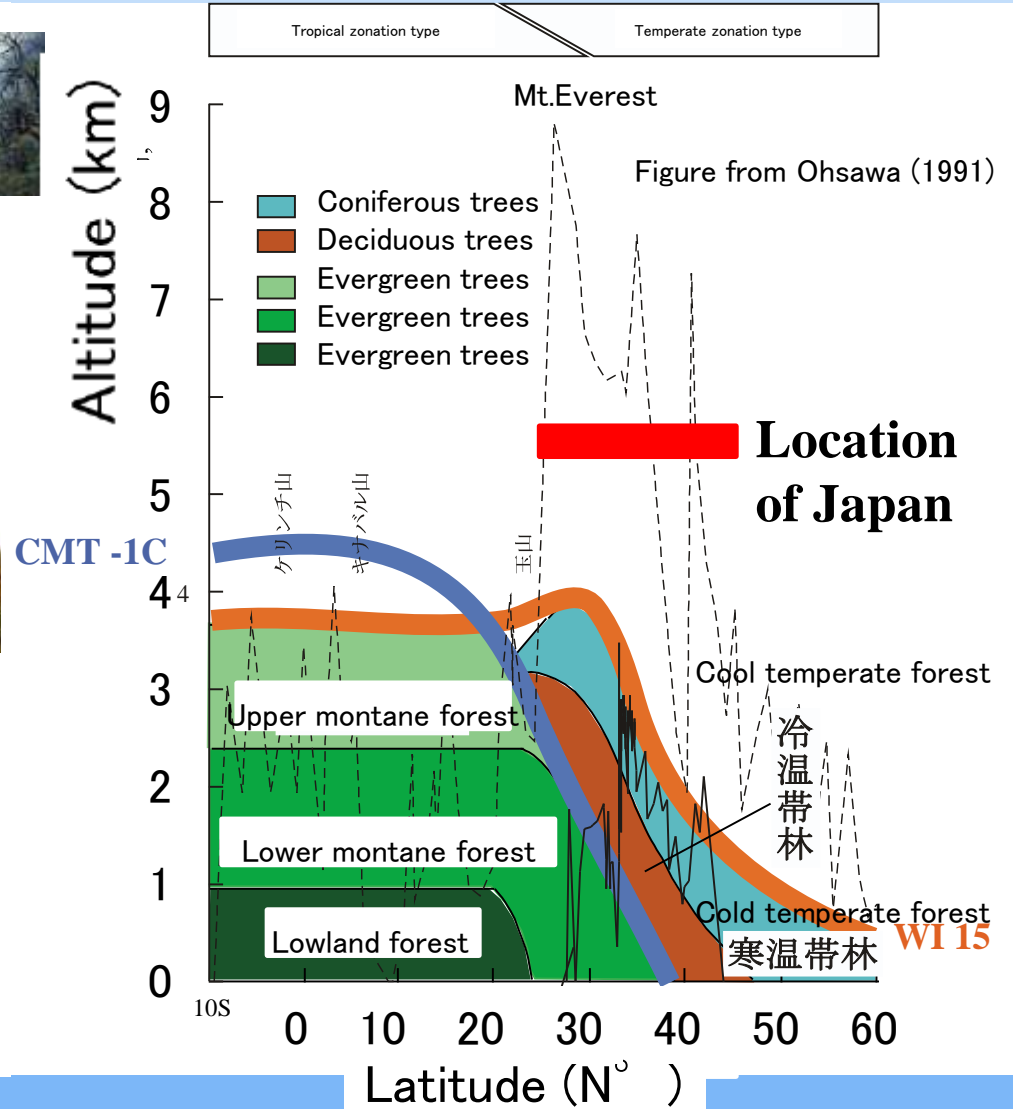
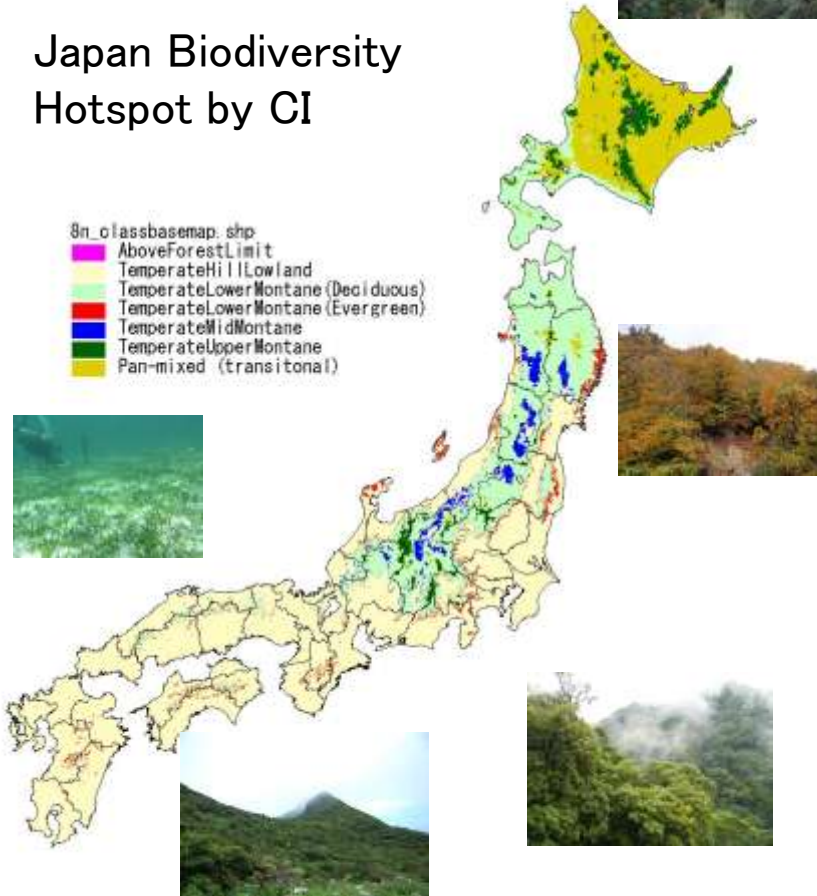
Tropical ↔ Temperate

Vegetation type

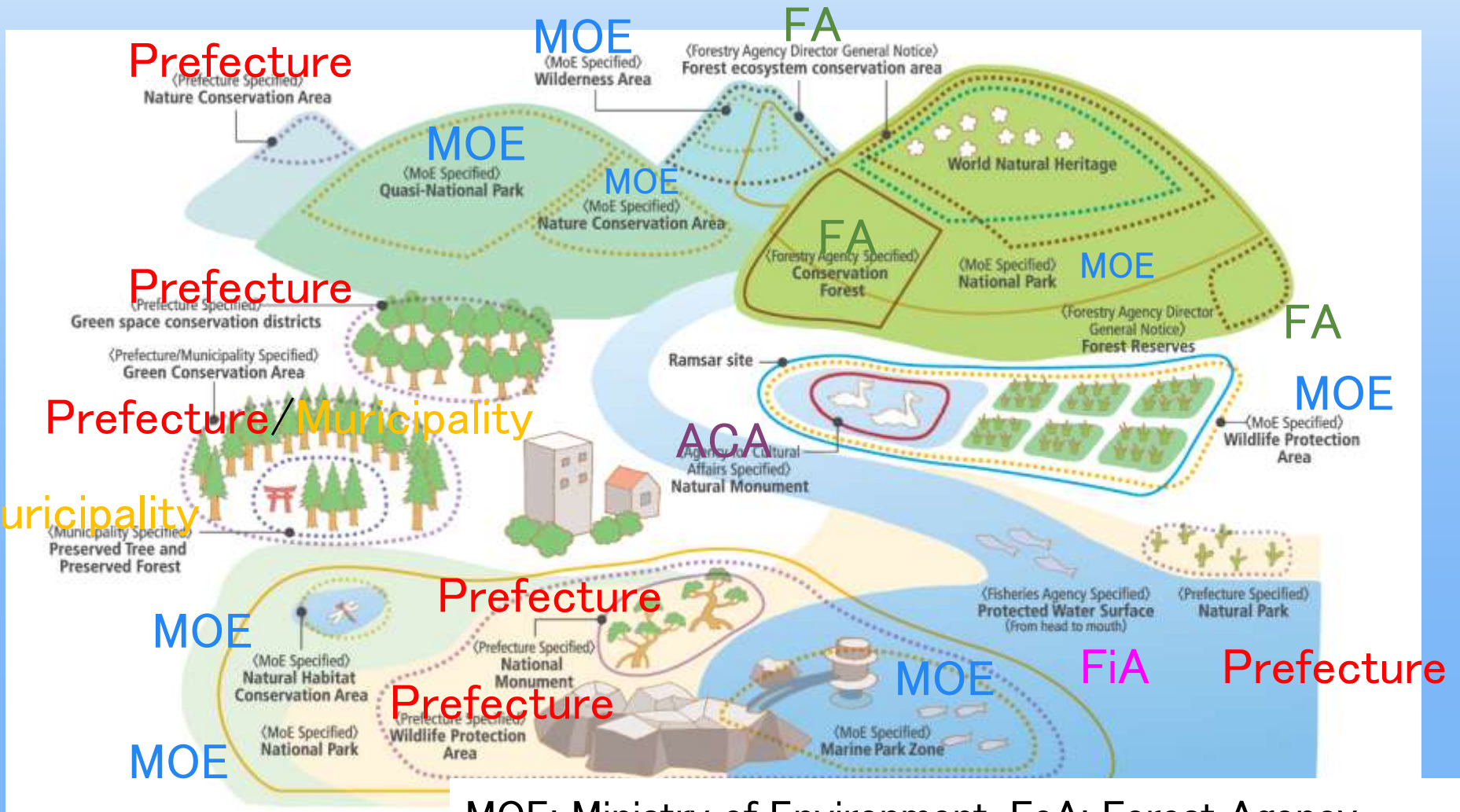


Japan Biodiversity Hotspot by CI

- 8n_classbasemap.shp
- AboveForestLimit
- TemperateHillLowland
- TemperateLowerMontane (Deciduous)
- TemperateLowerMontane (Evergreen)
- TemperateMidMontane
- TemperateUpperMontane
- Pan-mixed (transitional)



Various type of Japan PAs concerning to the habitats

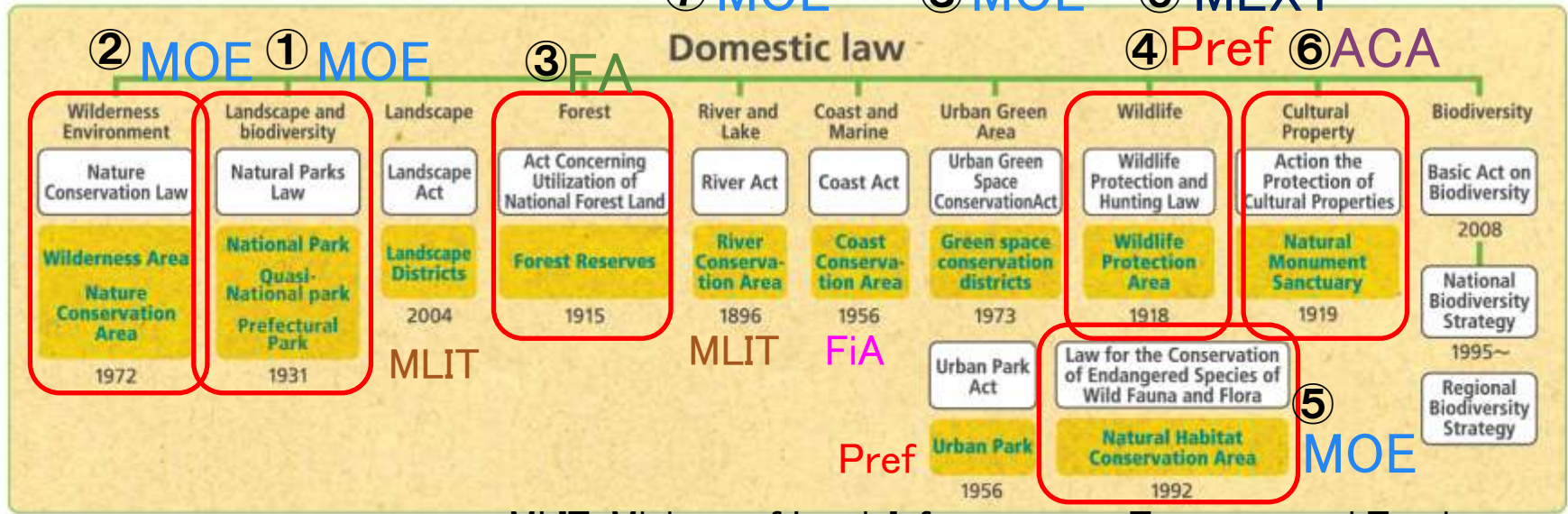


MOE: Ministry of Environment, FoA: Forest Agency, ACA: Agency for Cultural Affairs, FiA: Agency for Fisheries

Legal System for Japan PAs



⑦ MOE ⑧ MOE ⑨ MEXT



MLIT: Ministry of Land, Infrastructure, Transport and Tourism

MEXT: Ministry of Education, Culture Sports, Science and Technology

Legal based PAs are designated with the purpose of protection, the Domestic laws concerning PAs are equally dependently functional.

Land categories of Natural Parks



Land categories are established in accordance with the strictness of the protection regulation as in case of Natural Parks and Forestry Ecosystem PAs etc.

① Natural Parks

Figure1-5 Geological distribution of natural parks (national parks, quasi-national parks and prefectural parks) [terrestrial]
 #Parks name indicated on the map are national parks.



Natural Park
 Quasi-National Park
 Prefectural National Park



- Natural Parks Law
- Ministry of Environment



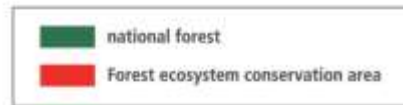
		Number	Land Only(km ²)	Proportion to TAJ(%)
National Park		30	21,029.42	5.64
Special Zone	★ Special Protection Zone & Class I Special Zone		5,311.25	1.42
	Class II & Class III Special Zone		9,768.52	2.62
Ordinary Zone	Ordinary Zone		5,949.66	1.60
Quasi-National Park		56	13,498.15	3.62
Special Zone	★ Special Protection Zone & Class I Special Zone		2,366.22	1.42
	Class II & Class III Special Zone		10,141.68	2.72
Ordinary Zone	Ordinary Zone		990.26	0.27
Prefectural Park		315	19,375.21	5.20
Natural Parks on The Natural Parks Law		401	53,902.79	14.46
Land Area			372,828.90	

★: Area requiring the most stringent protection

② Forest Reserve System

Figure1-9 Geographical distribution of national forests and forest ecosystem conservation areas

※Areas name indicated on the map are forestry ecosystem protected areas.



National Forest
Forest Ecosystem Conservation Area

- Act Concerning Utilization of National Forest Land
- Forest Agency

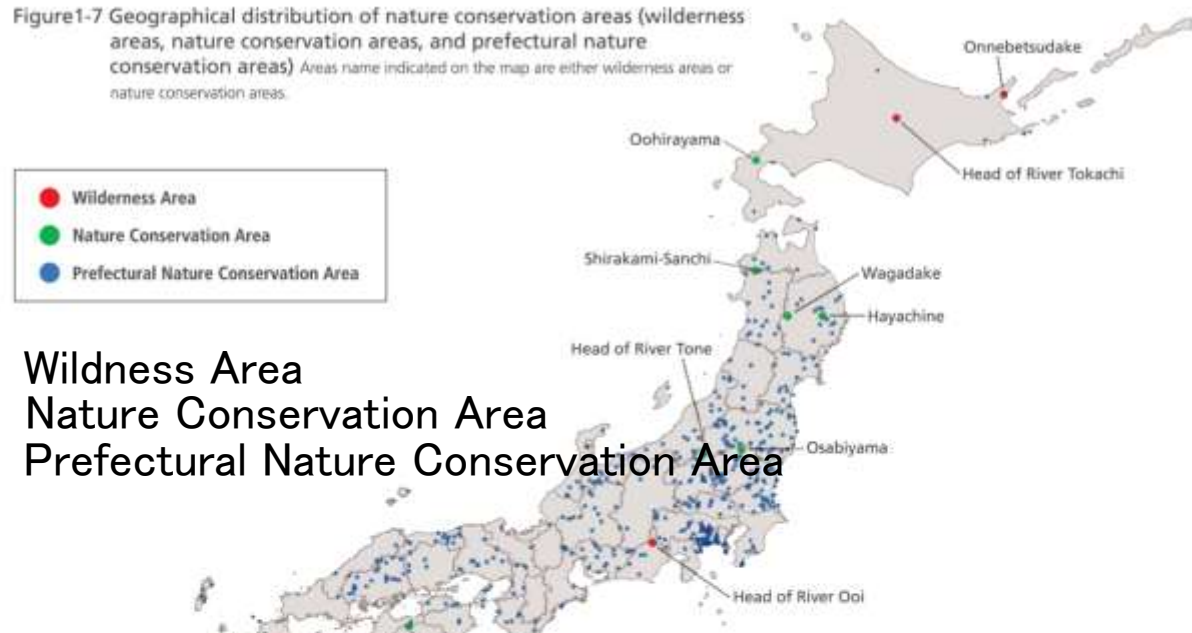
	Number	Land Only(km ²)	Proportion to TAJ(%)	Remarks
Forest Area		254,284.20	68.20	GIS data
National Forest Area		78,575.80	21.08	GIS data
Forest Reserves	843	7,564.67	2.03	Forest Agency
★Forest ecosystem conservation area	29	4,924.67	1.32	GIS data
Forests for the conservation of genetic resources	12	350.00	0.09	Forest Agency
Forests for the preservation of the genetic resources of tree species	324	90.00	0.02	Forest Agency
Forests for the protection of plant colonies	369	1,570.00	0.42	Forest Agency
Forests for the protection of specified wildlife habitats	38	220.00	0.06	Forest Agency
Forests for the protection of specified geographical features, etc	33	370.00	0.10	Forest Agency
Forests for the local culture	38	40.00	0.01	Forest Agency
Green Corridor	24	5,100.00	1.37	Forest Agency
Forest Reserves and Green Corridor	867	12,664.67	3.40	
Land Area		372,828.90		

★: Area requiring the most stringent protection

As of April 2013

③ Nature Conservation Areas

Figure1-7 Geographical distribution of nature conservation areas (wilderness areas, nature conservation areas, and prefectural nature conservation areas) Areas name indicated on the map are either wilderness areas or nature conservation areas.



Wildness Area
 Nature Conservation Area
 Prefectural Nature Conservation Area

Nature Conservation Law
 Ministry of Environment



	Number	Land Only(km ²)	Proportion to TAJ(%)
★ Wilderness Area	5	56.02	0.02
★ Nature Conservation Area	10	217.73	0.07
Prefectural Nature Conservation Area	541	771.44	0.21
Nature Conservation Area	556	1,045.19	0.28
Land Area		372,828.90	

★: Area requiring the most stringent protection

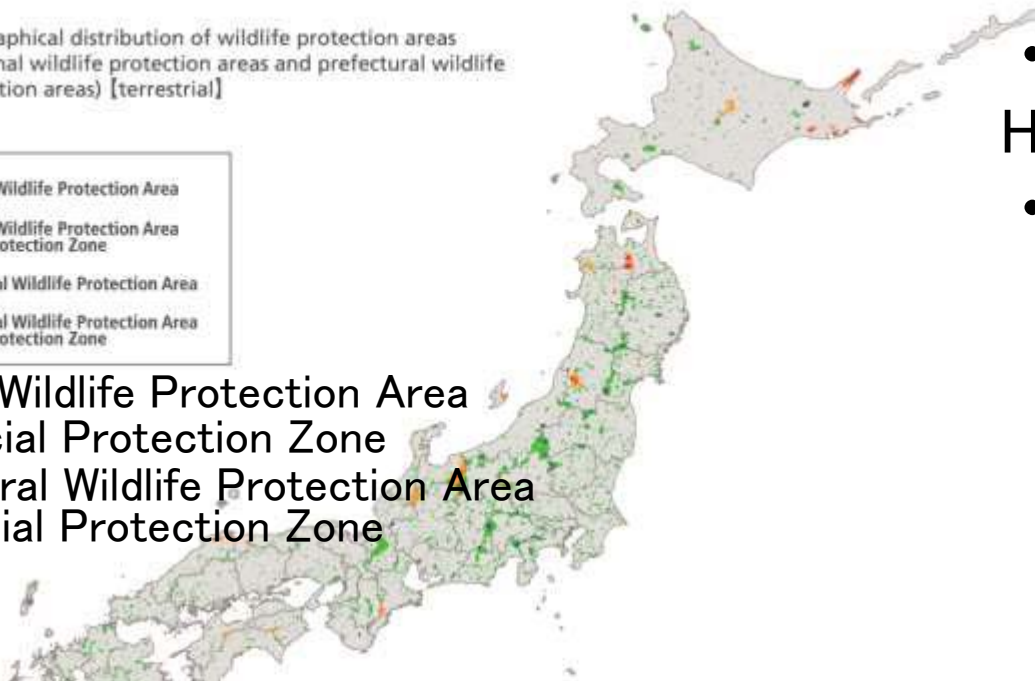
As of April 2013

④ Wildlife Protection Areas

Figure1-11 Geographical distribution of wildlife protection areas (national wildlife protection areas and prefectural wildlife protection areas) [terrestrial]



National Wildlife Protection Area
Special Protection Zone
Prefectural Wildlife Protection Area
Special Protection Zone



- Wildlife Protection and Hunting Law
- Ministry of Environment



	Number	Land Only(km ²)	Proportion to TAJ(%)
National Wildlife Protection Area	82	4,656.82	1.25
★ Special Zone	66	1,331.87	0.36
Prefectural Wildlife Protection Area	3,759	30,245.82	8.11
★ Special Zone	552	1,548.35	0.42
Total	3 841	34 902.64	9.36

⑤ Natural Habitat Conservation Areas

Figure1-12 Geographical distribution of natural habitat conservation areas



- Law for the Conservation of Endangered Species of Wild Fauna and Flora
- Ministry of Environment



	Number	Land Only(km ²)	Proportion to TAJ(%)
★ Natural Habitat Conservation Area	9	8.75	0.002

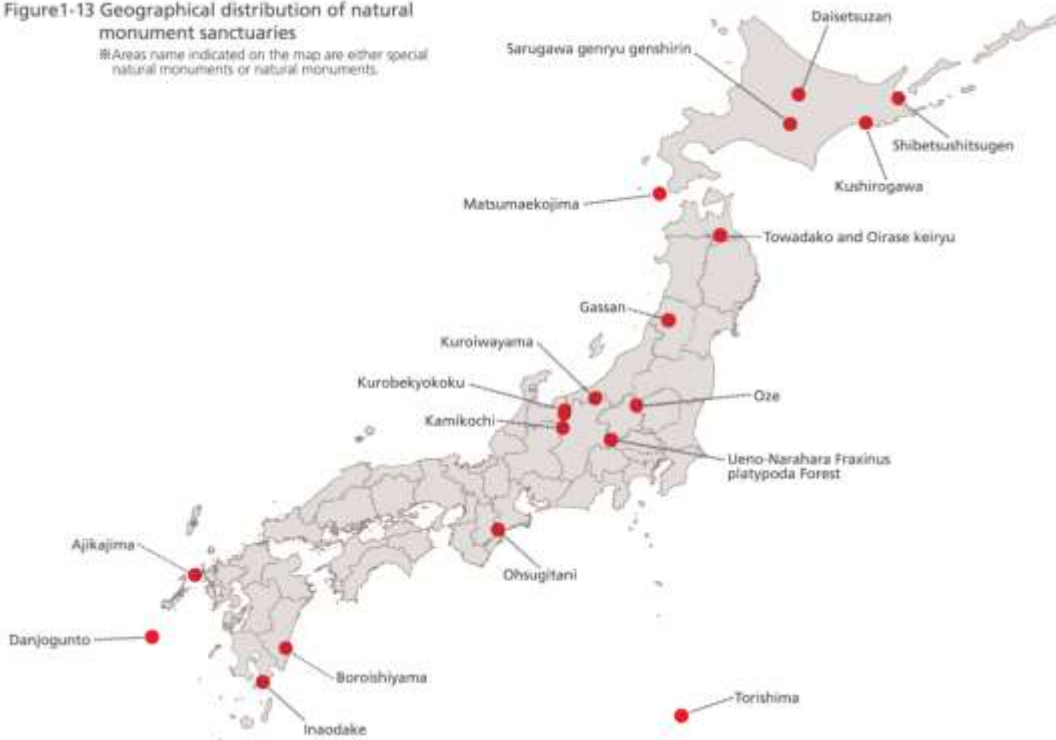
★: Areas requiring the most stringent protection are management zones where reclamation and/or logging are restricted. However, ★ is indicated for the entire natural habitat conservation areas as related GIS data is yet to be established.

As of April 2013

⑥ Natural Monument Sanctuaries

Figure1-13 Geographical distribution of natural monument sanctuaries

※Areas name indicated on the map are either special natural monuments or natural monuments.



- Act on Protection of Cultural Properties
- Agency for Cultural Affairs



	Number	Land Only(km ²)	Proportion to TAJ(%)
★ Natural Monument Sanctuary	23	901.61	0.24

★: Area requiring the most stringent protection

As of April 2013

⑦~⑨ International PAs

Figure1-14 Geographical distribution of international protected areas (world natural heritage, Ramsar sites, and biosphere reserves)



World Natural Heritage
Biosphere Reserve
Ramsar site



- World Natural Heritage & Ramsar site
Ministry of Environment
- Biosphere Reserve
Ministry of Education, Culture, Sports, Science and Technology

	Number	Land Only(km ²)	Proportion to TAJ(%)
★ World Natural Heritage	4	828.14	0.22
★ Biosphere Reserve	5	1,262.85	0.34
★ Ramsar site	46	1,256.50	0.34
International Protected Area	55	3,347.50	0.90
Land Area		372,828.90	

★: Area requiring the most stringent protection

As of April 2013



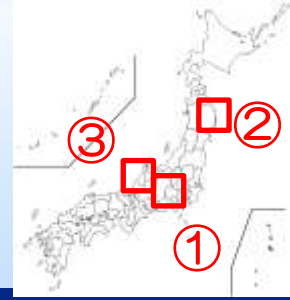
No	Protected Area	Number	Land only(km ²)	Proportion to TAJ(%)
1	Natural Park	401	53,902.79	14.46
	Narional Park	30	21,029.42	5.64
	★Special Protection Zone & ClassI Special Zone		5,311.25	1.42
	Quasi-National Park	56	13,498.15	3.62
	★Special Protection Zone & ClassI Special Zone		2,366.22	0.63
	Prefectural Park	315	19,375.21	5.20
2	Nature Conservation Area	556	1,045.19	0.28
	★wilderness Area	5	56.02	0.02
	★Nature Conservation Area	10	217.73	0.07
	Prefectural Nature Conservation Area	541	771.44	0.21
3	Forest Reserve System	867	12,664.67	2.09
	Forest Reserves	843	7,564.67	2.03
	★Forest ecosystem conservation area	29	4,924.67	1.32
	Green Corridor	24	5,100.00	1.37
4	Wildlife Protection Area	3,841	34,902.64	9.36
	National Wildlife Protection Area	82	4,656.82	1.25
	★Special Protection Zone	66	1,331.87	0.36
	Prefectural Wildlife Protection Area	3,759	30,245.82	8.11
	★Special Protection Zone	552	1,548.35	0.42
5	★Natural Habitat Conservation Area	9	8.75	0.00
6	★Natural Monument Sanctuary	23	901.61	0.24
7	★World Natural Heritage	4	828.14	0.22
8	★Biosphere Reserve	5	1,262.85	0.34
9	★Ramsar Site	46	1,256.50	0.34
	Sum of ★ of 1~9	832	20,013.96	5.37

Total area of Japan PAs (9 PAs) is 19.3%,

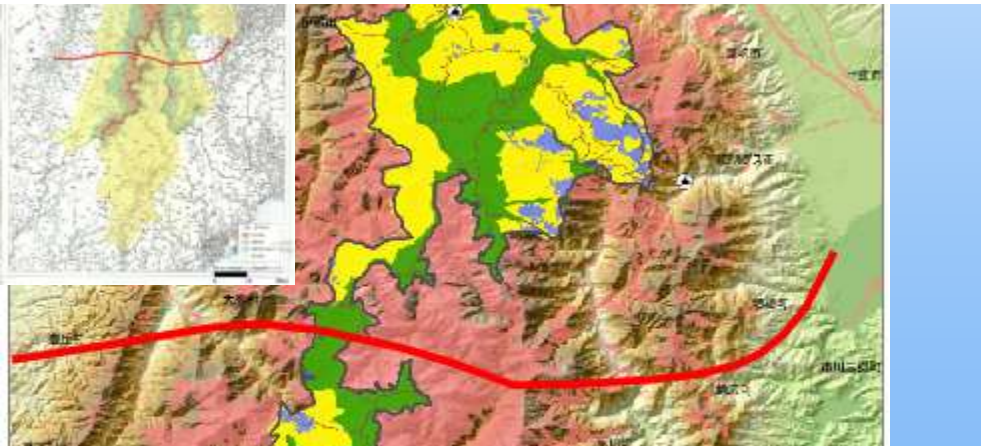
however strictly protected areas is only 3.6%.

16.3% of WDPA is probably sum of NP, NC, NWP, and NHCA under jurisdiction of MOE (16.0%).

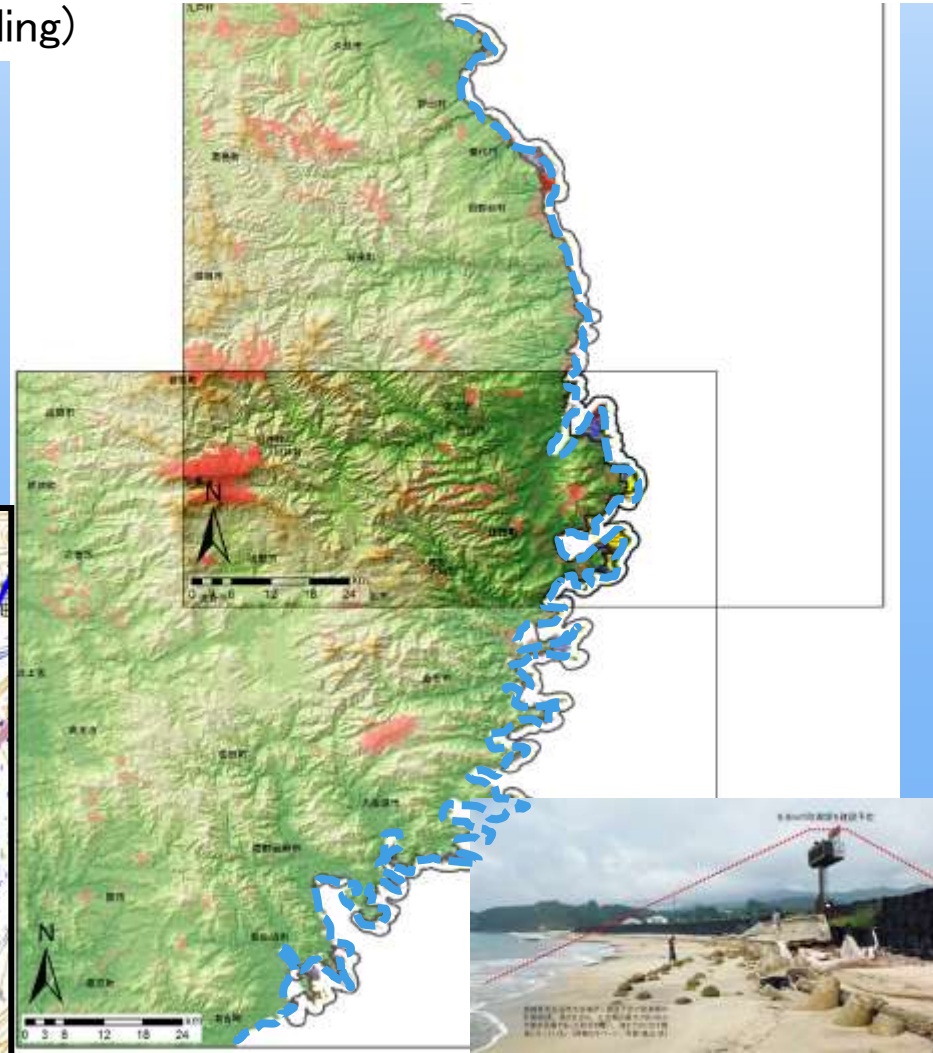
Mismatch between PAs and huge development



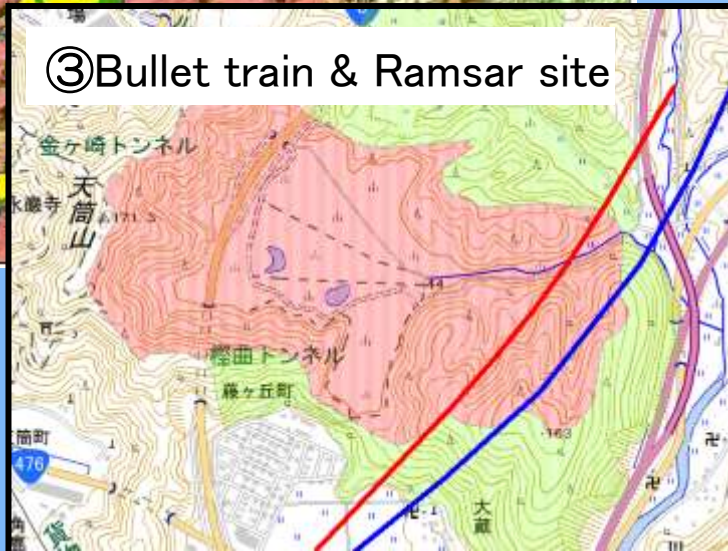
① Linear bullet train & Minami Alps NP and Biosphere Reserve (Pending)



② Huge seawalls and road & Sanriku Fukko NP



③ Bullet train & Ramsar site



Marine PAs in Japan

Figure1-17 Location of "Development zones for Coastal marine resources and designated waters" (Marine Resources Development Promotion Act) established within the Japanese marine area
(Created based on prefectural bulletins and the Enforcement Order of Marine Resources Development Promotion Act)

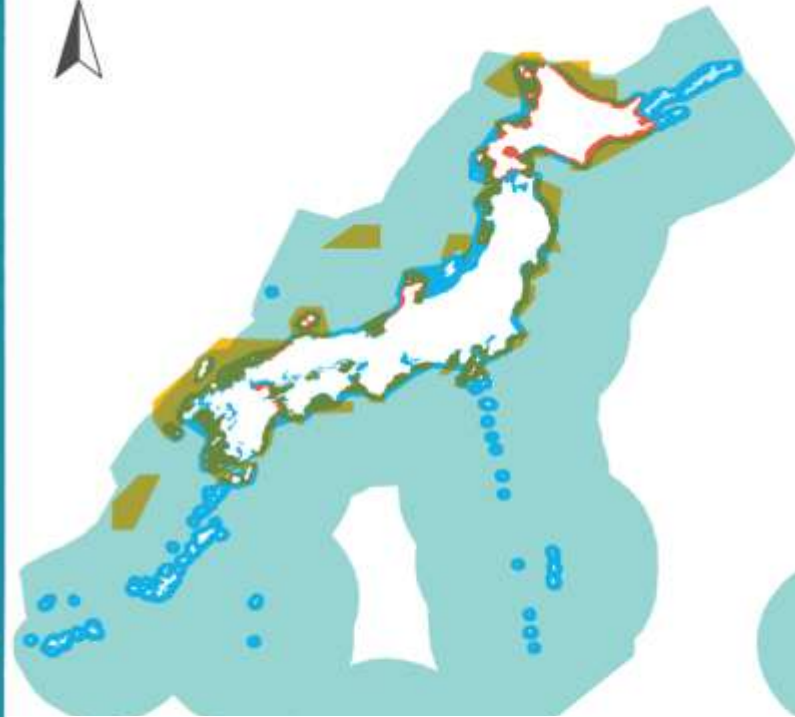


Figure1-18 Location of nature conservation areas, wildlife protection areas, and natural parks established within the Japanese marine area



Designated sea areas & Development zones for coastal marine resources are limited to conserve biodiversity for only several species.

ca. 8.3%



0.428% (0.016%)
(Extract ordinary zone of NP)



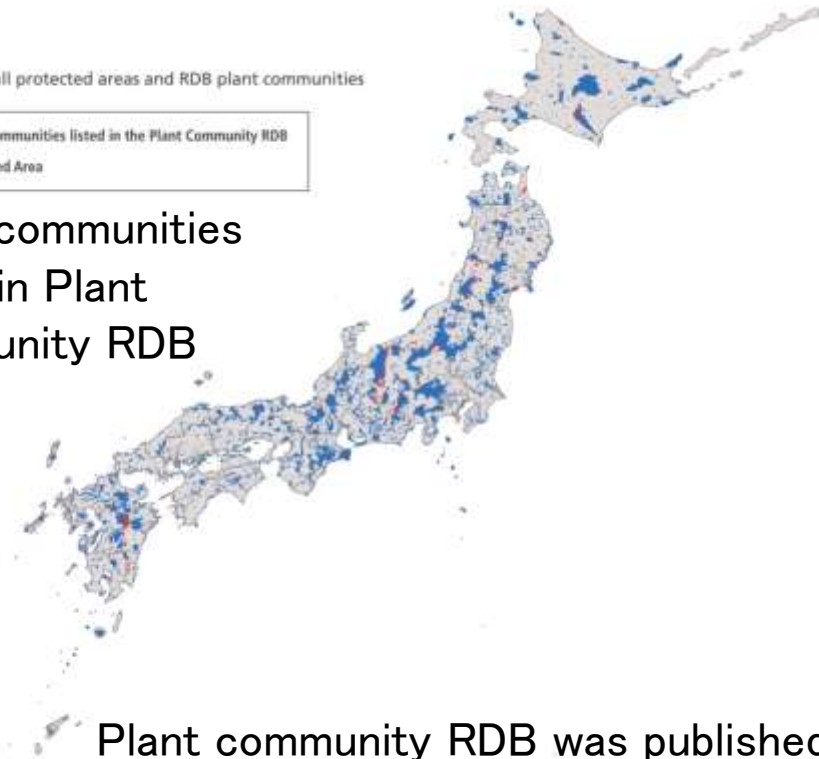
If you interested in MPA issues, join the side event by NACS-

Gap analysis between PAs and RDB Plant communities

Figure2-1 Overall protected areas and RDB plant communities



Plant communities listed in Plant community RDB



26.2% of RDB plant communities is not covered by PAs.

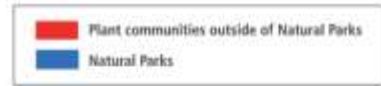
4,211 plant communities listed to use gap analysis.



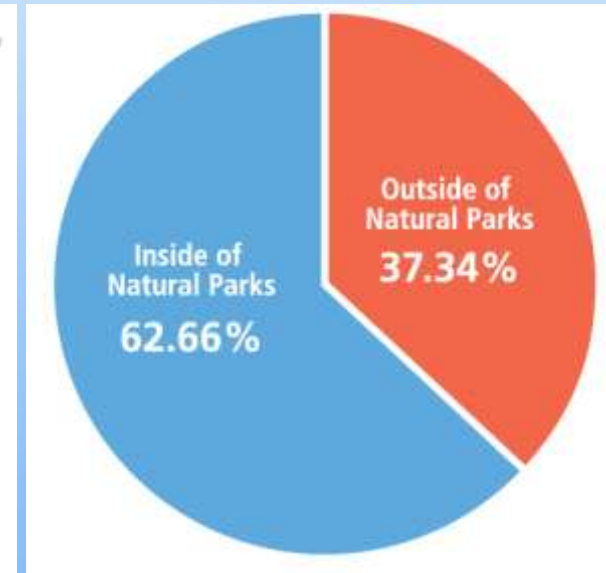
Plant community RDB was published in 1996 by NACS-J & WWF-J.

	Area(km ²)	Proportion of the gap area(%)
Data of RED DATA BOOK of Plant Communities	10,061.44	
Gaps between PAs	2,635.57	26.19

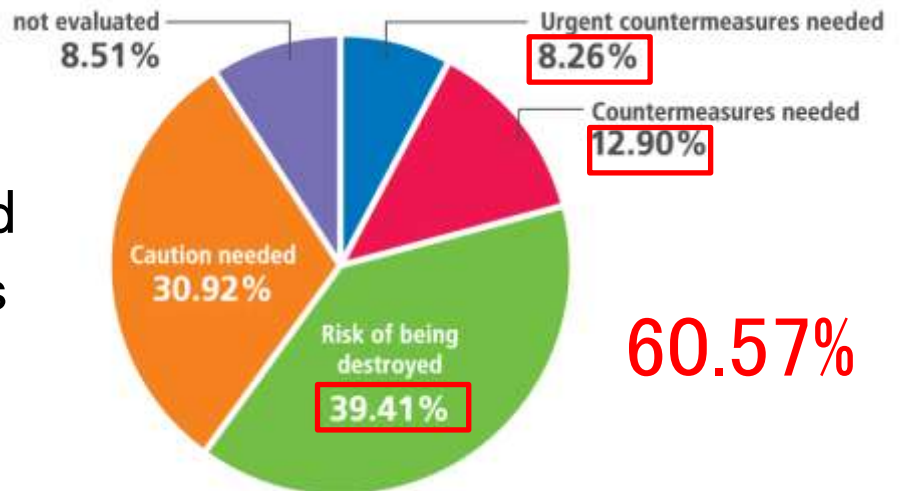
Gap analysis between Natural Parks and RDB Plant communities



Natural Park
Quasi-National Park
Prefectural National Park

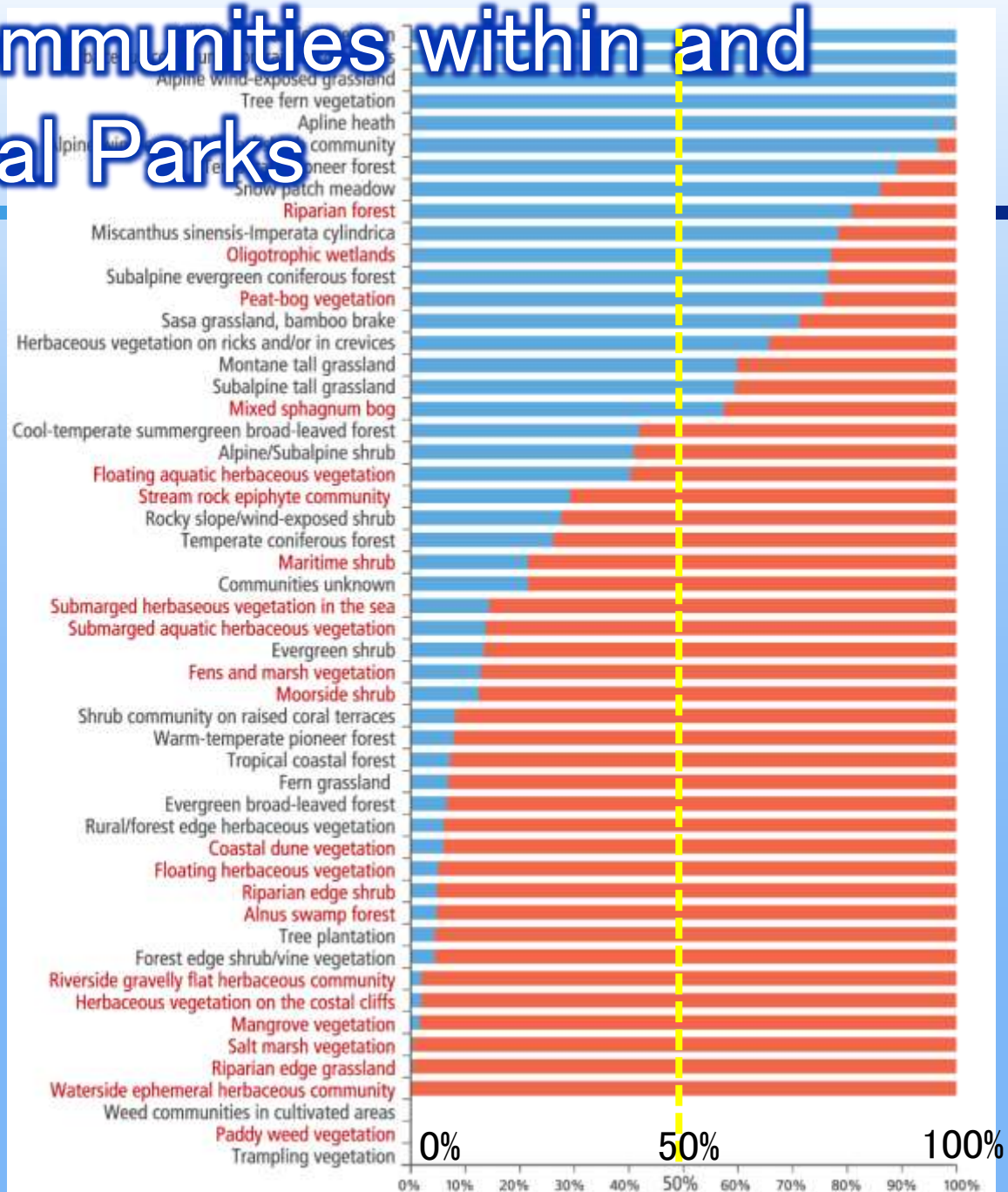


Assessment of the need for and urgency of protection measures for RDB plant communities outside natural parks.



RDB Plant communities within and outside Natural Parks

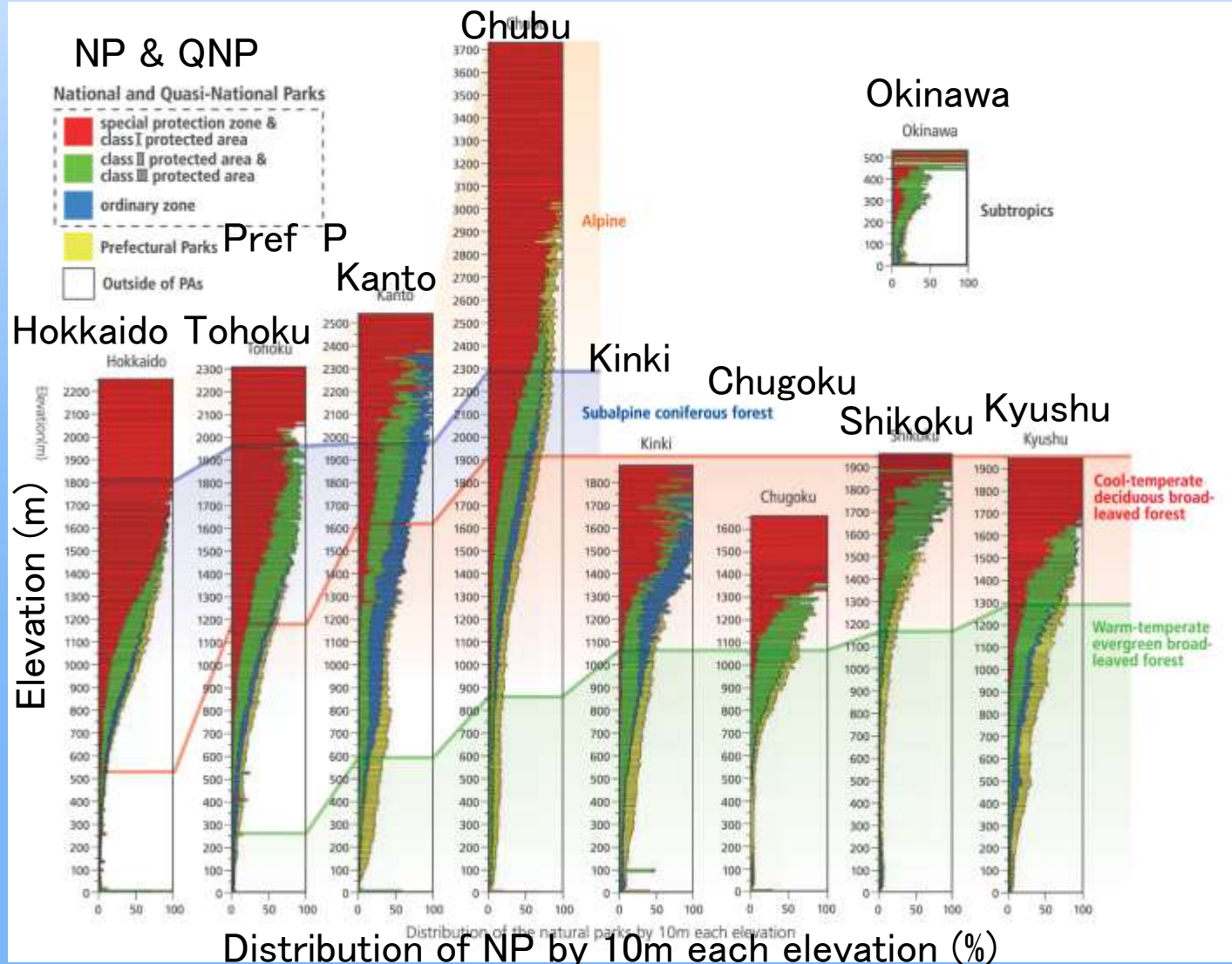
17 RDB plant communities per 31 plant communities which the area within NP is less than 50% (54.8%) are near water



■ Proportion of Plant communities inside of Natural Parks
■ Proportion Plant communities outside of Natural Parks

Geographical distribution of Natural Parks by Elevation

Many Natural Parks are located in higher altitude areas throughout Japan.



Assessment of IUCN Protected Area Management Categories

New categories based on assessment of IUCN protected area management categories and naturalness of Japanese national parks.

Parks name	IUCN categories	Cluster Results	Tentative categories
Shiretoko	V	Group1	II
Chubusangaku	V	Group1	II
Oze ^{#2}	V	Group1	II
Minami Alps	II	Group1	II
Hakusan	V	Group1	II
Kusnirousinsugen	II	Group1	II
Daisetsuzan	V	Group1	II
Towada-Hachimantai	V	Group2	II
Bandai-Asahi	V	Group2	II
Joshin'etsukogen	V	Group2	II
Iriomote-Ishigaki	V	Group2	II
Akan	V	Group2	II
Shikotsu-Toya	V	Group2	II
Ogasawara	V	Group2	II
Yakushima ^{#1}		Group2	II
Rishiri-Rebun-Sarobetsu	II	Group2	II
Kirishima-Kinkowan ^{#1}		Group2	V
Yoshino-Kumano	II	Group3	V
Ise-Shima	V	Group3	V
Chichibu-Tama-Kai ^{#3}	V	Group3	V
Rikuchukaigan	V	Group3	V
Nikko ^{#2}		Group3	V
Daisen-Okii	V	Group3	V
Aso-Kuju	V	Group3	V
San'inikaigan	II	Group3	V
Fuji-Hakone-Izu	V	Group3	V
Ashizuri-Uwakai	V	Group3	V
Saikai	V	Group4	V
Utsunomiya	V	Group4	V
Setonakaikai	II	Group4	V
(Kirishima-Yaku) ^{#1}	V		
(Nikko) ^{#2}	II		

^{#1} Kirishima Yaku National Park is now separated into Kirishima-Kinkowan National Park and Yakushima National Park. The above IUCN categories are before the separation.

^{#2} Separated from Nikko National Park. The above IUCN categories are before the separation.

^{#3} Chichibu-Tama-Kai National Park has been expanded. The above IUCN category is before the expansion.

Challenges connecting Japan and Asian PAs to conserve biodiversity

- Information about GIS data for overall Japan PAs should be developed to conduct scientific and sociological evaluation of PAs.
- We should be re-evaluate overall PAs, especially for strictly protected area, gaps concerning important natural area, and IUCN PA management categories.
- Comparison of 17% of terrestrial & 10% of marine PAs of Aichi target only should be done to connect national and international PAs after overall each PA were evaluated by using the IUCN management categories and the effectiveness of PA.