

**NATURAL RESOURCES INCLUDING ENDANGERED SPECIES****CHAPTER 13****NATURAL RESOURCES INCLUDING ENDANGERED SPECIES****13-1 SCOPE**

This Chapter contains criteria for required plans and programs needed to ensure proper protection, enhancement and management of natural resources and any species (flora or fauna) affected by DoD installations and activities. This includes plant and animal species declared endangered, threatened or protected by the US or Japanese governments, including prefectural governments.

**13-2 DEFINITIONS**

13-2.1 Action. All activities or programs of any kind funded or carried out, in whole or in part, on DoD controlled installations.

13-2.2 Adverse Affect. Changes that diminish the quality or significant value of natural resources. For biological resources, adverse effects include significant decreases in overall population diversity, abundance and fitness.

13-2.3 Agriculture. The business of cultivating the soil, producing crops, and raising livestock.

13-2.4 Conservation. Planned management, use and protection; continued benefit for present and future generations; and prevention of exploitation destruction and/or neglect of natural resources.

13-2.5 Host Nation Protected Species. Any species of flora or fauna listed or designated by Japan, because the species continued existence is, or is likely to be, threatened and is therefore subject to special protection from destruction or adverse modification of associated habitat.

13-2.6 Management Plan. A document describing natural resources, their quantity, condition, and actions to ensure their conservation and good stewardship.

13-2.7 Natural Resources. All living and inanimate materials supplied by nature that are of aesthetic, ecological, educational, historical, recreational, and scientific or other values. These resources include all land forms, soils, waters, and their associated flora and fauna.

13-2.8 Natural Resources with Cultural Significance. Natural scenery or views including mountains, valleys, and sea shores with cultural value; gardens with historic value; natural objects such as praying rocks, trees, caves, and springs; and any other natural entity of cultural importance. Since these resources have both natural and cultural significance, their inclusion in the Integrated Cultural Resources Management Plan (ICRMP) is essential. (See Table 12-1, Protected Cultural Resources). Specially designated flora/fauna such as rare, threatened or endangered species and historic environmental conservation areas, though considered to have

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cultural significance, are covered in this Chapter.

13-2.9 Natural Resource Manager. A person formally designated in writing by the commanding officer to represent the command in natural resource matters.

13-2.10 Natural Resources Management. Action taken to protect, manipulate, alter, or preserve natural resources in harmony to meet present and future human needs.

13-2.11 Integrated Natural Resource Management Plan (INRMP). An integrated plan providing the installation with a thorough inventory of all natural resources found on the installation. The plan offers ecologically sound cost effective management suggestions for the management of those resources (see Table 13-1 and 2).

13-2.12 Non-Point Source Pollution. Water pollution usually associated with storm runoff across sites disturbed by construction, agriculture, training, urbanization or other soil disturbing activities.

13-2.13 Significant Land or Water Areas. Land or water area that is normally 500 or more acres (202 or more hectares) outside the cantonment area; areas of smaller size are included if they have natural resources that are especially vulnerable to disturbance.

13-2.14 Threatened/Endangered and Protected Species. Any species of plants and animals considered to be in danger under either US law, Japanese law, or a treaty to which the US is a party. The listing of threatened species may be found in the current species list published under the authority of the laws in OEBGD May 2007 Tables C13.T1 & C13.T2 and Tables 13-3 & 13-4 in this chapter.

13-2.15 Subject Matter Experts. Persons who have completed a university degree program in one of the natural resource science courses and have specific experience in the subject issue. Expertise is available from the Engineering Field Divisions (EFD), local universities, non-governmental organizations (NGOs) i.e. World Wildlife Fund, and Wild Bird Society of Japan.

13-2.16 Wetlands. Areas inundated or saturated by surface or ground water at a frequency and a duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adopted for life in saturated soil conditions. Wetlands frequently occur where the land and water meet; the dynamic nutrient rich interface of these two elements are extremely productive and essential to the life cycle of a large number of species.

### **13-3 CRITERIA**

13-3.1 Management. Installations shall take reasonable steps to protect and enhance known endangered or threatened species and host nation protected species and their habitat (See OEBGD May 2007 Tables C13.T1 & C13.T2; Tables 13-3 & 13-4 in this chapter). Installations will manage natural resources using a sound approach to maximize mission effectiveness while protecting the long term environmental diversity through the use of conventional conservation practices. Installations shall maintain, or have access to aforementioned tables. The installation

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commander will take measures to resolve or mitigate situations in which natural resources are adversely affected by the military mission.

13-3.2 Integrated Natural Resources Management Plan (INRMP). Installations with significant land or water area shall, after coordination with appropriate local authorities (Regional Defense Bureaus, Prefectural or City office, etc.), develop an Integrated Natural Resources Management Plan (INRMP). Installations without a current INRMP should request funding for the development of a plan. The INRMP will be reviewed and revised as needed. Installations having INRMPs shall, after coordination with appropriate local officials, and if financially and otherwise practical, and in such a way that there is no net loss of mission capability:

- a. Initiate surveys for endangered or threatened species and host nation protected species identification, or support host nation-initiated surveys, and
- b. Implement INRMPs.

13-3.3 Content of Integrated Natural Resources Management Plans. INRMP will contain a complete inventory of all natural resources found on the installation including: geological, topography soils, wetlands, flood plains, scenic areas, vegetation, agricultural use, Bird Aircraft Strike Hazard (BASH) issues, climatic conditions, surface waters, hydrology, outdoor recreation use, wetlands, and wildlife. The INRMP will detail topics such as endangered species, migratory birds, erosion control, special habitats, applicable US and, host country laws. The INRMP will offer management objectives for all resource values identified and provide a ten year plan to implement those management recommendations.

13-3.4 Threatened and Endangered (T&E) Species Lists. T&E species are listed in Tables C13.T1 & C13.T2 in the May 2007 OEBGD and Japanese T&E species and natural monument species (Domestic) are listed in Table 13-3 & 13-4 of this chapter. The Government of Japan has also developed an official Red List of Japan (see Appendix C), which should be part of the INRMP or incorporated by reference. The Natural Resources Manager should inform the installation commander annually, in writing, of all protected species found on the installation. The installation commander should be informed of any listing changes should they occur. In addition, USFJ and local officials will be notified of the discovery of any T&E and host nation protected species not previously known to be present on the installation.

13-3.5 Protection of Natural Resources in Training Areas. Commanders should ensure that natural resources are identified and protected in current or proposed training areas. Action officers, in concert with the Natural Resources Manager, should strive to confine high impact training to degraded areas, low impact training to relatively intact areas, and declare sensitive areas "off limits". Restoration and/or mitigation should be initiated in areas adversely affected by training.

13-3.6 Natural Resources Site Review. Before beginning any major action regardless of funding source (including host nation funding), installations and activities must conduct an analysis of the proposed site to determine the impact on natural resources. The site analysis must assess the effect, or potential effect, of the proposed project on significant natural resources and identify

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any mitigation of the adverse effect.

a. Minimum requirements for this analysis are:

- (1) In consultation with the natural resource manager or the subject matter expert, the site analysis must assess the effect, or potential effect, of the proposed project on significant natural resources and identify any mitigation of the adverse effect.
- (2) The site approval may specify limitations, restrictions, or provisos, which remain in effect for the life of the project.
- (3) A site plan illustrating the limit of construction and/or work is required. Modifications to the project boundaries invalidate the site approval and must be re-evaluated by the natural resource manager or subject matter expert.
- (4) Records of processed actions must be maintained by the natural resource manager.

b. Emergency repair work: Such work does not require pre-approval; however, DoD staff/contractors should proceed with caution. If a natural resource is adversely affected, or an inadvertent discovery is made, the natural resource manager must be notified in a timely manner.

13-3.7 Installations shall place emphasis on the maintenance and protection of habitats favorable to the reproduction and survival of indigenous plants, fish and wildlife.

13-3.8 Land and vegetative management activities will be consistent with current conservation and land use principles (e.g. ecosystem protection, biodiversity conservation and mission-integrated land use).

13-3.9 Installations shall utilize protective vegetative cover or other standard soil erosion/sediment control practices to control dust, stabilize sites and avoid silting of streams.

**13-4 PERSONNEL AND TRAINING**

13-4.1 Level of Expertise. Installations shall ensure that personnel performing natural resource functions have the requisite expertise in the management of their discipline (i.e., endangered or threatened species, host nation protected species, wetlands, soil stabilization). This may be in-house, contract, or through consultation with another agency. Government personnel directing such functions must have training in natural resources management.

13-4.2 Training /Continuing Education. The Natural Resources Manager will remain current on all DoD, service component, and government of Japan actions affecting the natural resources program. This includes, but is not limited to attendance at annual workshops, training courses, and conferences.

**13-5 SPECIAL TOPICS**

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13-5.1 Wetlands, Flood plains, and Drainage Ways. Where feasible wetlands, flood plains and drainage ways should not be used for facility development but should be used for open space and recreation.

13-5.2 Non-Point Source Pollution. Installations should implement erosion/ sediment control measures to prevent discharge of silt into nearby waters. Control measures include the use of vegetative covers, construction of diversion drains, grading management, filter strips, and use of sediment basins. Training areas are extremely vulnerable to vehicle erosion and should be managed accordingly.

13-5.3 Introduction of Exotic Plants and Animals. Exotic plants and animals should not be introduced to DoD installations. If discovered on the installation, escaped exotic plants and animals should be immediately addressed, to include prevention of spread. Inform the Environmental Executive Agent (EEA) for further coordination and action. Installation staff should assist in regional weed/pest control efforts if requested by the Government of Japan.

13-5.4 Agricultural Activities on Installation. All agricultural activities on installation controlled lands should be reviewed annually. Particular attention should be directed to soil and erosion control measures, pesticide use with impacts on human health and wildlife, and disposal of agricultural chemicals. The installation should maintain a list of farmers with contact numbers and map of specific land area farmed by the individuals.

13-5.5 Education. The natural resource values found on the installation provide an opportunity for the understanding and enjoyment of nature. The INRMP, which describes and interprets those values, should be made available to schools, scout groups, MWR, installation publications, and other interested parties to assist in the full utilization and benefit of the natural resources. Volunteer programs, which enhance natural resources, should be encouraged and organized by the Natural Resources Manager.

13-5.6 Forests. Trees and forestry plantings have both environmental and recreational value. They should not be carelessly destroyed. Woodland management options should be carefully evaluated considering multiple-use potentials, with particular consideration given to a desirable balance of military, natural resource, and public recreation uses. Contact COMUSJAPAN for forestry program information.

13-5.7 Outdoor Recreation. Providing recreational opportunities for DoD families is encouraged. Installations should investigate the potential for hiking, boating/water sports, fishing, cycling, jogging, picnicking, nature walks and scenic vistas. All outdoor recreation should be evaluated and documented in the INRMP as to compatibility with the military mission, sustained carrying capacity, and impacts on the resource. Recreation with adverse impacts should be mitigated or abandoned.

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**TABLE 13-1**  
**INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN OUTLINE**

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|   | <b>TABLE 13-1</b><br><b>INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN OUTLINE</b>   |
| 1. GENERAL REQUIREMENTS:                                | The Natural Resource Management Plan will be modified as needed, and: <ul style="list-style-type: none"> <li>a. Must have a consistent format within each service component and be reviewed and approved in accordance with service component directives.</li> <li>b. Should be set up for each installation or distinct geographic area. Remote sites can be consolidated for documentation purposes, but they should each be specifically addressed therein.</li> <li>c. Must ensure that any newly acquired land is immediately incorporated into the Natural Resource Management Plan. Any land released is dropped from the INRMP: inventory records will be maintained for five additional years and copies turned over to the affected agency.</li> <li>d. Must identify the key people and phone numbers of all affected City, Prefectural level and DFAB offices.</li> <li>e. Must be prepared by, or in coordination with, professionally trained natural resource management personnel.</li> </ul> |
| 2. NATURAL RESOURCE INVENTORIES MUST:                   | <ul style="list-style-type: none"> <li>a. Provide a detailed description of ground and surface waters (including fresh and salt water), wetlands, flood plains, highly erosive soils, threatened and endangered species populations and habitats, forests and woodland areas (including urban forests), native grasslands or other unique vegetation, and recreational areas (including fishing/hunting areas and watchable wildlife areas) whenever these natural resources occur on an installation.</li> <li>b. As needed, group inventories for unique habitats, such as coastal zones, together.</li> <li>c. Group and/or identify native plant and animal species.</li> </ul>   |
| 3. NATURAL RESOURCE CONSERVATION/MANAGEMENT PLANS MUST: | <ul style="list-style-type: none"> <li>a. Provide for sustained yield of renewable resources.</li> <li>b. Provide for conservation and management plans for inventory items mentioned above including goals, restoration, improvement, preservation, and wise-use methods; and assign responsibilities for implementation; establish monitoring systems; and provide for enforcement</li> <li>c. As needed, provide a separate management plan section for unique habitats, such as coastal zones.</li> <li>d. Include enough detail to allow easy implementation and monitoring.</li> </ul>  |
| 4.  | Preparation of this plan is inter-dependent with successful multiple land uses on Installations. Refer to Table 13-2, A General System for Multiple Land Use Management Plan to ensure proper coordination and integration of the Natural Resource Management Plan.   |

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<b>TABLE 13-2</b> <b>MULTIPLE LAND USE MANAGEMENT PLAN</b>		
<b>Master Plan</b>	<b>Comprehensive Land Use Planning and Management Plan</b>	
<b>Installation Assets Description</b>	<b>Location &amp; Description of Existing Land Uses</b>	<b>Integration &amp; Execution</b>
1. Acreage 2. Regional Setting 3. Topographic Features 4. Climatic conditions 5. Historic/Cultural Resources 6. Vegetation Cover Types 7. Soils 8. Water Resources 9. Fish & Wildlife Types 10. Endangered Species 11. Wetlands 12. Marine & Coastal Resources 13. Geologic Features 14. Other Geophysical Features	1. Administration & Housing 2. Transportation Network 3. Training & Range Areas 4. Historic/Cultural Sites 5. Hunting & Fishing Areas 6. Endangered Species Habitat 7. Preserves/Refuge Areas 8. Wildlife Habitat 9. Managed Landscape 10. Outdoor Recreation 11. Utility Networks & Structures 12. Borrow/Waste Disposal Areas 13. Other	1. Training Area Plan 2. Development Plans 3. Forest Management Plan 4. Fish & Wildlife Plan 5. Grounds/Landscape Plan 6. Outdoor Recreation Plan 7. Water Use Plans 8. Soil Conservation Plans  Budget through Local Annual Operating Budget or Other DoD Programs such as the Legacy Resource Program

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**TABLE 13-3 LIST OF ENDANGERED SPECIES OF WILD FAUNA & FLORA IN JAPAN (DOMESTIC SPECIES)**

JAPANESE	SCIENTIFIC	ENGLISH
<b>BIRDS</b>		
OOTAKA	ACCIPITER GENTILIS FUJIYAMAE	JAPANESE GOSHAWK
HAHAYIMAMEGURO	APALOPTERON FAMILIARE HAHASHIMA	BONIN ISLANDS HONEYEATER
INUWASHI	AQUILA CHRYSAETOS JAPONICA	JAPANESE GOLDEN EAGLE
SHIYUKARAGAN	BRANTA CANADENSIS LEUCOPAREIA	CANADA GOOSE
WASHIMIZUKU	BUBO BUBO	EURASIAN EAGLE OWL
DAITOUNOSURI	BUTEO BUTEO OSHIROI	BUZZARD (Daito islands subspecies)
OGASAWARANOSURI	BUTEO BUTEO TOYOSHIMAI	BUZZARD (Ogasawara islands subspecies)
OGASAWARAKAWARAHIBA	CARDUELIS SINICA KITTLITZI	ORIENTAL GREENFINCH
KIN(N)BATO	CHALCOPHAPS INDICA YAMASHINAI	EMERALD DOVE
KOUNOTORI	CICONIA CICONIA BOYCIANA	WHITE STORK
AKAGASHIRAKARASUBATO	COLUMBA JANTHINA NITENS	JAPANESE WOOD PIGEON
YONAKUNIKARASUBATO	COLUMBA JANTHINA STEJNEGERI	STEJNEGER'S WOOD PIGEON
OHSUTONOOAKAGERA	DENDROCOPOS LEUCOTOS OWSTONI	WHITE-BACKED WOODPECKER
AHOUDORI	DIOMEDEA ALBATRUS	SHORT-TAILED ALBATROSS
AKAHIGE	ERITHACUS KOMADORI KOMADORI	RYUKYU ROBIN
HONTOUAKAHIGE	ERITHACUS KOMADORI NAMIYEI	STEJNEGER'S RYUKYU ROBIN
USUAKAHIGE	ERITHACUS KOMADORI SUBRUFUS	YAEYAMA RYUKYU ROBIN
SHIMAHAYABUSA	FALCO PEREGRINUS FRUITII	VOLCANO ISLANDS PERGRINE FALCON
HAYABUSA	FALCO PEREGRINUS JAPONENSIS	PERGRINE FALCON
RURIKAKESU	GARRULUS LIDTHI	LIDTH'S JAY
TANCHO	GRUS JAPONENSIS	JAPANESE RED-CROWNED CRANE
OJIROWASHI	HALIAEETUS ALBICILLA	WHITE-TAILED SEA-EAGLE
OOHASHI	HALIAEETUS PELAGICUS PELAGICUS	SELLER'S SEA EAGLE
SHIMAFUKUROU	KETUPA BLAKISTONI BLAKISTONI	BLAKISTON'S FISH OWL
RAICHO	LAGOPUS MUTUS JAPONICUS	JAPANESE ROCK PTARMIGAN
ETOPIRIKA	LUNDA CIRRATA	TUFTED PUFFIN
OOSEKKA	MEGALURUS PRYERI PRYERI	JAPANESE MARSH (or SWAMP) WARBLER
TOKI	NIPPOIA NIPPON	JAPANESE CRESTED IBIS
CHISHIMAUGARASU	PHALACROCORAX URILE	RED-FACED CORMORANT
MIYUBIGERA	PICOIDES TRIDACTYLUS INOUYEI	INOUE'S THREE-TOED WOODPECKER
YAIROCYOU	PITTA BRACHYURA NYMPHA	FAIRY PITTA
YANBARUKUINA	RALLUS OKINAWAE	OKINAWA RAIL
NOGUCHIGERA	SAPHEOPIO NOGUCHII	PRYER'S WOODPECKER
AMAMUYAMASHIGI	SOCOLOPAX MIRA	AMAMI WOODCOCK
KANMURIWASHI	SPIORNIS CHEELA PERPLEXUS	CRESTED SERPENT EAGLE
KUMATAKA	SPIZAETUS NIPALENSIS ORIENTALIS	HODGSON'S HAWK EAGLE
KARAFUTOAOASHISHIGI	TRINGA GUTTIFER	NORDMANN'S GREENSHANK
OOTORATSUGUMI	TURDUS DAUMA AMAMI	WHITE'S GROUND THRUSH
UMIGARASU	URIA AALGE INORNATA	GUilleMOT
<b>MAMMALS</b>		
TSUSHIMAYAMANEKO	FELIS EUPTILURA	TSUSHIMA CAT
IRIOMOTEYAMANEKO	MAYAILURUS IRIOMOTENSIS	IRIOMOTE CAT
AMAMINOKUROUSAGI	PENTALAGUS FURNESSI	AMAMI RABBIT
DAITOUOOKOUMORI	PTEROPOUS DASYMALLUS DAITOENSIS KURODA	DAITO FLYING FOX
<b>REPTILES</b>		
KIKUZATOSAWAHEBI	OPISTHOTROPIS KIKUZATOI	KIKUZATO'S BROOK-SNAKE
<b>AMPHIBIAMS</b>		
ABESANSHOUUO	HYNOBIUS ABAI	ABE'S SALAMANDER
<b>FISH</b>		
ITASENPARA	ACHEILOGNATHUS LONGIPINNIS	DEEPBODY BITTERLING
SUIGENZENITANAGO	RHODEUS ATREMUS SUIGENSIS	SUWON ROSY BITTERLING
MIYAKOTANAGO	TANAKIA TANAGO	TOKYO BITTERLING
AYUMODOKI	LEPTOBOTIA CURTA	KISSING LOACH

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**TABLE 13-3 LIST OF ENDANGERED SPECIES OF WILD FAUNA & FLORA IN JAPAN (DOMESTIC SPECIES)**  
**Continued**

JAPANESE	SCIENTIFIC	ENGLISH
<b>INSECTS</b>		
YASYA GENGORO	ACILIUS KISHII	
YANBARU TENAGAKOGANE	CHEIROTONUS JAMBAR	YANBARU LONG-ARMED SCARAB
BEKKOTOMBO	LIBELLULA ANGELINA	
ISHIGAKINIINII	PLATYPLEURA ALBIVANNATA	CICADA
GOISHITSUBAME SHIJIMI	SHIJIMIA MOOREI	MOORE'S CUPID
<b>PLANTS</b>		
ASAHIEBINE	ASAHIEBINE	
HOSHITSURURAN	CALANTHE HOSHII	
KITADAKESOU	CALLIANTHEMUM INSIGNE VAR. HONDOENSE	
URAJIROMURASAKI	CALICarpa NISHIMURAE	
CHOUSENKIBANAATSU-MORISOU	CYPripedium GUTTATUM	SPOTTED LADY'S SLIPPER ORCHID
HOTEI ATSUMORI	CYPripedium MACRANTHUM var. HOTEI ATSUMORIANUM	
REBUN ATSUMORISO	CYPripedium MACRANTHUM var. REBUNENSE	
ATSUMORISO	CYPripedium MACRANTHUM var. SPECIOSUM	
OKINAWA SEKKOKU	DENDROBIUM OKINAWENSE	
KOGOMEKINOERAN	LIPARIS ELLIPTICA	
SHIMAHOZAKIRAN	MALAXIS BONINENSIS	
MUNINNOBOTAN	MELASTOMA TETRAMERUM	
TAIYOUFUUTOUKAZURA	PIPER POSTELSIANUM	
KOBANOTOBERA	PITTOSPORUM PARVIFOLIUM	
KUNIGAMITONBOSOU	PLATANTHERA SONOHARAI	
HANASHINOBU	POLEMONIUM KIUSHIANUM	JACOB'S LADDER
AMAMI DENDA	POLYSTICHUM OBAE	
MUNINTSUTSUJI	RHODODENDRON BONINENSE	
YADORI KOKEMOMO	VACCINIUM AMAMIANUM	

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**TABLE 13-4 LIST OF NATURAL MONUMENT SPECIES IN JAPAN**

JAPANESE	SCIENTIFIC	ENGLISH	REGION
RURIKAKESU	GARRULUS LIDTHI	LIDTH'S JAY	KAGOSHIMA
AMAMINOKUROUSAGI	PENTALAGUS FURNESSI	AMAMI HARE, AMAMI RABBIT	KAGOSHIMA
RAICHO	LAGOPUS MUTUS JAPONICUS	PTARMIGAN	TOYAMA, NAGANO, GIFU, NIIGATA, YAMANASHI, SHIZUOKA
TOSA NO ONAGADORI	GALLUS GALLUS	TOSA FOWL	KOCHI
AKITA KEN	CANIS FAMILIARIS	AKITA DOG	AKITA
KAI KEN	CANIS FAMILIARIS	KAI DOG	YAMANASHI
TOKI	NIPPONIA NIPPON	JAPANESE CRESTED IBIS	* NO WILD HABITAT.
OOSANSHOUUO	MEGALOBatrachus JAPONICUS	JAPANESE GIANT SALAMANDER	OKAYAMA, HYOGO, TOTTORI, YAMAGUCHI, MIE, AICHI, OITA
KOUNOTORI	CICONIA CICONIA BOYCIANA	WHITE STORK	* NO WILD HABITAT IN JAPAN.
KOSHIGAYA NO SHIRAKOBATO	STREPTOPelia DECAOCTO DECAOCTO	COLLARED TURTLE DOVE	SAITAMA
AHOUDORI	DIOMEDEA ALBATRUS	SHORT-TAILED ALBATROSS	TOKYO, OKINAWA
KAWAUSO	LUTRA LUTRA NIPPON	JAPANESE OTTER	EHIME, KOCHI
USUBAKICHO	PARNASSIUS EVERSMANNI	EVERSMANN'S PARNASSIUS	HOKKAIDO
DAISETSU TAKANEHIKAGE	OENEIS MELISSA	DAISETSUZANA ARCTIC	HOKKAIDO
ASAHI HYOUMON	CLOSSIANA FREIJA	FREIJA FRITILLARY	HOKKAIDO
KUMAGERA	DRYOCOPUS MARTIUS	BLACK WOODPECKER	HOKKAIDO, IWATE, AKITA, AOMORI
INUWASHI	AQUILA CHRYSAETOS JAPONICA	GOLDEN EAGLE	HOKKAIDO AND OTHERS
KARAFUTO RURISHIJIMI	VACCINIINA OPTILETE DAISETSUZANA	HEDGE BLUE	HOKKAIDO
TANCHO	GRUS JAPONENSIS	JAPANESE CRANE	HOKKAIDO
AKAGASHIRA KARASUBATO	COLUMBA JANTHINA NITENS	JAPANESE WOOD PIGEON	OGASAWARA ISLANDS TOKYO
OGASAWARA OOKOUMORI	PTEROPOUS PSELAPHON	BONIN FLYING FOX	OGASAWARA ISLANDS TOKYO
MEGURO	APALOPTERON FAMILIARE	BONIN ISLAND HONEYEATER	TOKYO
OGASAWARA SHIJIMI	CELASTRINA OGASAWARAENSIS	OGASAWARA HEDGE BLUE	TOKYO
SHIMA AKANE	BONINTHEMIS INSULARIS	OGASAWARA COMMON SKIMMER	TOKYO
OGASAWARA ITOTOMBO	INDOLESTES BONINENSIS	OGASAWARA COMMON SKIMMER	TOKYO
HANADAKA TOMBO	RHINOCYPHA OGASawarensis	HANADAKA COMMON SKIMMER	TOKYO
OJIROWASHI	HALIAEETUS ALBICILLA	WHITE-TAILED SEA-EAGLE	HOKKAIDO, NIIGATA
OOWASHI	HALIAEETUS PELAGICUS PELAGICUS	SELLER'S SEA EAGLE	HOKKAIDO, ISHIKAWA, FUKUI
AKAHIGE	ERITHACUS KOMADORI KOMADORI	RYUKYU ROBIN	KAGOSHIMA, NAGASAKI, OKINAWA
OGASAWARA AMENBO	NEOGERRIS BONINENSIS	OGASAWARA POND SKATER	TOKYO
OGASAWARA KUMABACHI	XYLOCOPA OGASawarensis	OGASAWARA CARPENTER BEE	TOKYO
OHSUTONOAKAGERA	DENDROCOPOS LEUCOTOS OWSTONI	WHITE-BACKED WOODPECKER	KAGOSHIMA
EZO SHIMAFUKUROU	KETUPA BLAKISTONI BLAKISTONI	BLAKISTON'S FISH OWL	HOKKAIDO

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**TABLE 13-4 LIST OF NATURAL MONUMENT SPECIES IN JAPAN (Continued)**

JAPANESE	SCIENTIFIC	ENGLISH	REGION
OOTORA TSUGUMI	TURDUS DAUMA AMAMI	WHITE'S GROUND THRUSH	KAGOSHIMA
OGASAWARANOSURI	BUTEO BUTEO TOYOSHIMAI	BUZZARD	OGASAWARA ISLANDS (TOKYO)
KARASUBATO	COLUMBA JANTHINA JANTHINA	JAPANESE WOOD PIGEON	MIE, WAKAYAMA, NAGASAKI, KAGOSHIMA & OTHERS
KOKUGAN	BRANTA BERNICLA ORIENTALIS	BRANT	HOKKAIDO, AOMORI, AKITA & OTHERS
TSUSHIMAYAMANEKO	FELIS EUPTILURA	TSUSHIMA CAT	TSUSHIMA (NAGASAKI)
HISHIKUI	ANSER FABALIS SERREROSTRIS	BEAN GOOSE	HOKKAIDO, AOMORI, MIYAGI, NIIGATA, ISHIKAWA & OTHERS
MAGAN	ANSER ALBIFRONS	WHITE-FRONTED GOOSE	HOKKAIDO, AOMORI, MIYAGI, NIIGATA, ISHIKAWA
TSUSHIMATENN	MARTES MELAMPUS TSUENSIS	TSUSHIMA MARTEN	TSUSHIMA (NAGASAKI)
KENAGANEZUMI	DIPLOTHRIX LEGATA	LONG FUR RAT	KAGOSHIMA, OKINAWA
TOGENEZUMI	TOKUDAIA OSIMENSIS	SPINY RAT	KAGOSHIMA, OKINAWA
NOGUCHIGERA	SAPHEOPIO NOGUCHII	PRYER'S WOODPECKER	OKINAWA
IRIOMOTEYAMANEKO	FELIS IRIOMOTENSIS	IRIOMOTE CAT	OKINAWA
SEMARUHAKOGAME	CUORA FLAVOMARGINATA FLAVOMARGINATA	YELLOW-MARGINATED BOX TURTLE	ISHIGAKIJIMANISHIOMO TEJIMA ISLAND
RYUKYU KINBATO	CHALCOPHAPS INDICA	EMERALD DOVE	OKINAWA
KANMURIWASHI	SPILORNIS CHEELA PERPLEXUS	CRESTED SERPENT EAGLE	NISHIOMOTEJIMA ISLAND ISHIGAKIJIMA ISLAND
IWAKUNI NO SHIROHEBI	ELAPHE CLIMACOPHORA F. ALBINO	IWAKUNI SNAKE	YAMAGUCHI
DAITO OOKOUMORI	PTEROPLUS DASYMALLUS DAITOENSIS	DAITO FLYING FOX	OKINAWA
ITASENPARA	ACHEILOGNATHUS LOGIPINNIS	ITASENPARA	OOSAKA, AICHI, GIFU, TOYAMA & KYOTO
MIYAKOTANAGO	TANAKIA TANAGO	TOYKO BITTERLING	TOCHIGI, SAITAMA, CHIBA & KANAGAWA
HIMECHAMADARASESERI	PYRGUS MALVAE COREANUS	MACULATUS SKIPPER	HOKKAIDO
GOISHITSUBAMESHIJIMI	LIBELLULA ANGELINA	SHORT TAILED BLUE	KUMAMOTO
AKAKOKKO	TURDUS CELAENOPS	SEVEN ISLANDS THRUSH	TOKYO & KAGOSHIMA
ERABU OOKOUMORI	PTEROPLUS DASYMALLUS DASYMALLUS	ERABU FLYING FOX	KAGOSHIMA
YAMANE	GLIRULUS JAPONICUS	JAPANESE DORMOUSE	HONSU, SHIKOKU AND KYUSHU AREA
KANMURI UMISUZUME	BYNTHLIBORAMPHUS WUMIZUSUME	JAPANESE MURRELET	TOKYO, SHIZUOKA, MIE, FUKUOKA, OKINAWA & OTHERS
IIJIMAMUSHIKUI	PHYLLOSCOPUS IIJIMAE	IIJIMA'S WILLOW WARBER	TOKYO, KAGOSHIMA, OKINAWA
KISHINOUE TOKAGE	EUMECES KISHINOUYEI	KISHINOUE'S GIANT SKINK	OKINAWA
RYUKYUYAMAGAME	GEOEMYDA SPENGLERI JAPONICA	YANBARUGAME	OKINAWA
AYUMODOKI	LEPTOBOTIA CURTA	JAPANESE CATFISH	SHIGA, KYOTO, OSAKA AND OKAYAMA
NEKOGIGI	COREOBAGRUS ICHIKAWAI	BAGRID CATFISH	GIFU, AICHI AND MIE
YANBARUKUINA	RALLUS OKINAWAE	OKINAWA RAIL	OKINAWA
YANBARUTENAGAKOGANE	CHEIROTONUS JAMBAR	YANBARU BEETLE	OKINAWA

## APPENDIX C REFERENCES AND RED LIST (ENDANGERED AND THREATENED SPECIES)

### **INFORMATIONAL WEBSITES**

Relevant information may be obtained from the following websites:

The US regulations and listing of species listed in Code of Federal Regulations (CFR)

<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>

Japan Environmental Laws - Law for the Conservation of Endangered Species of Wild Fauna and Flora

<http://www.env.go.jp/en/soe/wildlife/law.html>

Threatened Wildlife of Japan - Red Data Book

<http://www.env.go.jp/nature/redlistS/index.html> or [http://www.biodic.go.jp/rdb/rdb\\_f.html](http://www.biodic.go.jp/rdb/rdb_f.html) (Japanese Only)

### **DEFINITION OF NEW CLASSIFICATION OF RED LIST**

#### **EXTINCT (EX)**

A species, or taxon is Extinct when there is no reasonable doubt that the last individual has died.

**EXTINCT IN THE WILD (EW)** - A taxon is Extinct in the wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

#### **THREATENED I (CR+EN)**

**A. CRITICALLY ENDANGERED (CR)** - A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria (A to E) as described below.

A) Population reduction in the form of either of the following:

- 1) An observed, estimated, inferred or suspected reduction of at least 80% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
  - a) direct observation
  - b) an index of abundance appropriate for the taxon
  - c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
  - d) actual or potential levels of exploitation
  - e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.
- 2) A reduction of at least 80%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.

B) Extent of occurrence estimated to be less than 100 km<sup>2</sup> or area of occupancy estimated to be less than 10 km<sup>2</sup>, and estimates indicating any two of the following:

- 1) Severely fragmented or known to exist at only a single location.

2) Continuing decline, observed, inferred or projected, in any of the following:

- a) extent of occurrence
- b) area of occupancy
- c) area, extent and/or quality of habitat
- d) number of locations or subpopulations
- e) number of mature individuals

3) Extreme fluctuations in any of the following:

- a) extent of occurrence
- b) area of occupancy

**JAPAN ENVIRONMENTAL GOVERNING STANDARDS**

- c) number of locations or subpopulations
- d) number of mature individuals

C) Population estimated to number less than 250 mature individuals and either:

- 1) An estimated continuing decline of at least 25% within three years or one generation, whichever is longer or
- 2) A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:
  - a) severely fragmented (i.e. no subpopulation estimated to contain more than 1000 mature individuals)
  - b) all individuals are in a single subpopulation

D) Population estimated to number less than 50 mature individuals.

E) Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is the longer.

**B. ENDANGERED (EN)** - A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the criteria (A to E) as described below.

A) Population reduction in the form of either of the following:

- 1) An observed, estimated, inferred or suspected reduction of at least 50% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
  - a) direct observation
  - b) an index of abundance appropriate for the taxon
  - c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
  - d) actual or potential levels of exploitation
  - e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.
- 2) A reduction of at least 50%, projected or suspected to be met within the next 10 years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d), or (e) above.

B) Extent of occurrence estimated to be less than 5000 km<sup>2</sup> or area of occupancy estimated to be less than 500 km<sup>2</sup>, and estimates indicating any two of the following:

- 1) Severely fragmented or known to exist at no more than five locations.

2) Continuing decline, inferred, observed or projected, in any of the following:

- a) extent of occurrence
- b) area of occupancy
- c) area, extent and/or quality of habitat
- d) number of locations or subpopulations
- e) number of mature individuals

3) Extreme fluctuations in any of the following:

- a) extent of occurrence
- b) area of occupancy
- c) number of locations or subpopulations
- d) number of mature individuals

C) Population estimated to number less than 2500 mature individuals and either:

- 1) An estimated continuing decline of at least 20% within five years or two generations, whichever is longer, or
- 2) A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:

**APPENDIX C**

- a) severely fragmented (i.e. no subpopulation estimated to contain more than 250 mature individuals)
  - b) all individuals are in a single subpopulation.
- D) Population estimated to number less than 250 mature individuals.
- E) Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or five generations, whichever is the longer.

**THREATNED II (VU)**

**VULNERABLE (VU)** - A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future, as defined by any of the criteria (A to E) as described below.

- A) Population reduction in the form of either of the following:
  - 1) An observed, estimated, inferred or suspected reduction of at least 20% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
    - a) direct observation
    - b) an index of abundance appropriate for the taxon
    - c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
    - d) actual or potential levels of exploitation
    - e) the effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.
  - 2) A reduction of at least 20%, projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.
- B) Extent of occurrence estimated to be less than 20,000 km<sup>2</sup> or area of occupancy estimated to be less than 2000 km<sup>2</sup>, and estimates indicating any two of the following:
  - 1) Severely fragmented or known to exist at no more than ten locations.
  - 2) Continuing decline, inferred, observed or projected, in any of the following:
    - a) extent of occurrence
    - b) area of occupancy
    - c) area, extent and/or quality of habitat
    - d) number of locations or subpopulations
    - e) number of mature individuals
  - 3) Extreme fluctuations in any of the following:
    - a) extent of occurrence
    - b) area of occupancy
    - c) number of locations or subpopulations
    - d) number of mature individuals
- C) Population estimated to number less than 10,000 mature individuals and either:
  - 1) An estimated continuing decline of at least 10% within 10 years or three generations, whichever is longer, or
  - 2) A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:
    - a) severely fragmented (i.e. no subpopulation estimated to contain more than 1000 mature individuals)
    - b) all individuals are in a single subpopulation
- D) Population very small or restricted in the form of either of the following:
  - 1) Population estimated to number less than 1000 mature individuals.

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- 2) Population is characterized by an acute restriction in its area of occupancy (typically less than 100 km<sup>2</sup>) or in the number of locations (typically less than five). Such a taxon would thus be prone to the effects of human activities (or stochastic events whose impact is increased by human activities) within a very short period of time in an unforeseeable future, and is thus capable of becoming Critically Endangered or even Extinct in a very short period.

E) Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

**NEAR THREATENED (NT)**

Taxa that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

**DATA DEFICIENT (DD)**

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution is lacking. Data Deficient is therefore not a category of threat or Lower Risk. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and threatened status. If the range of a taxon is suspected to be relatively circumscribed, if a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

**LOCAL POPULATION (LP)**

Species that exist in isolated local population and are in danger of disappearing.

**LIST OF THREATENED WILDLIFE SPECIES OF JAPAN (RED LIST)**

(MAMMALS, BIRDS, REPTILES, AMPHIBIANS & FISH only)

Updated lists and information for other species can be obtained at the Ministry of the Environment websites listed on page C-1.

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>MAMMALS</b>				
EX	NIHON OOKAMI	CANIS LUPUS HODOPHILAX	JAPANESE WOLF	
EX	EZO OOKAMI	CANIS LUPUS HATTAI	EZO WOLF	
EX	OKINAWA OOKOUMORI	PTEROPUS LOOCHOENSIS	OKINAWA FLYING FOX	
EX	OGASAWARA ABURAKOUMORI	PIPISTRELLUS STURDEEI	BONIN PIPISTRELLE	
CR	SENKAKUMOGURA	NESOSCAPTOR UCHIDAI		
CR	DAITO OOKOUMORI	PTEROPUS DASYMALLUS DAITOENSIS	DAITO FLYING FOX	DAITO ISLANDS
CR	ERABU OOKOUMORI	PTEROPUS DASYMALLUS DASYMALLUS	ERABU FLYING FOX	ERABU ISLAND (KAGOSHIMA)
CR	OGASAWARA OOKOUMORI	PTEROPUS PSELAPHON	BONIN FLYING FOX	OGASAWARA ISLANDS (TOKYO)
CR	MIYAKOKOKIKUGASHIRA KOUMORI	RHINOLOPHUS CORNUTUS MIYAKONIS	MIYAKO LITTLE HORSESHOE BAT	MITAKO ISLAND
CR	YANBARU HOOHIGEKOUMORI	MYCTIS YANBARENSIS		
CR	TSUSHIMAYAMANEKO	FELIS EUPTILURA	TSUSHIMA CAT	TSUSHIMA (NAGASAKI)
CR	NIHONKAWAUOSO	LUTRA LUTRA NIPPON, LUTRA LUTRA WHITELEYI	JAPANESE RIVER OTTER	(KOHCHI)
CR	NIHON ASHIKA	ZALOPHUS CALIFORNIAUS JAPONICUS	JAPANESE SEA LION	
CR	SESUJINEZUMI	APODEMUS AGRARIUS		
CR	OKINAWATOGENEZUMI	TOKUDAIA OSIMSNISI MUENNINKI	OKINAWA SPINOUS COUNTRY-RAT	AMAMI ISLAND TOKUNOSHIMA OKINAWA
EN	ORIIJINEZUMI	CROCIDURA ORII	ORII'S SHREW	AMAMI ISLAND
EN	OKINAWA KOKIKUGASHIRA KOUMORI	RHINOLOPHUS PUMILUS		
EN	YAEYAMA KOKIKUGASHIRA KOUMORI	RHINOLOPHUS PERDITUS		

**APPENDIX C**

EN	KAGURAKOUMORI	HIPPOSIDEROS TURPIS	BANG'S LEAF-NOSED BAT	ISHIGAKI ISLAND NISHIOMOTE ISLAND YONAKUNI ISLAND
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## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>MAMMALS (CONTINUED)</b>				
EN	SHINANOHOHIGEKOUMORI	MYOTIS IKONNIKOVI HOSONOI	SHINANO WHISKERED BAT	(NAGANO)
EN	HIMEHOHIGEKOUMORI	MYOTIS IKONNIKOVI IKONNIKOVI	IKONNIKOVI'S WHISKERED BAT	(HOKKAIDO)
EN	EZOHOHIGEKOUMORI	MYOTIS IKONNIKOVI YESOENSIS		
EN	KUROHOHIGEKOUMORI	MYOTIS PRUINOSUS	BLACK WHISKERED BAT	(IWATE AKITA EHIME)
EN	HONDONORENKOUMORI	MYOTIS NATTERERI BOMBINUS		
EN	MORIABURAKOUMORI	PIPISTRELLUS ENDOI	ENDO'S PIPISTRELLE	TOHOKU, KANTO AREA
EN	HIMEHORIKAWAKOUMORI	EPTESICUS NILSSONII PARVUS		
EN	KUBIWAKOUMORI	EPTESICUS JAPONENSIS		
EN	KOYAMAKOUMORI	NYCTALUS FURVUS		
EN	RYUKYU YUBINAGA KOUMORI	MINIOPTERUS FUSCUS		
EN	RYUKYU TENGU KOUMORI	MURINA RYUKYUANA		
EN	IRIOMOTEYAMANEKO	FELIS IRIOMOTENSIS	IRIOMOTE CAT	IRIOMOTE ISLAND (OKINAWA)
EN	ZENIGATAAZARASHI	PHOCA VITULINA	COMMON(KURIL) SEAL	HOKKAIDO
EN	AMAMITOGENEZUMI	TOKUDAIA OSIMENSIS OSIMENSIS	AMAMI SPINOUS COUNTRY-RAT	AMAMI ISLAND, TOKUNOSHIMA, OKINAWA
EN	KENAGANEZUMI	DIPLOTHRIX LEGATA		
EN	AMAMINOKUROUSAGI	PENTALAGUS FURNESSI	AMAMI HARE, AMAMI RABBIT	AMAMI ISLAND TOKUNOSHIMA (KAGOSHIMA)
VU	TOKYOTOGARINEZUMI	SOREX MINUTISSIMUS HAWKERI	HAWKER'S LEAST SHREW	EASTERN HOKKAIDO
VU	ECHIGOMOGURA	MOGERA TOKDAE ETIGO		
VU	ORIIKOKIKUGASHIRA KOUMORI	RHINOLOPHUS CORNUTUS ORII		
VU	IRIOMOTE KOKIKUGASHIRA KOUMORI	RHINOLOPHUS PERDITUS IMAZUMII		
VU	USURIDOBENTON KOUMORI	MYOTIS MYSTACINUS GRACILIS		
VU	USURIHOHIGE KOUMORI	MYOTIS MYSTACINUS	WHISKERED BAT	
VU	FUJIHOHIGEKOUMORI	MYOTIS IKONNIKOVI FUJIENSIS		
VU	KAGUYAKOUMORI	MYOTIS FARATER KAGUYAE	KAGUYA WHISKERED BAT	HOKKAIDO AOMORI
VU	YAMA KOUMORI	NYCTALUS AVIATOR		
VU	HINAKOUMORI	VESPERTILIO SUPERANS		
VU	CHICHIBUKOUMORI	BARbastella leucomelas DARJILINGENSIS	EASTERN BARBASTELLE	HOKKAIDO HONSHU ARE
VU	NIHON USAGI KOUMORI	PLECOTUS AURITUS SACRIMONTIS		
VU	NIHON TENGU KOUMORI	MURINA LEUCOGASTER HILGENDORFI		
VU	NIHON KOTENGU KOUMORI	MURINA USSURIENSIS SILVATICA		
VU	TSUSHIMATENN	MARTES MELAMPUS TSUENSIS	TSUSHIMA MARTEN	TSUSHIMA (NAGASAKI)
VU	TODO	EUMETOPIAS JUBATUS		
NT	AZUMITOGARINEZUMI	SOREX HOSONOI HOSONOI	AZUMI SHREW	MOUNTAIN SITE OF MIDDLE HONSHU
NT	SHIROUMATOGARINEZUMI	SOREX HOSONOI SHIROUMANUS	SHIROUMA SHREW	NORTH-ALPUS
NT	SADOTOGARINEZUMI	SOREX SADONIS	SADO SHREW	SADO
NT	CHOUSENKOJINEZUMI	CROCIDURA SUAVEOLENS SHANTUNGENSIS	KOREAN SHREW	TSUSHIMA ISLAND (NAGASAKI)
NT	WATASEJINEZUMI	CROCIDURA HORSFIELDI WATASEI	WATASE'S SHREW	(KAGOSHIMA, OKINAWA)

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>MAMMALS (CONTINUED)</b>				
NT	HIWAMIZURAMOGURA	EUROSCAPTOR MIZURA HIWAENSIS		
NT	FUJIMIZURAMOGURA	EUROSCAPTOR MIZRA MIZURA	FUJI MOUNTAIN MOLE	HIROSHIMA MT. FUJI NIKKO KII PEN. AKAISHI MOUNTAINS YATSUGATAKE
NT	SHINANOMIZURAMOGURA	EUROSCAPTOR MIZRA OHTAI	SHINANO MOUNTAIN MOLE	HIDA SHIGA KOUGEN GUNMA PREF. OSE AOMORI PREF.
NT	SADOMOGURA	MOGERA TOKUDAE	SADO MOLE	(NIIGATA)
NT	YOKUSHIMAZARU	MACACA FUSCATA YAKUI	JAPANESE MACAQUE	YAKUSHIMA ISLAND
NT	NIHONIZUNA	MUSTELA NIVALIS NAMIYEI	JAPANESE LESSER WEASEL	(AOMORI)
NT	HONDOOKOJO	MUSTELA ERMINEA NIPPON	HONDO STOAT	ALPINE REGION OF HONSHU
NT	EZOOKOJO	MUSTELA ERMINEA ORIENTALIS	EZO STOAT	(HOKKAIDO)
NT	MIYAMAMUKUGENEZUMI	CLETHRIONOMYS MONTANUS	MOUNTAIN RED- BACKED VOLE	MIDDLE HOKKAIDO HIDAKA MOUNTAINS
NT	RISHIRIMUKUGENEZUMI	CLETHRIONOMYS REX	RISHIRI RED- BACKED VOLE	RISHIRI REBUN
NT	YAMANE	GLIRULUS JAPONICUS	JAPANESE DORMOUSE	FOREST OF HONSU SHIKOKU AND KYUSHU AREA
DD	TSUSHIMAKUROAKA KOUMORI	MYOTIS FORMOSUS TSUENSIS	TSUSHIMA ORANGE WHISKERED BAT	TSUSHIMA ISLAND
DD	OZEHOOHIGEKOUMORI	MYOTIS IKONNIKOVI OZENSIS	OZE WHISKERED BAT	(YAMANASHI)
DD	KUROOOABURAKOUMORI	PIPISTRELLUS SAVII VELOX	BLACK SAVI'S PIPISTRELLE	(HOKKAIDO AOMORI)
DD	KOURAI OOABURA KOUMORI	PIPISTRELLUS SAVII COREENSIS		
DD	KUCHIBATENGUKOUMORI	MURINA TENEBROSA	JAPANESE MEDIUM TUB-NOSED BAT	TSUSHIMA ISLAND YAKUSHIMA ISLAND
DD	OHIKIKOUMORI	TADARIDA INSIGNIS	ASIATIC FREE- TAILED BAT	(HOKKAIDO KANAGAWA SAITAMA MIE HIROSHIMA EHIME KUMAMOTO)
DD	SUMIIROOHIKI KOUMORI	TADARIDA INSIGNIS LATOUCHI		
DD	EZOKUROTEM	MARTES ZIBELLINA BRACHYURA		
DD	RAKKO	ENHYDRA LUTRIS	SEA OTTER	CHISHIMA ISLANDS
LP	NIHONZARU / HONDOZARU	MACACA FUSCATA FUSCATA	JAPANESE MACAQUE	SHIMOKITA PEN. (AOMORI)
LP	NIHONZARU / HONDOZARU	MACACA FUSCATA FUSCATA	JAPANESE MACAQUE	TOHHOKU AREA
LP	NIHONRISU	SCIURUS LIS	JAPANESE SQUIRREL	WESTERN PART OF LAKE BIWA
LP	EZOHIGHUMA	URSUS ARCTOS YESOENSIS	EZO BROWN BEAR	WESTERN ISHIKARI (HOKKAIDO)
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	SHIMOKITA PEN (AOMORI)
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	KII PEN. (MIE & NARA)
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	EASTERN CHUUGOGU MOUNTAINS
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	WESTERN CHUGOKU AREA (SHIMANE HIROSHIMA YAMAGUCHI)
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	SHIKOKU MOUNTAINS (TOKUSHIMA, KOUCHI)
LP	TSUKINOWAGUMA	URSUS THIBETANUS JAPONICUS	ASIAN BLACK BEAR	KYUSHU (OITAMIYAZAKI)

## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>MAMMALS (CONTINUED)</b>				
LP	RYUKYUINOSHISHI	SUS RIUKIUANUS	RIUKIU WILD PIG	TOKUNOSHIMA ISLAND
LP	EZONAKI USAGI	OCHOTONA HYPERBOREA YESOENSIS		ASHIBETSU, YUUBARI (HOKKAIDO)
<b>BIRDS (CONTINUED)</b>				
EX	HASHIBUTOGOI	NYCTICORAX CALEDONICUS CRASSIROSTRIS	RUFOUS NIGHT HERON	
EX	KANMURITSUKUSHIGAMO	TADORNA CRISTATA	CRESTED SHELDUCK	
EX	MAMIJIROKUINA	POLIOLIMNAS CINEREUS BREVIPES	WHITE-BROWED CRAKE	
EX	RYUKYU KARASUBATO	COLUMBA JOUYI	RYUKYU WOOD PIGEON	
EX	OGASAWARA KARASUBATO	COLUMBA VERSICOLOR	BONIN WOOD PIGEON	
EX	MIYAKOSYOUBIN	HALCYON MIYAKOENSIS	MIYAKO KONGFISHER	
EX	KITATAKI	DRYOCOPUS JAVENSIS RECHARDSSI	WHITE-BELLIED BLACK WOODPECKER	
EX	DAITOUUMISOSAZAI	TROGLODYTES TROGLODYTES ORII	WREN	
EX	OGASAWARA GABICHOU	TURDUS TERRESTRIS	BONIN ISLAND THRUSH	
EX	DAITOU UGUISU	CETTIA DIPHONE RESTRICTUS	BARODINO BUSH WARBLER	
EX	DAITOU YAMAGARA	PARUS VARIUS ORII	VARIED TIT	
EX	MUKOJIMA MEGURO	APALOPTERON FAMILIARE FAMILIARE	BONIN ISLANDS HONEYEATER	
EX	OGASAWARA MASHIKO	CHAUNPOROCTUS FERREOROSTRIS	BONIN ISLANDS GROSBEAK	
EW	TOKI	NIPPONIA NIPPON	JAPANESE CRESTED IBIS	* NO WILD HABITAT.
CR	CHISHIMAUGARASU	PHALACROCORAX URILE	RED-FACED CORMORANT	CHISHIMA ISLANDS, WESTERN HOKKAIDO
CR	KOUNOTORI	CICONIA CICONIA BOYCIANA	WHITE STORK	* NO WILD HABITAT IN JAPAN.
CR	KUROTSURAHERASAGI	PLATALEA MINOR	BLACKFACED SPOONBILL	WESTERN JAPAN
CR	SHIYUKARAGAN	BRANTA CANADENSIS LEUCOPARAIA	CANADA GOOSE	HOKKAIDO, NORTHERN HONSHU
CR	DAITOUNOSURI	BUTEO BUTEO OSHIROI	BUZZARD	DAITOU ISLANDS
CR	KANMURIWASHI	SPILORNIS CHEELA PERPLEXUS	CRESTED SERPENT EAGLE	NISHIOMOTEJIMA ISLAND ISHIGAKIJIMA ISLAND
CR	KARAFUTOAOASHISHIGI	TRINGA GUTTIFER	NORDMANN'S GREENSHANK	* THORUGHOUT JAPAN AS MIGRANTS
CR	KOSHAKUSHIGI	NUMENIUS MINUTUS	LITTLE WHIMBREL	* THROUGHOUT JAPAN AS MIGRANTS
CR	UMIGARASU	URIA AALGE INORNATA	GUILLEMOT COMMON MURRE	TEURI ISLAND (HOKKAIDO)
CR	UMISUZUME	SYNTHLIBARAMPHUS ANTIQUUS	ANCIENT AUK	(HOKKAIDO ETC.)
CR	ETOPIRIKA	LUNDA CIRRATA	TUFTED PUFFIN	WESTERN HOKKAIDO
CR	WASHIMIMIZUKU	BUBO BUBO		
CR	SHIMAFUKUROU	KETUPA BLAKISTONI BLAKISTONI	BLAKISTON'S FISH OWL	(HOKKAIDO)
CR	NOGUCHIGERA	SAPHEOPIO NOGUCHII	PRYER'S WOODPECKER	(OKINAWA)
CR	MIYUBIGERA	PICOIDES TRIDACTYLUS INOUEI	THREE-TOED WOODPECKER	(HOKKAIDO)
CR	USUAKAHIGE	ERITHACUS KOMADORI SUBRUFUS	RYUKYU ROBIN	(OKINAWA)
CR	OOTORATSUGUMI	TURDUS DAUMA AMAMI	WHITE'S GROUND THRUSH	AMAMIOSHIMA ISLAND (KAGOSHIMA)
EN	KOAHoudori	DIOMEDEA IMMUTABILIS	LAYSAN ALBATROSS	OGASAWARA ISLANDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>BIRDS (CONTINUED)</b>				
EN	AKAONETTAICHOU	PHAETHON RUBRICAUDA ROTHSCHILDI		
EN	AKASHIKATSUODORI	SULA SULA RUBRIPES		OGASAWARA ISLANDS KAZAN ISLANDS RYUKYU ISLANDS
EN	SANKANOGOI	BOTAURUS STELLARIS STELLARIS	BITTEN	(HOKKAIDO, SHIGA, CHIBA, IBARAGI)
EN	OOYOSHIGOI	IXOBRYCHUS EURHYTHMUS	SCHRENCK'S LITTLE BRITTERN	NORTH OF CENTRAL HONSHUSADOHOKKAI DO AREA
EN	TSUKUSHIGAMO	TADORNA TADORNA	COMMON SHELDUCK	KYUSHU AREA
EN	OJIROWASHI	HALIAEETUS ALBICILLA	WHITE-TAILED SEA- EAGLE	WESTERN & NORTHERN HOKKAIDO
EN	OGASAWARANOSURI	BUTEO BUTEO TOYOSHIMAI	BUZZARD	OGASAWARA ISLANDS
EN	DAITOUNOSURI	BUTEO BUTEO OSHIROI	BUZZARD	DAITO ISLANDS
EN	KUMATAKA	SPIZAETUS NIPALENSIS ORIENTALIS	HODGSON'S HAWK EAGLE	JAPAN AND KOREA, ETC
EN	INUWASHI	AQUILA CHRYSAETOS JAPONICA	GOLDEN EAGLE	JAPAN AND KOREA, ETC
EN	SHIMAHAYABUSA	FALCO PEREGRINUS FRUITII	PERGRINE FALCON	KITAIOUTOU ISLAND
EN	YANBARUKUINA	RALLUS OKINAWAE	OKINAWA RAIL	NORTHERN OKINAWA AREA
EN	CHISHIMASHIGI	CALIDRIS PTILOCNEMIS KURILENSIS		* A FEW COMES AS A MIGRANT
EN	HERASHIGI	BURYNORHYNCHUS PYGMÆUS	SPOON-BILLED SNAPPIPER	NORTH WEST OF JAPAN
EN	AMAMUYAMASHIGI	SCOLOPAX MIRA	AMAMI WOODCOCK	NANSEI ISLANDS
EN	SEITAKASHIGI	HIMANTOPUS HIMANTOPUS HIMANTOPUS	BLACK-WINGED STILT	(AICHICHIKA ETC.)]
EN	AKAGASHIRA KARASUBATO	COLUMBA JANTHINA NITENS	JAPANESE WOOD PIGEON	OGASAWARA ISLANDS
EN	YONAKUNI KARASUBATO	COLUMBA JANTHINA STAINEGERI	JAPANESE WOOD PIGEON	ISHIGAKIJIMA, NISHIOMOTEJIMA, YONAKUNITOU ISLAND
EN	KINBATO	CHALCOPHAPS INDICA YAMASHINAI	EMERALD DOVE	(OKINAWA)
EN	OHSUTONOOAKAGERA	DENDROCOPOS LEUCOTOS OWSTONI	WHITE-BACKED WOODPECKER	AMAMIOSHIMA ISLAND (KAGOSHIMA)
EN	YAIROCYOU	PITTA BRACHYURA NYMPHA	FAIRY PITTA	(KOHCHI, NAGASAKI, MIYAZAKI, NAGANO, ETC.)
EN	MOSUKEMISOSAZAI	TROGLODYTES TROGLODYTES MOSUKEI		OKINAWA ISLANDS
EN	OOSEKKA	MEGALURUS PRYERI PRYERI	JAPANESE MARSH WARBLER	(AOMORIAKITAIBARAGI ETC.)
EN	OGASAWARAKAWARAHIIWA	CARDUELIS SINICA KITTLITZI	ORIENTAL GREENFINCH	OGASAWARA ISLANDS
VU	AHOUDORI	DIOMEDEA ALBATRUS	SHORT-TAILED ALBATROSS	IZU ISLANDS KENKAKU ISLANDS
VU	SHIROHARA MIZUNAGIDORI	PTERODROMA HYPOLEUCA		
VU	HIMEKURO UMITSUBAME	OCEANODROMA MONORHIS	SWINHOE'S FORKK- TAILED PETREL	(IWATE, AOMORI, ISHIKAWA, KYOTO, SHIMANE, FUKUOKA, TOKYO)
VU	KUROKOSHIJIRO UMITSUBAME	OCEANODROMA CASTRO	MADEIRAN FORK- TAILED PETREL	(IWATE)
VU	OHSUTON UMITSUBAME	OCEANODROMA TRISTRAMI		
VU	KUROUMITSUBAME	OCEANODROMA MATSDAIRAE	MATSDAIRA'S FORK-TAILED PETREL	KITAIOUTOU ISLANDMINAMIOUTOU ISLAND (TOKYO)
VU	AOTSURAKATSUODORI	SULA DACTYLATRA PERSONATA		(OKINAWA)
VU	KOKUGAN	BRANTA BERNICLA ORIENTALIS		SOUTH OF KANTO AREA

## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>BIRDS (CONTINUED)</b>				
VU	HISHIKUI	ANSER FABALIS SERREROSTRIS		MIYAGI, NIIGATA, ISHIKAWA, SHIGA
VU	TOMOEGAMO	ANAS FORMOSA	BAIKAL TDAL	WEST OF CENTRAL HONSHU
VU	OOWASHI	HALIAEETUS PELAGICUS PELAGICUS	STELLER'S SEA EAGLE	HOKKAIDO, WESTERN & CENTRAL HONSHU
VU	OOTAKA	ACCIPITER GENTILIS FUJIYAMAE	GOSHAWK	SOUTH OF HONSHU
VU	RYUKYUTSUMI	ACCIPITER GULARIS IWASAKII		(OKINAWA)
VU	CYUUHI	CIRCUS AERUGINOSUS SPILONOTUS	MARSH HARRIER	(HOKKAIDO, ISHIKAWA, AICHI ETC.)
VU	HAYABUSA	FALCO PEREGRINUS JAPONENSIS	PERGRINE FALCON	THROUGHOUT JAPAN
VU	RAICHO	LAGOPUS MUTUS JAPONICUS	PTARMIGAN	SOUTH ALPUS
VU	TANCHO	GRUS JAPONENSIS	JAPANESE CRANE	(HOKKAIDO)
VU	NABEZURU	GRUS MONACHA	HOODED CRANE	(KAGOSHIMA, YAMAGUCHI)
VU	MANAZURU	GRUS VIPIO	WHITE-NAPED CRANE	KYUSHU AREA
VU	OOKUINA	RALLINA EURIZONOIDES SEPIARIA	BANDED CRAKE	OKINAWA ISLANDS
VU	SHIMAKUINA	PORZANA EXQUISITA	SWINHOE'S YELLOW RAIL	* A FEW COMES AS MIGRANT
VU	AKAASHISHIGI	TRINGA TOTANUS EURHINUS		EASTERN HOKKAIDO
VU	HOUROKUSHIGI	NUMENIUS MADAGASCARIENSIS	AUSTRALIAN CURLEW	* MIGRANT
VU	TSUBAMECHIDORI	GLAREOLA MALDIVARUM	INDIAN PRATINCOLE	(MIYAZAKI, AICHI, SAITAMA ETC.)
VU	ZUGUROKAMOME	LARUS SAUNDERSI		
VU	OOAJISASHI	STERNA BERGII CRISTATA		OGASAWARA ISLANDS NANSEI ISLANDS
VU	KOAJISASHI	STERNA ALBIFRONS SINENSIS		SOUTH OF HONSHU
VU	KEIMAFURI	CEPPHUS CARBO		
VU	KANMURI UMISUZUME	BYNTHLIBORAMPHUS WUMIZUSUME	JAPANESE MURRELET	ISLANDS & ISLETS
VU	SHIRAKOBATO	STREPTOPELIA DECAOCTO DECAOCTO	COLLARED TURTLE DOVE	KANTO AREA
VU	RYUKYU OOKONOHAZUKU	OTUS BAKKAMOENA PRYERI		IZU ISLANDS NISHIOMOTE ISLAND OKINAWA MAIN ISLNAD
VU	BUPPOUSOU	EURYSTOMUS ORIENTALIS CALONYX		HONSHUSADOSHOK UKYUSHU AREA
VU	KUMAGERA	DRYOCOPUS MARTIUS	BLACK WOODPECKER	(HOKKAIDO, IWATE, AKITA, AOMORI)
VU	AMAMIKOGERA	DENDROCOPOS KIZUKI AMAMII		
VU	SANSYOUKUI	PERICROCOTUS DIVARICATUS		
VU	CHIKOMOZU	LANIUS TIGRINUS		
VU	TANEKOMADORI	ERITHACUS AKAHIGE TANENSHIS		IZU ISLANDS, SATSUMANN ISLANDS
VU	AKAHIGE	ERITHACUS KOMADORI KOMADORI	RYUKYU ROBIN	(KAGOSHIMA)
VU	HONTOU AKAHIGE	ERITHACUS KOMADORI NAMIYEI	RYUKYU ROBIN	(OKINAWA)
VU	AKAKOKKO	TURDUS CELAENOPS	SEVEN ISLANDS THRUSH	IZU ISLANDS (TOKYO) SATSUMANN ISLANDS (KAGOSHIMA)
VU	UCHIYAMASENNYUU	LOCUSTELLA OCHOTENSIS PLESKEI		(TOKYO, FUKUOKA, WAKAYAMA, MIE)

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>BIRDS (CONTINUED)</b>				
VU	IJIMAMUSHIKUI	PHYLLOSCOPUS IJIMAE	IJIMA'S WILLOW WARBER	IZU ISLANDSOKINAWA MAINISLANDMIYAKO ISLANDYONAKUNI ISLAND
VU	NAMIEYAMAGARA	PARUS VARIUS NAMIYEI		IZU ISLANDS
VU	OHSUTON YAMAGARA	PARUS VARIUS OWSTONI		IZU ISLANDS
VU	ORIIYAMAGARA	PARUS VARIUS OLIVACEUS		NISHIOMOTE ISLAND
VU	HAHAJIMAMEGURO	APALOPTERON FAMILIARE HAHASHIMA	BONIN ISLANDS HONEYEATER	OGASAWARA ISLANDS
VU	KOJURIN	EMBERIZA YESSOENSIS YESSOENSIS	JAPANESE REED BUNTING	NORTHERN TOHHOKU, WESTERN KANTO, KYUSHU
VU	RURIKAKESU	GARRULUS LIDTHI	LIDTH'S JAY	AMAMIOSHIMA ISLANDS
NT	MIZOGOI	GORSACIUS GOISAGI	JAPANESE NIGHT HERON	SOUTH OF KANTO
NT	ZUGUROMIZOGOI	GORSACIUS MELANOLOPHUS MELANOLOPHUS		YAEZAN ISLANDS
NT	CYUUSAGI	EGRETTA INTERMEDIA INTERMEDIA	INTERMEDIATE EGRET	SOUTH OF HONSHU
NT	MAGAN	ANSER ALBIFRONS FRONTALIS		(MIYAZAKIISHIKAWASHI MANE)
NT	OOHISHIKUI	ANSER FABALIS MIDDENDORFFII		
NT	MISAGO	PANDION HALIAETUS HALIAETUS	OSPREY	THROUGHOUT JAPAN
NT	HACHIKUMA	PERNIS APIVORUS JAPONICUS		NORTH OF HONSHU
NT	HAITAKA	ACCIPITER NISUS NISOSIMILIS		NORTH OF HONSHU
NT	KOSHIIROYAMADORI	PHASIANUS SAEMMERRINGII IJIMAE		SOUTH KYUSHU
NT	OOJISHIGI	GALLINAGO HARDWICKII	LATHAM'S SNIPE	NORTH OF CENTRAL HONSHU
NT	BENIAJISASHI	STERNA DOUGALLII BANGSI		NANSEI ISLANDS OKINAWA MAIN LAND
NT	ERIGUROAJISASHI	STERNA SUMATRANA SUMATRANA	BLACK-NAPED TERN	NANSEI ISLANDS
NT	KARASUBATO	COLUMBA JANTHINA JANTHINA	JAPANESE WOOD PIGEON	(TOKYO, YAMAGUCHI, OHITA, KAGOSHIMA, OKINAWA)
NT	AKAMOZU	LANIUS CRISTATUS SUPERCILIOSUS		
NT	SHIMAAOJI	EMBERIZA AUREOLA ORNATA		
NT	NOJKO	EMBERIZA SULPHURATA		
DD	SEGUROMIZUNAGIDORI	PUFFINUS LHERMINIERI BANNERMANI		OGASAWARA ISLANDS
DD	KARASHIRASAGI	EGRETTA EULOPHOTES	CHINESE EGRET	
DD	HERASAGI	PLATAlea LEUCORODIA LEUCORODIA	SPoonBILL	(KAGOSHIMA)
DD	KUROTOKI	THRESKIORNIS MELANOCEPHALUS	ORIENTAL(WHITE) IBIS	SOUTH OF CENTRAL HONSHU
DD	HAKUGAN	ANSER CAERULESCENS CAERULESCENS		
DD	SAKATSURAGAN	ANSER CYGNOIDES	SWAN GOOSE	A FEW COME TO THROUGHOUT JAPAN AS MIGRANTS.
DD	AKATSUKUSHIGAMO	TADORNA FERRUGinea	RUDDY SHELDUCK	(SHIMANE ETC.)
DD	AKAHAIRO	AYTHYA BAERI	BEAR'S POCHARD	WEST OF KANTO
DD	KOURAIAISA	MERGUS SQUAMATUS		(NIIGATA, SHIZUOKA, AICHI ETC.)
DD	OOHAYABUSA	FALCO PEREGRINUS PEALEI		CHISHIMA ISLANDS
DD	EZO RAICHOU	TETRASTES BONASIA VICINITAS		
DD	UZURA	COTURNIX JAPONICA		

## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>BIRDS (CONTINUED)</b>				
DD	KUROZURU	GRUS GRUS LILFORDI		(KAGOSHIMA)
DD	SHIBERIAOOHASHISHIGI	LIMNODROMUS SEMIPALMATUS	ASIATIC DOWITCHER	* THROUGHOUT JAPAN AS MIGRANT BIRDS
DD	MADARAUMISUZUME	BRACHYRAMPHUS MARMORATUS PERDIX		HOKKAIDO
LP	KANMURIKAITSUBURI	PODICEPS CRISTATUS CRISTATUS	GREAT CRESTED GREBE	AOMORI
LP	SHINORIGAMO	HISTRIONICUS HISTRIONICUS PACIFICUS	HARLEQUIN DUCK	TOHOKU AREA, NORTH OF JAPAN
<b>REPTILES</b>				
CR	IHEYATOKAGEMODOKI	GONIUROSAURUS KUROIWAE TOYAMAI	TOYAMA'S GROUND GECKO	IHEYA ISLAND (OKINAWA)
CR	KIKUZATOSAWAHEBI	OPISTHOTROPIS KIKUZATOI	KIKUZATO'S BROOK-SNAKE	KUMEJIMA ISLAND (OKINAWA)
EN	TAIMAI	ERETMOCHELYS IMBRICATA	HAWKSBILL TURTLE	NANSEI ISLANDS
EN	MADARATOKAGEMODOKI	GONIUROSAURUS KUROIWAE ORIENTALIS	SPOTTED GROUND GECKO	OKINAWA ISLANDS
EN	OBITOKAGEMODOKI	GONIUROSAURUS KUROIWAE SPLENDENS	BANDED GROUND GECKO	AMAMI ISLANDS TOKUNOSHIMA
EN	YAMASHINA TOKAGEMODOKI	GONIUROSAURUS KUROIWAE YAMASHINAE	YAMASHINA'S GROUND GECKO	KUME ISLAND (OKINAWA)
EN	HIMEHEBI	CALAMARIA PFEFFERI	PFEFFER'S REED SNAKE	OKINAWAMiyAKOJIMA ISLAND
VU	AOUMIGAME	CHELONIA MYDAS	COMMON GREEN TURTLE	OGASAWARA ISLANDSNANSEI ISLANDS
VU	AKAUMIGAME	CARETTA CARETTA	LOGGERHEAD TURTLE	
VU	SEMARUHAKOGAME	CUORA FLAVOMARGINATA FLAVOMARGINATA	YELLOW-MARGINATED BOX TURTLE	ISHIGAKIJIMANISHIOM OTEJIMA ISLAND
VU	RYUKUYUYAMAGAME	GEOEMYDA SPENGLERI JAPONICA	YANBARUGAME	(OKINAWA)
VU	KUROKWATOKAGEMODOKI	EUBLEPHARIS KUROIWAE	KUROIWA'S GROUND GECKO	(OKINAWA)
VU	KINOBORI TOKAGE	JAPALURA POLYSONATA POLYGONATA	OKINAWAN TREE LIZARD	OKINAWA ISLANDS AMAMI ISLANDS
VU	BAABAA TOKAGE	EUMECES BARBOURI	BARBOUR'S BLUE-TAILED SKINK	OKINAWA ISLANDS
VU	MIYAKO TOKAGE	EMOIA ATROCOSTATA ATROCOSTATA	COASTAL SKINK	MIYAKO ISLANDS (OKINAWA)
VU	MIYAKO HIBAA	AMPHIESMA CONCELARUM	MIYAKO KEELBACK SNAKE	NIYAKO ISLAND IRABU ISLAND
VU	YONAGUNI SYUUDA	ELAPHE CARINATA YONAGUNIENSIS	YONAGUNI MUSK SNAKE	YONAGUNI ISLAND (OKINAWA)
VU	MIYARA HIMEHEBI	CALAMARIA PAVIMENTATA MIYARAI	MIYARA'S DWARF SNAKE	YONAGUNI ISLAND (OKINAWA)
NT	KISHINOUE TOKAGE	EUMECES KISHINOUEI	KISHINOUE'S GIANT SKINK	MIYAKO ISLANDSYAEZAN ISLANDS
NT	IWASAKISEDAKAHEBI	PAREAS IWASAKII	IWASAKI'S SNAIL-EATER	ISHIGAKI ISLANDSNISHIOMOTE ISLANDS
NT	AMAMITAKACHIHOHEBI	ACHALINUS WERNERI	AMAMI TAKACHIHO SNAKE	AMAMIOHSHIMA ISLANDOKINAWA ISLANDS
NT	YAEYAMATAKACHIHOHEBI	ACHALINUS FORMOSANUS CHIGIRAI	YAEYAMA TAKACHIHO SNAKE	YAEYAMA ISLANDSNISHIOMOTEJI MA ISLAND
NT	SAKISHIMAAOHEBI	OPHEODRYS HERMINAE	SAKISHIMA GREEN SNAKE	MIYAKO ISLANDSYAEZAN ISLANDS
NT	SAKISHIMABAIKADA	DINODON SEPTENTRIONALIS MULTIFASCIATUS	SAKISHIMA KING SNAKE	ISHIGAKIJIMANISHIOM OTEJIMA ISLAND

## APPENDIX C

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>REPTILES (CONTINUED)</b>				
NT	IWASAKIWAMONBENIHEBI	CALLIOPHIS MACCLELLANDII IWASAKII	IWASAKIS CORAL SNAKE	ISHIGAKINISHIOMOTEJI MA
NT	HYAN	CALLIOPHIS JAPONICUS	JAPANESE CORAL SNAKE	OKINAWA AREA
NT	HAI	HEMIBUNGARUS JAPONICUS BOETTGERI	OKINAWAN CORAL SNAKE	AMAMI, OKINAWA ISLANDS
DD	SUPPON	TRIONYX SINENSIS WIEGMANN	CHINESE SOFT-SHELLED TURTLE	ISLANDS OF HONSHU, SHIKOKU, KYUSU, AND OKINAWA
LP	NIHONTOKAGE	EUMECES LATISCUTATUS	JAPANESE BLUE-TAILED SKINK	AKUSEKIJIMA, NORTH OF TOKARA ISLANDS
LP	OKADATOKAGE	EUMECES OKADEAE	OKADA'S BLUE-TAILED SKINK	MIYAKEJIMA, HACHIOJIMA, AOGASHIMA
<b>AMPHBIANS</b>				
CR	ABESANSHOUUO	HYNOBIUS ABAI	ABE'S SALAMANDER	TANGO PEN. (KYOTO), HYOGO, FUKUI
EN	HOKURIKUSANSHOUUO	HYNOBIUS TAKEDAI	HOKURIKU SALAMANDER	ISHIKAWA, TOYAMA
EN	HAKUBASANSHOUUO	HYNOBIUS HIDAMONTANUS	HAKUBA SALAMANDER	NAGANO, NIIGATA, TOYAMA, Gifu
EN	ISHIKAWAGAERU	RANA ISHIKAWAE	ISHIKAWA'S FROG	AMAMIOHSHIMA ISLAND, OKINAWA MAIN ISLAND
EN	GOGATAHANASAKIGAERU	RANA UTSUNOMIYAORUMU	UTSUNOMIYA'S TIP-NOSED FROG	
VU	OOITASANSHOUUO	HYNOBIUS DUNNI	OITA SALAMANDER	SOUTH KYUSHU, KOUCHI PREF.
VU	OKISANSHOUUO	HYNOBIUS OKIENSIS	OKI SALAMANDER	OKISHIMA ISLAND
VU	IBOIMORI	TYLOTOTRITON ANDERSONI	ANDERSON'S ALLIGATOR NEWT	OKINAWA AREA
VU	DARUMAGAERU	RANA POROSA BREVIPODA	DARUMA POND FROG	KAGAWA PREF. SANYOHKINKICH UKYOTOKAI REGION
VU	HANASAKI GAERU	RANA NARINA	RYUKYU TIP-NOSED FROG	OKINAWA ISLAND
VU	AMAMI HANASAKI GAERU	RANA AMAMIENSIS	AMAMI TIP-NOSED FROG	AMAMIOSHIMA ISLAND, TOKUNOSHIMA
VU	NAMIEGAERU	RANA NAMIYEI	NAMIYE'S FROG	NORTHERN OKINAWA MAIN LAND
VU	OTTONGAERU	BABINA SUBASPERA	OTTON FROG	AMAMIOHSHIMAKAKER OMATOU ISLAND
VU	HORUSUTOGAERU	BABINA HOLSTI	HOLST'S FROG	OKINAWA AREA
NT	BEKKOUSANSHOUUO	HYNOBIUS STEJNEGERI	AMBER-COLORED SALAMANDER	(KUMAMOTOMIYAZAKIK AGOSHIMA)
NT	KITASANSHOUUO	SALAMANDRELLA KEYSERLINGII	SIBERIAN SALAMANDER	KUSHIRO SWAMP (HOKKAIDO)
NT	OOSANSHOUUO	MEGALOBatrachus JAPONICUS	JAPANESE GIANT SALAMANDER	HONSHU (WEST OF Gifu) SHIKOKUFUKUOK AOHTA
NT	SHIRIKEN IMORI	CYNOPS ENSICAUDA	SWORD-TAILED NEWT	AMAMI ISLANDS, OKINAWA ISLANDS
NT	OOHANASAKI GAERU	RANA SUPRANARINA	GREATER TIP-NOSED FROG	ISHIGAKI ISLAND, NISHIOMOTE ISLAND
LP	KASUMISANSHOUUO	HYNOBIUS NEBULOSUS NEBULOSUS	CLOUDED SALAMANDER	KYOTO, OSAKA
LP	TOUKYOU SANSHOUUO	HYNOBIUS NEBULOSUS TOKYOENSIS	TOKYO SALAMANDER	WESTERN TOKYO
LP	TOKYOSANSHOUUO	HYNOBIUS NEBULOSUS TOKYOENSIS	TOKYO SALAMANDER	AICHI
LP	OODAIGAHARASANSHOUUO	GYNOBIUS BOULENGERI	ODAIGAHARA SALAMANDER	HONSHU, KYUSHU, SHIKOKU
<b>FISH (BRACKISH WATER/FRESH WATER)</b>				
EX	KUNIMASU	ONCORHYNCHUS KAWAMURAEE		LALE TAZAWA (AKITA)
EX	SUWAMOROKO	GNATHOPOGON ELONGATUS SUWAE		
EX	MINAMITOMIYO	PUNGITIUS KAIBARAE		(KYOTOHYOGO)

## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>FISH (BRACKISH WATER/FRESH WATER) (CONTINUED)</b>				
CR	RYUKYUAYU	PLECOGLOSSUS ALTIVELIS RYUKYUENSIS		AMAMIOHSHIMA ISLANDOKINAWA MAIN ISLAND
CR	ARIAKESHIRAUO	SALANX ARIAKENSIS		NORTH KYUSHU
CR	ARIAKEHIMESHIRAUO	NEOSALANX REGANI		NORTH KYUSHU
CR	HINAMOROKO	APHOCYPRIS CHINENSIS		(FUKUOKASAGA)
CR	USHIMOTSUGO	PSEUDORASBORA PUMILA		(AICHIGIFU)
CR	MIYAKOTANAGO	TANAKIA TANAGO		KANTO AREA
CR	ITASENPARA	ACHEILOGNATHUS LOGIPINNIS		YODO RIVERKISO RIVER
CR	NIPPONBARATANAGO	RHODEUS OCELLATUS SMITHII		EAST OF LAKE BIWA
CR	AYUMODOKI	LEPTOBOTIA CURTA		(SHIGAKYOTOOSAKAN ARAOKAYAMA)
CR	SUIGENZENITANAGO	RHODEUS ATREMUS SUIGENSIS		(HYOGOOKAYAMAHIRO SHIMA)
CR	MUSASHITOMIYO	PUNGITIUS SP1		(SAITAMA)
CR	IBARATOMIYO	PUNGITIUS SP2		
CR	TAIWANKINGYO	MACROPODUS OPERCULARIS		OKINAWA MAIN ISLAND
CR	URAUCHIFUEDAI	LUTJANUS GOLDIEI		
CR	KOMACHIHAZE	PARIOGLOSSUS TAENIATUS		
CR	MAIKOHAZE	PARIOGLOSSUS LINEATUS		
CR	MISUJIHAZE	CALLOGOBIUS SP		
CR	KUROTOSAKAHAZE	CRISTATOGOBIUS NONATOAE		
CR	HIMETOSAKAHAZE	CRISTATOGOBIUS SP2		
CR	TASUKIHINAHAZE	REDIGOBIUS BALTEATUS		
CR	KONJKI HAZE	GLOSSOGOBIUS AUREUS		
CR	AGOHIGH HAZE	GLOSSOGOBIUS BICIRRHOUS		
CR	KISERU HAZE	CHAENOGOBIUS CYLINDRICUS		
CR	DOUKUTSUMIMIZUHAZE	LUCIOGOBIUS ALBUS		GOTOU ISLANDS
CR	KAERU HAZE	SICYOPUS LEPRURUS		
CR	AKABOUHAZE	SICYOPUS ZOSTEROPHORUM		
CR	YOROIBOZU HAZE	LENTIPES ARMATUS		
CR	HAYASEBOZUHAZE	STIPHONDON STEVENSONI		
CR	TOKAGEHAZE	SCARLELAOS HISTOPHORUS		
EN	ITOU	HUCHO PERRYI		HOKKAIDOSOUTH CHISHIMA
EN	UKEKUCHIUGUI	TRIBOLODON		(YAMAGATAFUKUSHIM ANIGATA)
EN	KAWABATAMOROKO	HEMIGRAMMOCYPRIS RASBORELLA		(SHIZUOKA)
EN	ABURAHIGAI	SARCOCHEILICHTYS BIWAENSIS		
EN	SHINAIMOTSUGO	PSEUDORASBORA PUMILA PUMILA		(AKITA)
EN	ICHIMONJITANAGO	ACHEILOGNATHUS CYANOSTIGMA		
EN	ZENITANAGO	ACHEILOGNATHUS TYPUS		HONSHU (NORTH OF KANTO - NIIGATA)
EN	SUJISHIMADOJOU (SMALL)	COBITIS SP. 2		
EN	ISHIDOJOU	COBITIS TAKATSUENSIS		
EN	HOTOKEDOJOU	LEFUA ECHIGONIA		
EN	NAGAREHOTOKEDOJOU	LEFUA SP.		
EN	NEKOGIGI	COREOBAGRUS ICHIKAWAI		(GIJUAIICHIMIE)
EN	NISESHIMAISAKI	MESOPRISTES ARGENTEUS		
EN	YOKOSHIMAISAKI	MESOPRISTES CANELLATUS		
EN	SHIMAZUSHIMAISAKI	MESOPRISTES SP.		
EN	TSUBASAHAZE	RHYACICHTHYS ASPRO		ISHIGAKI ISLANDNISHIOMOTE ISLAND
EN	TAMETOMOHAZE	OPHIELETRIS SP.		

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>FISH (BRACKISH WATER/FRESH WATER) (CONTINUED)</b>				
EN	TANAGOMODOKI	HYPSELOETRIS CYPRINOIDES		RYUKYU ISLANDS
EN	TOSAKAHAZE	CRISTATOGOBius SP.1		
EN	ESOHAZE	SCHISMATOGOBius ROXASI		
EN	SHIMAESOHAZE	SCHISMATOGOBius AMPLUVINCULUS		
EN	KIBARAYOSHINOBORI	RHINOGOBius SP. YB		
EN	AOBARAYOSHINOBORI	RHINOGOBius SP. BB		
EN	OGASAWARAYOSHINOBORI	RHINOGOBius SP. BI		
EN	EDOHAZE	CHAENOGOBius MACROGNATHOS		
EN	KUBOHAZE	CHAENOGOBius SCROBICULATUS		
EN	CHIKUZENHAZE	CHAENOGOBius UCHIDAI		
EN	RURIBOUZUHAZE	SICYOPTERUS MACROSTETHOLEPIS		
EN	TABIRAKUCHI	APOCRYPTODON PUNCTATUS		
VU	SUNAYATSUME	LETHENTERON REISSNERI		
VU	ETSU	COILIA NASUS		ARIAKEKAI
VU	SEBOSHITABIRA	ACHEILOGNATHUS TABIRA SUBSP 2		
VU	KAZETOGETANAGO	RHODEUS ATREMUS ATREMUS		
VU	SUJISHIMADOJOU (LARGE)	COBITIS SP. 1		
VU	EZOHOTOKEDOJOU	LEFUA NIKKONIS		
VU	GIBACHI	PSEUDOBAGRUS TOKIENSIS		
VU	AKAZA	LIOBAGRUS REINI		KYUSHU AREA
VU	MEDAKA	ORYZIAS LATIPES		RYUKYU ISLANDS
VU	NAGAREFUURAIBOU	CRENIMUGIL HETEROCHIELOS		
VU	YAEYAMANOKOGIRIHAZE	BUTIS AMBOINENSIS		
VU	JANOMEHAZE	BOSTRYCHUS SINENSIS		
VU	KIRARAHAZE	ACENTROGOBIUS VIRIDIPUNCTATUS		
VU	SHINJIKOHAZE	CHAENOGOBius SP. 3		LAKE SHISHIDO (SHIMANE)
VU	MINAMIASHISHIROHAZE	ACANTHOGOBius INSULARIS		
VU	MUTSUGOROU	BOLEOPHTHALMUS PECTINIROSTRIS		ARIAKEKAIYASHIROKAI (NORTH KYUSHU)
VU	YAMANOKAMI	TRACHIDERmus FASCIATUS		(FUKUOKASAGANAGAS AKI)
VU	UMISEKAJIIKA	COTTUS REINII		
NT	SHIVERIAYATSUME	LAMPETRA KESSLERI		(HOKKAIDO)
NT	MIYABEIWANA	SALVELINUS MIYABEI		LAKE SHIBETSU
NT	OSHOROKOMA	SALVELINUS MALMA		(HOKKAIDO)
NT	BIWAMASU	ONCORHYNCHUS RHODURUS		LAKE BIWA
NT	YAUCHIGUI	PHOXINUS PERCNURUS SACHALINENSIS		
NT	TANAGO	ACHEILOGNATHUS MELANOGLASTER		
NT	ARIAKEGIBACHI	PSEUDOBAGRUS AURANTIACUS		
NT	EZOTOMIYO	PUNGITIUS TYMENSIS		(HOKKAIDO)
NT	OYANIRAMI	COREOPERCA KAWAMEBARI		HONSHU (WEST OF KINKI)SHIKOKU AND KYUSHU AREA
NT	AKAME	LATES JAPONICUS		OHYODO RIVER (KYUSHU)SHIMANTO RIVER (KOHCHI)
NT	ISAZA	CHAENOGOBius ISAZA		
NT	SHIROUO	LEUCOPSARION PETERSII		
DD	MITSUBAYATSUME	ENTOSPHENUS TRIDENTATUS		
DD	ISHIKARI WAKASAGI	HYPOMESUS OLIDUS		

## JAPAN ENVIRONMENTAL GOVERNING STANDARDS

	JAPANESE	SCIENTIFIC	ENGLISH	HISTORIC RANGE
<b>FISH (BRACKISH WATER/FRESH WATER) (CONTINUED)</b>				
DD	YAMANAKAHAYA	PHOXINUS LAGOWSKI		
DD	YAMAMOTIS			
DD	IDOMIMIZUHAZE	LUCIOGOBIUS PALLIDUS		(MIEWAKAYAMAKOHCH IEHIMEKUMAMOTOYAM AGUCHI)
DD	NEMURI MIMIZUHAZE	LUCIOGOBIUS DORMITORIS		
LP	GOGI (IWANA)	SALVELINUS IMBRIUS		(SHIMANE, OKAYAMA, HIROSHIMA, YAMAGUCHI)
LP	KIRIKUCHI (IWANA)	SALVELINUS JAPONICUS		KII PENINSULA
LP	YAMAME	ONCORHYNCHUS MASOU		KANTO AREA
LP	MASOU	ISHIKAWAE		
LP	AMAGO	ONCORHYNCHUS MASOU		WESTERN JAPAN
LP	AKAHIRETABIRA	ACHEILOGNATHUS TABIRA		SANIN AREA
LP	SUBSP 1			
LP	AJIMEDOJOU	NIWAELLA DELICATA		OSAKA
LP	TAUNAGI	MONOPTERUS ALBUS		OKINAWA ISLAND
LP	ITOYO (INCLUDING HARIYO)	GASTEROSTEUS		FUKUSHIMA TO SOUTH
		ACULEATUSCOMPLEX		OF JAPAN
LP	JYUZUKAKEHAZE	CHAENOGOBius LAEVIS		KANTO AREA
LP	MIMIZU HAZE	LUCIOGOBIUS GUTTATUS		RYUKYU ISLANDS
LP	MASAGO HAZE	PSEUDOGOBius MASAGO		OKINAWA ISLAND
LP	TOBIHAZE	PERIOPHTHALMUS		TOKYO BAY
LP		MODESTUS		
LP	TOBIHAZE	PERIOPHTHALMUS		OKINAWA ISLAND
LP		MODESTUS		
LP	HANAKAJIKA	COTTUS NOZAWAE		TOUHOKU AREA