

WORLD HERITAGE NOMINATION - IUCN SUMMARY

662: YAKUSHIMA (YAKU-ISLAND) (JAPAN)

Summary prepared by WCMC/IUCN (March 1993) based on the original nomination submitted by the Government of Japan. This original and all documents presented in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

1. LOCATION

In the interior of Yaku Island, 60km south of Kyushu Island. 10,747 ha.

2. JURIDICAL DATA

Protected under several pieces of legislation. A National Park Special Area, was gazetted in 1964 under the National Parks Law. A Wilderness area, designated under the Nature Conservation Law in 1975, forms a small part of the centre of the recommended area. Under the Law of Protection of Cultural Properties, 4,300ha was established as a Special Natural Monument Area. A Forest Ecosystem Reserve was established in 1992, comprising the nominated area and various adjacent blocks of land.

3. IDENTIFICATION

Comprises one block of land in the mountainous centre of the island, with arms stretching west to the coast and further arms to the south and to the east. Yaku Island is located at the interface of the palearctic and oriental biotic regions and thus has a mix of elements of both. It is clothed with a warm temperate evergreen forest and experiences very high annual precipitation (up to 10,000 mm). There is a rich flora (1900 species and sub-species) of which very old specimens of the "sugi" or Japanese cedar are well-known in Japan.

4. STATE OF PRESERVATION/CONSERVATION

Ancient yakusugi trees are of prime conservation value to the island. In the Wilderness core area of the nominated site, no records of past tree cutting can be traced. The management of the site is split between a number of agencies and there is no overall management plan. Tourism is having a major impact on the site.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

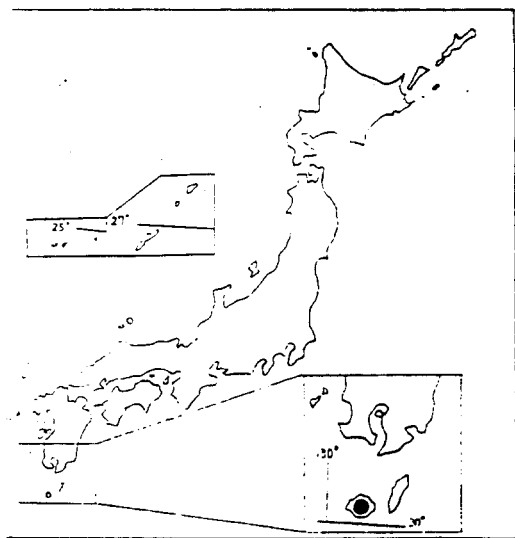
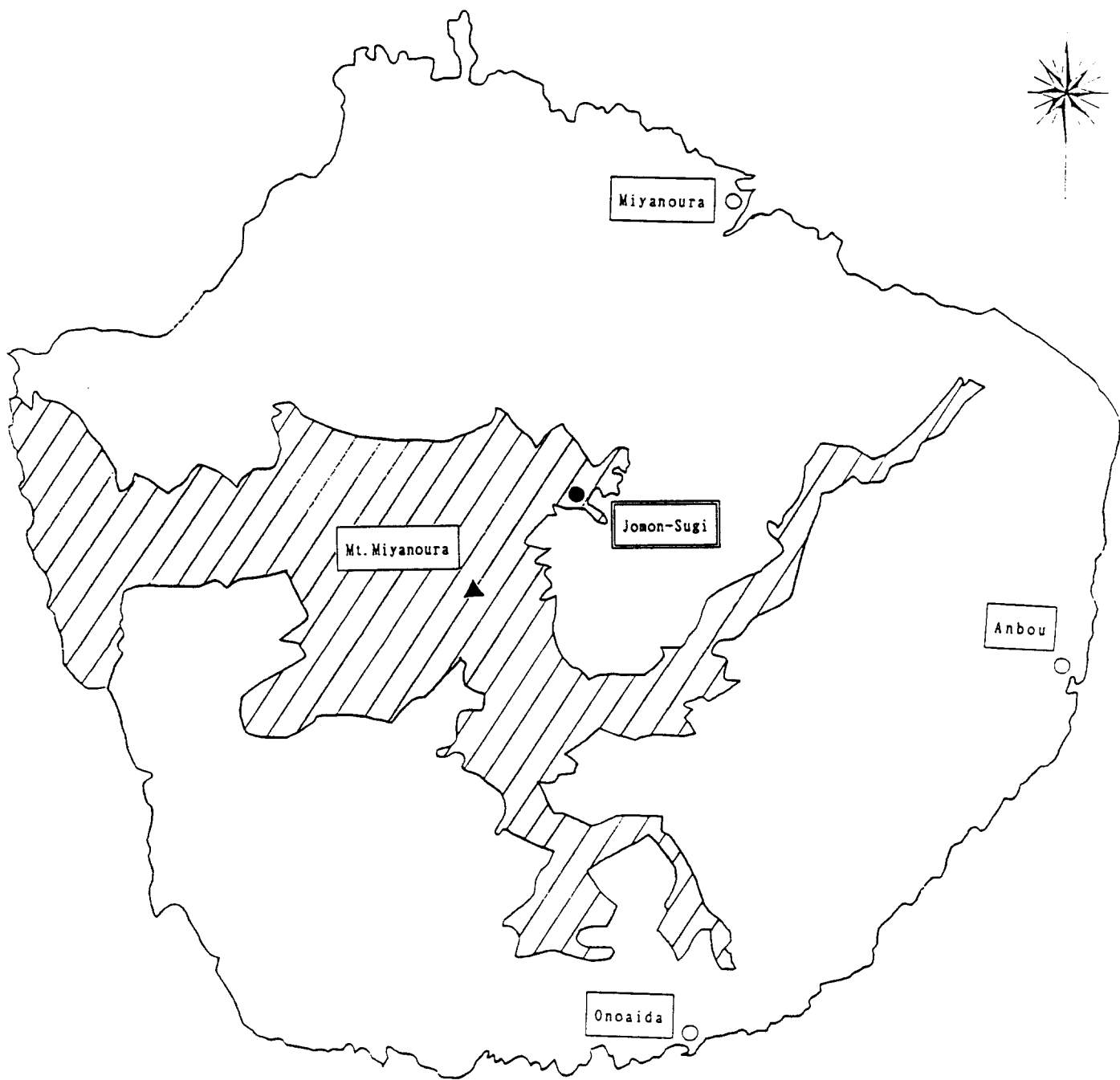
The nomination, as presented by the Government of Japan, provides the following justification for designation as a World Heritage property:

Natural property

- (ii) **Outstanding examples representing significant ongoing geological processes, and biological evolution** The distinct vertical vegetation distribution is considered to represent a biological process of ecological uniqueness.

- (iii) **Contains unique, rare or superlative natural phenomena, formations or features of exceptional natural beauty** The nominated area includes several large diameter sugi trees, thousands of years old. Although sugi trees also grow on the mainland further north, the oldest and most spectacular individuals occur on Yaku Island.
- (iv) **The most important and significant habitats where threatened species of plants and animals still survive** The climate, elevation and characteristic vertical distribution of flora have resulted in a unique ecosystem, that includes many endemic species and sub-species.

Yaku-shima Recommended Area



1000 m 0 1 2 3 km

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

662: YAKUSHIMA (YAKU-ISLAND) (JAPAN)

1. DOCUMENTATION

- i) IUCN/WCMC Data Sheet (3 references)
- ii) Additional Literature Consulted: Brazil, M. 1988. Japan's String of Pearls Loses its Lustre. **New Scientist** 31 March; Numata, M. 1986. The Natural Characteristics of Yaku Island. Shukutoku University Memoirs No. 20; Environment Agency, 1984 Summaries from Conservation Reports of the Yakushima Wilderness Area, 24 p.; Yamashita, H. 1992. **Ancient Grace** Inside the Cedar Sanctuary of Yaku Island. Cadence Books; H. Synge. 1991. Which Oceanic Islands merit World Heritage Status? IUCN, 31 p.; Sutherland M. & Britton D. 1980. **National Parks of Japan**; Tagawa H. and Yoda K. 1985. A Case Study in the Biosphere on Yaku Island. Ministry of Education, Science and Culture.
- iii) Consultations: 7 external reviewers, Japanese and Prefecture Government officials, Kagoshima University scientists.
- iv) Field Visit: May 1993. Jim Thorsell, Les Molloy

2. COMPARISON WITH OTHER AREAS

The Yakushima nomination is focussed on the existence of a warm temperate evergreen forest dominated by *Cryptomeria japonica* the indigenous Japanese sugi tree (hereafter referred to as Japanese cedar). This is in contrast to the second nomination from Japan for a cool-temperate broad leaved forest dominated by Siebold's beech in the Shirakami mountains in the north. Both types of forests are very significant components of the Japanese view of nature. Although Japanese cedars are distributed widely throughout Japan, their most natural expression and their most ancient forms are found in the nominated area.

There are currently 13 islands or portions of islands on the World Heritage List. Yaku has some similarities with three of these, SW Tasmania, Scandola in Corsica and Garajonay in the Canaries. All are protected areas in relatively inaccessible and scenic locations. All but Scandola provide habitat for endemic flora and fauna and all are islands under pressure from surrounding development. All have gradients that extend from sea level to mountain top.

In the Japanese Evergreen Forest Biogeographic Province there are 14 other protected areas categorized as National Parks on the UN List. Several of these are found on islands in Japan, notably Iriomote, Saikai, and Ogasawara. Yakushima is unique from all of these with its ancient cedar forests. It also derives its floristic diversity from its location at the border of two biogeographic regions, Yaku being a blend of palearctic and oriental elements. This adds further variety to its scientific value as do its impressive scenic attractions.

The central focus of the Yakushima nomination is, however, the existence of the ancient cedar forest. Scientific dating of several specimens show a maximum age of some 3000 years for the oldest tree (not 7000 as claimed in tourist literature). This puts it almost in the same league as the temperate coniferous forests in the Pacific Northwest where three natural World Heritage sites

(Olympic, Yosemite and Redwoods) protect ancient forests of much greater extent, size and biomass. Nevertheless, with its geographical setting and particular species composition, the Yakushima site is the most outstanding area of undisturbed old growth cedar forest in Japan. Its importance to science and conservation derives from this fact. (As one reviewer noted, however, the same could be said for hundreds of other rare and ancient forest stands world-wide).

3. INTEGRITY

Unlike the situation in the second Japanese nomination of Shirakami, the conservation history of Yakushima goes back to 1924 so there is more management experience. Nevertheless, IUCN has three issues which relate to integrity where improvements could be made:

- 3.1 **Boundaries** The site has a complex sinuous boundary which is less than 1 km wide in some places. There is a very high boundary to area ratio which has evolved over the course of time as various historical and administrative factors have determined its configuration. This is partially compensated for by a pattern of buffer zones around the core but clearly some World Heritage values (eg. some prime areas of old-growth forest and some scenic features and waterfalls) fall outside but adjacent to the nominated area. Some "in-filling" particularly in the "Wilson-Stump" area would be very beneficial and more primary forest could still be added.
- 3.2 **Administration** On the whole, the legal basis for protection of the site is sufficient with a portion of the site given Wilderness Area status and others adequately covered by the Special Protection Zone of National Park as well as several lower-level legal designations. Although this vertical compartmentalisation of conservation management provides a diversity of approaches it is also complex and requires extra effort to ensure coordination among the agencies. Several of the agencies have separate plans for parts of the area but there is no overall management plan for the nominated site itself.
- 3.3 **Management** Apart from the need for a management plan, there is no formal structure in place for the whole unit. The responsibility for protecting the area is shared among the different agencies but there is an expressed intention to appoint a management committee once the site is inscribed.

A specific management issue of some concern was the condition of the main footpath through the area which needs major maintenance if further erosion is to be prevented. Tourism impacts in general are expected to grow and the management plan should address measures to reduce these.

4. ADDITIONAL COMMENTS

The Yakushima site with its ancient forests of Yakusugi has become well-known as a sacred place in Japan. There is widespread public and political support for the site from the Government agencies, the Prefecture, the island mayors and people. This goodwill bodes well for the long term integrity of the site and will certainly be reinforced by World Heritage status. The excellent \$8 million visitor information center near Anboh which focusses on the cedar is one indication of this support.

5. EVALUATION

Natural areas in densely-populated and long-inhabited Japan are uncommon occurrences. Even the national parks of Japan are subject to extractive uses and are often extensively developed. Yakushima's values for which it is nominated are less for its appeal to mass tourism than for its biological, scientific and aesthetic significance. The presence of such a site on a small island is

especially valuable particularly as it includes not only the high peaks of the central core but a salient which reaches down 2000 m to the seacoast. Because of this phenomenon plus the fact that the nominated area contains the last, best example of an ecosystem dominated by the Japanese cedar in a superb scenic setting, the site meets natural criterion (iii).

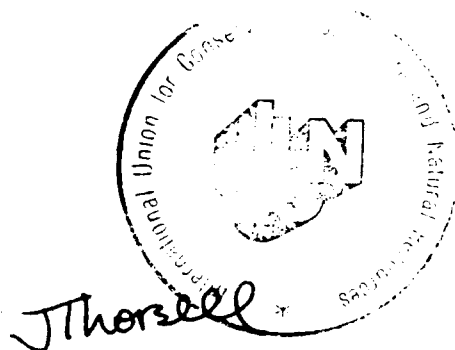
Moreover, Yakushima also meets criterion (ii) as it contains a unique remnant of a warm-temperate ancient forest which have been much reduced elsewhere in the region. These forests extend through an altitudinal sequence from broadleaved forest along the coast up through temperate coniferous at middle altitudes to a cold-temperate bamboo grassland at the central peaks. The site is very important for scientific studies on evolutionary biology, biogeography, vegetation succession, interaction of lowland and upland systems, hydrology and warm-temperate ecosystem processes. It also meets the conditions of integrity for this criterion as a full representation of the different life-zones is included.

Finally, there is also a case for criterion (iv) but it is not as convincing as the previous two. The site does contain a diverse flora (almost four times as many species as Shirakami) and endemism is fairly high. There are four endemic sub-species of mammals and four endemic sub-species of birds but there are no species considered threatened in the IUCN Red Data Book.

None of the concerns discussed under the above section on integrity give reason to defer the nomination although the Committee will certainly wish to suggest eventual boundary adjustments in future and to encourage the preparation of a management plan containing a special section on means to control tourism impacts.

6. RECOMMENDATIONS

The Committee should recommend that Yakushima be added to the World Heritage List on the basis of criteria (ii) and (iii). Suggestions for improvements to the boundaries and strengthening the management of the site should be sent to the Japanese authorities along with noting concern over the impacts on the site from tourism. The preparation of a management plan should be encouraged. The Committee may also wish to request a progress report be scheduled in three years time by IUCN and the Japanese authorities.



IUCN MANAGEMENT CATEGORY

II (National Park)

BIOGEOGRAPHICAL PROVINCE 2.02.02 (Japanese Evergreen Forest)

GEOGRAPHICAL LOCATION Yaku Island, in the northern end of the Ryukyu archipelago, is separated from the southernmost tip of Kyushu mainland by a 120m deep, 60km wide strait. The nominated area has a complex, sinuous boundary, which is less than 1km wide in some places. The site lies, in the centre of the island, with arms stretching west, south and east. The western arm extends down to the coast. 30°20'N, 130° 30'E.

DATE AND HISTORY OF ESTABLISHMENT The area recommended for World Heritage Status is protected under several pieces of legislation. A National Park Special Area, (Kirishima Yaku National Park) was gazetted in 1964 under the National Parks Law, comprising land on Yaku Island and Kirishima National Park on Kyushu mainland. A Wilderness area of 1219ha, designated under the Nature Conservation Law in 1975, forms a small part of the centre of the recommended area. Under the Law of Protection of Cultural Properties, 4300ha was established as a Special Natural Monument Area. This lies entirely within the nominated property. A Forest Ecosystem Reserve was established in 1992, comprising the nominated area and various adjacent blocks of land. The centre of Yakushima Island, and parts of the island's southern and western coastal lowlands were accepted as a Biosphere Reserve in 1980. Inscribed on the World Heritage List in 1993.

AREA 10,747ha

LAND TENURE 96% government owned; 4% private ownership (Anon, 1992).

ALTITUDE 0-1935m

PHYSICAL FEATURES Yakushima island is almost 2000m high and is the highest mountain in southern Japan. Several peaks are over 1800m with mountain ridges over 1000m surrounding these central high peaks. Topography from coastline to the mountainous summits is extremely steep. The predominant bedrock is granite. At the foot of the central mountain areas are small areas of sand stone and shale (Anon, 1992; Numata, 1986).

CLIMATE Varies with altitude from sub-tropical, warm temperate to cool temperate, tending to sub-alpine. Mean annual temperature is 20°C in coastal areas, decreasing to 15°C inland. Air temperature can fall below zero in the mountain summit area and snowfall is common in winter. Annual precipitation is very high, varying with altitude and aspect, from 4000mm at the coast to 10,000mm inland. Humidity is also very high, averaging 73-75%, and in the rainy season, June, exceeding 80%.

WCMC/UNESCO Draft World Heritage Database, March 1994

VEGETATION Vegetation is significantly different from the mainland. Vertical vegetation distribution is distinct, with sub-tropical vegetation near the coastline, and warm temperate, temperate, cool temperate and sub-alpine species further inland as altitude increases. Cool temperate zone coniferous forest, characterised by Abies firma, Tsuga sieboldii and Cryptomeria japonica occurs, rather than the cool temperate beech forests typical of the mainland. Warm temperate broad leaved forest previously covered extensive areas of south Japan. This has largely been removed, due to high human population pressure, and the warm temperate forest trees in Yakushima are thus some of the few remaining in Japan.

Of great significance to the area is the presence of indigenous Japanese cedar Cryptomeria japonica, known colloquially as 'sugi'. Sugi can reach more than a thousand years old on stable sites under the climate of the island: specimens younger than 1,000 years are known as 'Kosugi'; older specimens, which may reach 3000 years, are known as 'Yakusugi', and are found between 600 and 1800m (Numata, 1986).

The flora is very diverse for such a small island, comprising more than 1900 species and subspecies. Of these, 94 are endemic, mostly concentrated in the central high mountains. More than 200 species are at the southern limit of their natural distribution and a number are at their northern limit. A distinctive characteristic of the vegetation is the exuberance of epiphytes, particularly at higher elevations.

FAUNA The fauna of the island is diverse, with sixteen mammal species. Four mammal sub-species, including Japanese macaque Macaca fuscata yakui and sika deer Cervus nippon yakushimae, are endemic to the island. Population size of both species is c. 3000. A further four sub-species are endemic to both Yaku Island and the neighbouring island of Tanegashima, including Apodemus speciosus dorsalis. Amongst the 150 bird species present, four, including Ryukyu robin Erithacus komadori komadori and Japanese wood pigeon Columba janthina janthina have been designated as Natural Monuments.

CULTURAL HERITAGE Traditionally, the island mountains have been considered to have a spiritual value and the 'Yakusugi' were revered as sacred trees.

LOCAL HUMAN POPULATION None inside the area. The population of Yaku island is 14,000.

VISITORS AND VISITOR FACILITIES Within the nominated area, a limited number of hikers' paths and two huts are maintained, but no other man-made constructions exist. There is no visitor centre although a new 'Yakusugi Museum' has been built on one of the

main access roads to the buffer of the nominated area. The island is accessible by air or by a four hour ferry trip from Kagushima (Sutherland and Britton, 1980). 13,000 visitors a year walk the trails inside the area.

SCIENTIFIC RESEARCH AND FACILITIES The Yakushima forests have been the subject of detailed ecological studies since the area was selected as a Biosphere Reserve (Tagawa and Yoda, 1985). An ecological study of Japanese macaque in the nominated site has been carried out since 1975 by members of Kyoto University.

CONSERVATION VALUE Yakushima occupies a strategic situation on the boundary between the Holoarctic and Paleotropical biogeographical regions, and much of its conservation value is reflected in the 200 plant species which have the southern limit of their natural distribution on the island. The altitudinal continuum of the forests across nearly 2000m is considered to be not only the best in the Japanese archipelago, but the best remaining in East Asia.

Ancient yakusugi trees are of prime conservation value to the island. Individual trees are known by name, and details of height and age are given in Anon (1992), table 2.

CONSERVATION MANAGEMENT There is no intensive management of the site because of its nature as a core area well-buffered by natural forests. Day-to-day patrolling is carried out primarily by the Forest Agency.

A total banning on cutting of yakusugi now exists. The only utilisation of yakusugi permitted today is unearthing of buried timber and stumps (Anon, 1992).

MANAGEMENT CONSTRAINTS High precipitation and susceptibility of sandy soils to water erosion, places constraints on trail construction and maintenance.

STAFF Currently no specific staff but forestry and environment agency staff regularly visit the area on foot.

BUDGET No formal budget allocated to the site.

LOCAL ADDRESSES

Aso-Kuju National Park Office, 1180 Kurokawa, Aso-cho, Aso County, Kumamoto Prefecture

Kumamoto Regional Forest Office, 2-7 Honcho, Kyomachi, Kumamoto-shi

REFERENCES

Anon (1992). World Heritage List nomination Yakushima (Yaku-Island). Environment Agency, Agency for Cultural Affairs,

WCMC/UNESCO Draft World Heritage Database, March 1994

Forestry Agency. Government of Japan. 28pp.

Chyo, M. (1989). The estimation of tree numbers of Sugi Cryptomeria japonica in Yakushima, Japan. Science Bulletin of the Faculty of Agriculture Kyushu University. 43: 1-2. (abstract)

Numata, M. 1986. The Natural Characteristics of Yaku Island. Reprinted from Memoirs Shukutoku University. No 20. Pp.15-20.

Sutherland, M. and Britton, D. (1980). National Parks of Japan. Kodansha International Ltd., Japan. 148pp.

Tagawa, H. and Yoda, K. 1985. A Case Study in the Biosphere on Yakushima Island. Report on special Grant-in-Aid "Environmental Sciences" by the Ministry of Education, Science and Culture. 17pp.

DESIGNATION POUR LA LISTE DU PATRIMOINE MONDIAL - RESUME UICN

662: YAKUSHIMA (ILE DE YAKU) (JAPON)

Résumé préparé par le CMSC/UICN (mars 1993) d'après la désignation d'origine soumise par le gouvernement du Japon. L'original et tous les documents présentés à l'appui de cette désignation seront disponibles pour consultation aux réunions du Bureau et du Comité.

1. SITUATION

A l'intérieur de l'île de Yaku, à 60km au sud de l'île de Kyushu. 10,747 ha.

2. DONNEES JURIDIQUES

Protégé par différents textes de loi. Une Aire spéciale de parc national a été classée en 1974, au titre de la Loi sur les parcs nationaux. Une zone de nature sauvage a été désignée en 1975 au titre de la Loi sur la conservation de la nature et forme une petite partie du coeur du site désigné. Au titre de la Loi de protection des biens culturels, 4,300ha ont été classés Monument naturel spécial. Enfin, une Réserve d'écosystème forestier a été établie en 1992 qui comprend le site désigné et différentes parcelles attenantes.

3. IDENTIFICATION

Le site comprend un bloc de terres, dans le centre montagneux de l'île, avec des ramifications vers l'ouest jusqu'à la côte et des ramifications vers le sud et l'est. L'île de Yaku est située à l'interface des régions biologiques paléarctique et orientale et possède donc des éléments caractéristiques des deux. Elle est recouverte d'une forêt tempérée chaude sempervirente et connaît des précipitations annuelles très élevées (jusqu'à 10 000 mm). La flore est riche (1900 espèces et sous-espèces) et possède de très anciens spécimens de "sugi", ou cèdre japonais, célèbre dans tout le Japon.

4. ETAT DE PRESERVATION/CONSERVATION

Les yakusugi sont des arbres anciens qui ont une valeur primordiale pour l'île, du point de vue de la conservation. Dans la zone de nature sauvage centrale, on ne trouve pas la moindre trace de coupe ancienne des arbres. La gestion du site incombe à plusieurs organismes et il n'existe pas de plan d'aménagement global. Le tourisme a un impact marqué sur le site.

5. RAISONS JUSTIFIANT L'INSCRIPTION A LA LISTE DU PATRIMOINE MONDIAL

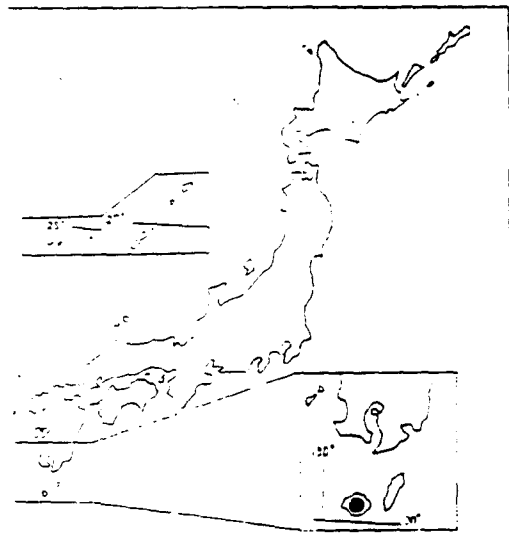
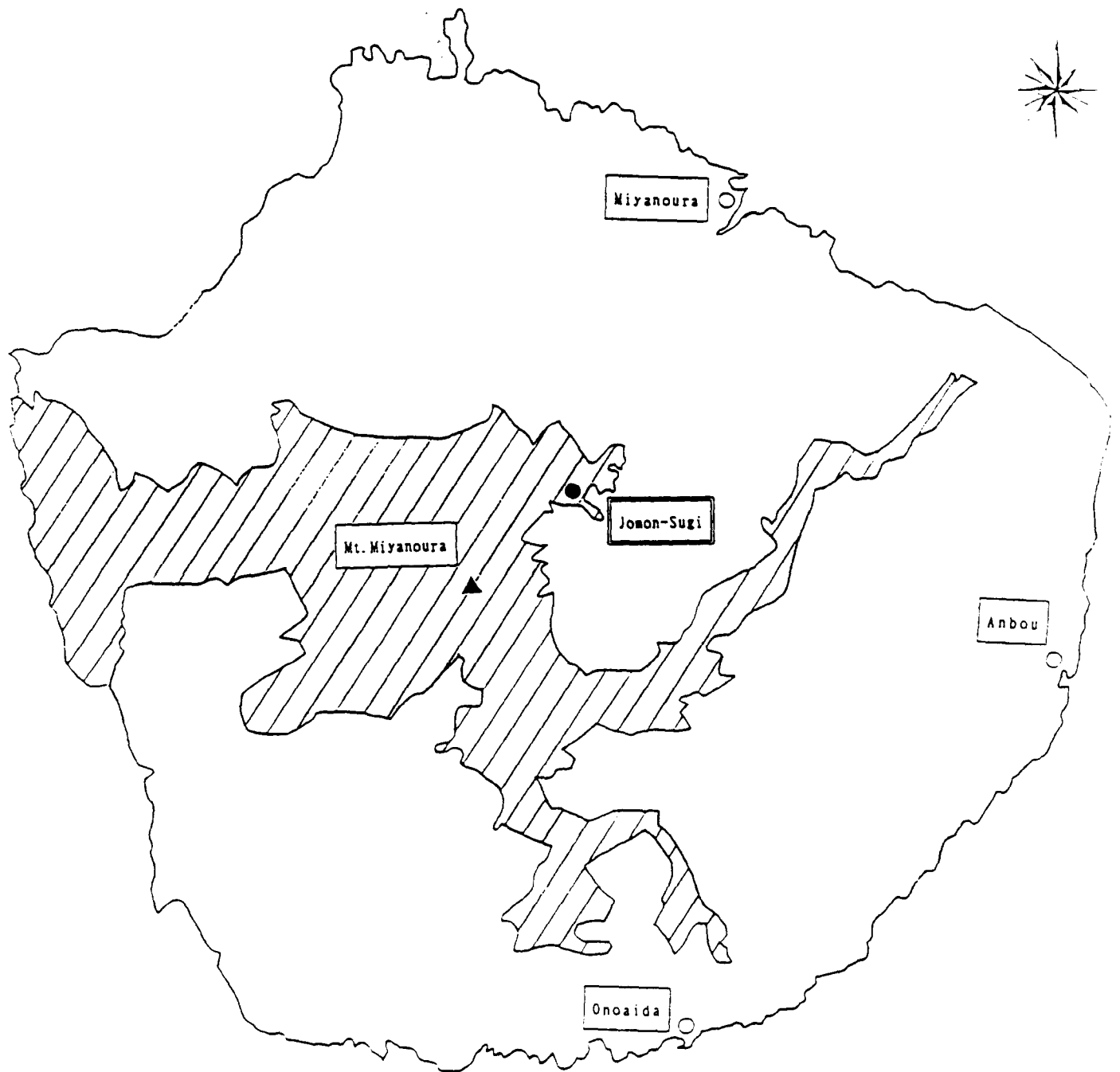
Pour justifier la désignation de Yakushima pour la Liste du patrimoine mondial, le gouvernement du Japon donne les raisons suivantes:

Bien naturel:

- (iii) **Exemples éminemment représentatifs d'importants processus géologiques en cours et de l'évolution biologique.** La distribution verticale distincte de la végétation est estimée représenter un processus biologique écologiquement unique.

- (iii) **Contient des phénomènes, formations ou particularités naturels uniques, rares ou éminemment remarquables ou de beauté exceptionnelle.** Le site désigné comprend plusieurs sugi de grand diamètre, vieux de plusieurs milliers d'années. Bien que ces arbres poussent aussi sur l'île principale, plus au nord, les individus les plus anciens et les plus spectaculaires se trouvent sur Yaku.
- (iv) **Habitats naturels les plus importants et les plus représentatifs où survivent des espèces de plantes et d'animaux menacées.** Le climat, l'élévation et la distribution verticale caractéristique de la flore ont créé un écosystème unique qui contient de nombreuses espèces et sous-espèces endémiques.

Yaku-shima Recommended Area



1000 m 0 1 2 3 km

DESIGNATION POUR LE PATRIMOINE MONDIAL - EVALUATION TECHNIQUE UICN

662: YAKUSHIMA (ILE DE YAKU) (JAPON)

1. DOCUMENTATION

- i) Fiches de données UICN/CMSC (3 référence)
- ii) Littérature consultée: Brazil, M. 1988. Japan's String of Pearls Loses its Lustre. **New Scientist** 31 mars; Numata, M. 1986. The Natural Characteristics of Yaku Island. Shukutoku University Memoirs No. 20; Environment Agency, 1984 Summaries from Conservation Reports of the Yakushima Wilderness Areas, 24p.; Yamashita, H. 1992. **Ancient Grace** Inside the Cedar Sanctuary of Yaku Island. Cadence Books; H. Synge. 1991. Which Oceanic Islands Merit World Heritage Status? UICN, 31p.; Sutherland M. & Britton D. 1980. **National Parks of Japan**; Tagawa H. and Yoda K. 1985. A Case Study in the Biosphere on Yaku Island. Ministère de l'Éducation, de la Science et de la Culture.
- iii) Consultations: 7 examinateurs indépendants; fonctionnaires de la Préfecture et du gouvernement, scientifiques de l'université de Kagoshima.
- iv) Visite du site: mai 1993. Jim Thorsell, Les Molloy.

2. COMPARAISON AVEC D'AUTRES AIRES

La désignation de Yakushima est centrée sur l'existence d'une forêt sempervirente tempérée chaude dominée par *Cryptomeria japonica*, le sugi indigène du Japon (cité ci-après sous le nom de cèdre du Japon). Yakushima diffère ainsi de l'autre désignation japonaise concernant une forêt décidue tempérée froide dominée par le hêtre de Siebold dans les monts Shirakami, au nord. Les deux types de forêts illustrent de manière importante la conception japonaise de la nature. Bien que les cèdres japonais soient largement distribués dans tout le Japon, leur expression la plus naturelle et leurs formes les plus anciennes se trouvent dans l'aire désignée.

Il y a actuellement 13 îles ou portions d'îles sur la Liste du patrimoine mondial. Yaku présente quelques similitudes avec trois d'entre elles: Sud-Ouest de la Tasmanie, Scandola en Corse et Garajonay aux Canaries. Toutes sont des aires protégées situées dans des sites relativement inaccessibles et spectaculaires. Toutes, sauf Scandola, offrent des habitats à des espèces de faune et de flore endémiques et toutes subissent la pression du développement. Toutes ont des gradients qui s'étendent du niveau de la mer au sommet de la montagne.

Dans la Province biogéographique de la forêt sempervirente japonaise, il y a 14 autres aires protégées classées parcs nationaux sur la Liste des Nations Unies. Plusieurs se trouvent sur des îles, notamment Irimote, Saikai et Ogasawara. Yakushima est différente à cause de ses anciennes forêts de cèdres. Elle dérive aussi sa diversité floristique de son emplacement à la limite de deux régions biogéographiques: Yaku est un mélange d'éléments paléarctiques et orientaux. C'est un atout supplémentaire pour son intérêt scientifique tout comme son attrait panoramique spectaculaire.

L'intérêt central de la désignation de Yakushima est, cependant, l'existence de l'ancienne forêt de cèdres. La datation scientifique de plusieurs spécimens donne un âge maximal de 3000 ans pour

les arbres les plus anciens (et non 7000 comme le prétendent les brochures touristiques). Cela place la forêt pratiquement à la même époque que les forêts de conifères tempérées du Pacifique du Nord-Ouest où trois biens du Patrimoine mondial (Olympic, Yosemite et Redwoods) protègent d'anciennes forêts à l'étendue, la taille et la biomasse plus importantes. Néanmoins, étant donné son emplacement géographique et la composition particulière de ses espèces, le site de Yakushima est la région la plus extraordinaire de forêt de cèdre ancienne non perturbée du Japon. C'est à cela qu'est due son importance pour la science et la conservation (Comme l'a cependant noté un examinateur, on pourrait dire la même chose de centaines d'autres forêts anciennes et rares du monde entier).

3. INTEGRITE

Contrairement à l'autre désignation japonaise, Shirakami, l'histoire de la conservation de Yakushima remonte à 1924. L'expérience de gestion est donc plus grande. Toutefois, l'UICN soulève trois points relatifs à l'intégrité et qui justifient des améliorations:

- 3.1 **Limites** Le site a des limites complexes et sinueuses ayant moins de 1km de large par endroits. Le rapport limites/superficie est donc très élevé et s'est instauré avec le temps, à mesure que divers facteurs historiques et administratifs déterminaient la configuration. Le facteur est partiellement compensé par diverses zones tampons autour de la zone centrale mais, de toute évidence, certaines valeurs de patrimoine mondial (par ex. certaines excellentes zones de forêt ancienne et certaines caractéristiques panoramiques et cascades) restent en dehors de la zone tout en étant attenantes à la zone désignée. La zone "Wilson-Stump" par exemple pourrait être complétée et d'autres forêts primaires pourraient être incluses.
- 3.2 **Administration** Dans l'ensemble, la base juridique de la protection du site est suffisante. Une portion du site a reçu le statut de zone de nature sauvage et d'autres sont couvertes de manière appropriée par une Zone de protection spéciale de Parc national ainsi que par d'autres désignations de moindre niveau. Cette compartimentation verticale de la gestion de conservation aboutit à une diversité d'approches, mais elle est complexe et exige des efforts supplémentaires pour assurer la coordination entre les organismes. Plusieurs organismes ont des plans séparés pour certaines parties de l'aire mais il n'y a pas de plan de gestion global pour le site désigné lui-même.
- 3.3 **Gestion** Outre qu'il soit nécessaire d'adopter un plan d'aménagement, il n'y a pas de structure officielle en place pour gérer le site en tant qu'unité. La protection de l'aire incombe à différents organismes mais il est prévu officiellement de nommer un Comité de gestion dès que le site sera inscrit.

Autre point de gestion préoccupant: l'état du sentier principal traversant l'aire a besoin d'un entretien important si l'on veut éviter toute nouvelle érosion. On s'attend à ce que les impacts généraux du tourisme augmentent et le plan de gestion devrait envisager des mesures pour les réduire.

4. COMMENTAIRES ADDITIONNELS

Le site de Yakushima, avec ses anciennes forêts de Yakusugi, est considéré comme un lieu sacré au Japon. Le site bénéficie d'un large appui du public et du monde politique (organismes publics, Préfecture, maires de l'île et population). Cela laisse bien augurer de l'intégrité à long terme du site ce qui sera certainement renforcé par le statut de patrimoine mondial. L'excellent centre d'information des visiteurs qui a coûté 8 millions de dollars, près de Anboh, et qui a pour thème le cèdre est une bonne indication de cet appui.

5. EVALUATION

Dans un Japon habité depuis longtemps et densément peuplé, les zones naturelles se font rares. Les Parcs nationaux eux-mêmes sont soumis à des activités extractives et sont souvent très développés. La valeur de Yakushima, justifiant la désignation, ne se trouve pas tant dans son attrait touristique que dans ses caractéristiques esthétiques, biologiques et scientifiques. La présence d'un tel site sur une petite île est particulièrement importante car il comprend non seulement les hauts sommets de la zone centrale mais un saillant qui descend de 2000m jusqu'au littoral marin. En raison de ce phénomène et du fait que le site désigné contient le dernier et meilleur exemple d'écosystème dominé par le cèdre du Japon dans un paysage superbe, le site satisfait au critère naturel (iii).

De plus, Yakushima satisfait au critère (ii) car il contient un vestige unique de forêt ancienne tempérée chaude qui a fortement régressé dans toute la région. Ces forêts s'étendent sur une séquence altitudinale allant de forêts de feuillus le long de la côte à des prairies tempérées froides à bambous sur les pics centraux en passant par des forêts tempérées de conifères. Le site est très important pour les études scientifiques sur l'évolution historique, la biogéographie, la succession végétale, l'interaction entre les systèmes de plaine et d'altitude, l'hydrologie et les processus des écosystèmes tempérés chauds. Le site remplit aussi les conditions d'intégrité car ce critère est pleinement satisfait aux différentes zones biologiques.

Enfin, la question du critère (iv) se pose mais n'est pas aussi convaincante. Le site possède une flore diverse (il y a presque 4 fois autant d'espèces qu'à Shirakami) et l'endémisme est assez élevé. Il y a quatre sous-espèces endémiques de mammifères et quatre sous-espèces endémiques d'oiseaux mais aucune espèce considérée comme menacée dans les Red Data Books de l'UICN.

Aucune des préoccupations mentionnées dans le paragraphe sur l'intégrité ne justifie de différer la désignation mais le Comité souhaitera certainement suggérer une modification éventuelle des limites et encourager la préparation d'un plan d'aménagement comprenant un chapitre spécial sur les moyens de contrôler les effets du tourisme.

6. RECOMMANDATIONS

Le Comité devrait recommander l'inscription de Yakushima sur la Liste du Patrimoine mondial sur la base des critères (ii) et (iii). Il conviendrait de proposer aux autorités japonaises des améliorations des limites et un renforcement de la gestion du site, tout en mentionnant les préoccupations concernant les effets du tourisme. La préparation d'un plan d'aménagement devrait être encouragée. Le Comité peut aussi souhaiter demander que l'UICN et les autorités japonaises préparent un rapport de situation, dans trois ans.

