

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:

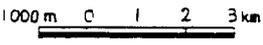
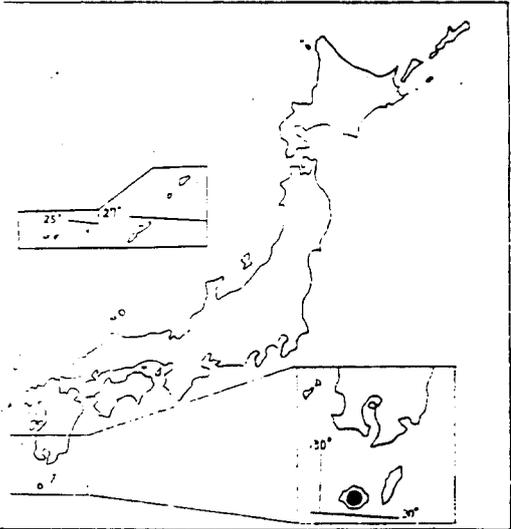
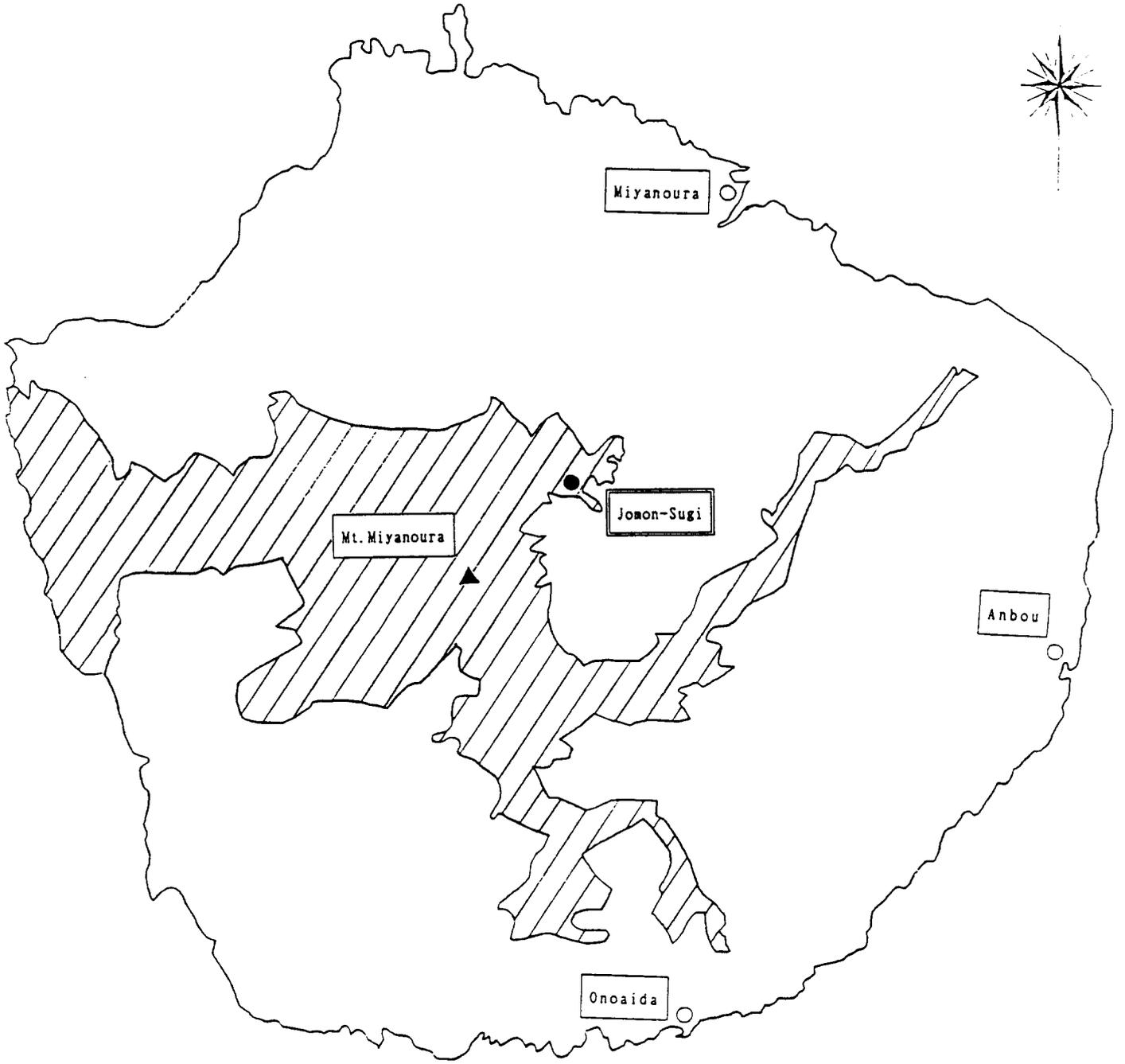
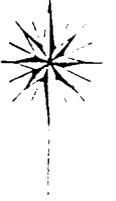
Natural property

- (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



WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

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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 *Crytomeria 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.

