

WORLD HERITAGE NOMINATION - IUCN SUMMARY

663: SHIRAKAMI (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 north of Honshu, on the border of Aomori and Akita Prefectures, 15 inland from the Sea of Japan. 10,139ha core zone plus 6800 ha buffer zone also included in the site.

2. JURIDICAL DATA

All, or parts of the recommended area are protected under various pieces of legislation. The entire nominated area is a Forest Ecosystem Reserve by Order of the Director General of Forestry Agency. Virtually all the nominated area is a Nature Conservation Area, under the Nature Conservation Law. The remaining northern strip is a Natural Park under the Natural Parks Law.

3. IDENTIFICATION

Situated in the mountains of northern Honshu, the area includes the last remaining virgin stand of Siebold's beech forest, the typical Japanese climax temperate forest. The nominated area covers about one third of the Shirakami mountains which are a heavily dissected range with summits rising to just over 1200 m. Species of interest including Japanese black bear, serow and 87 birds.

4. STATE OF PRESERVATION/CONSERVATION

The beech forest is virtually entirely undisturbed, the area is a wilderness with no access trails or man-made facilities. Occasional use by bear hunters occurs but other wildlife are fully protected. A 6800 ha buffer zone surrounds the property within which no extractive activities are allowed.

5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

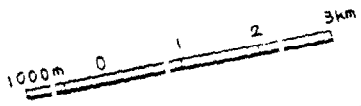
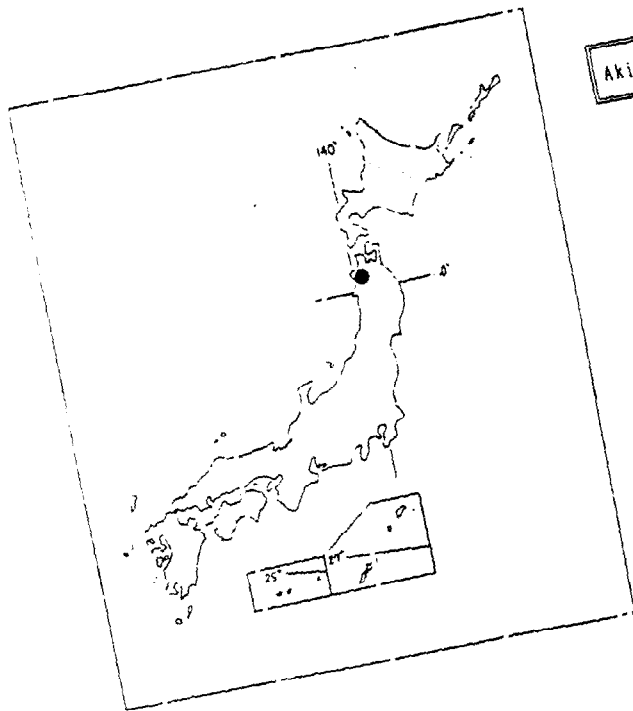
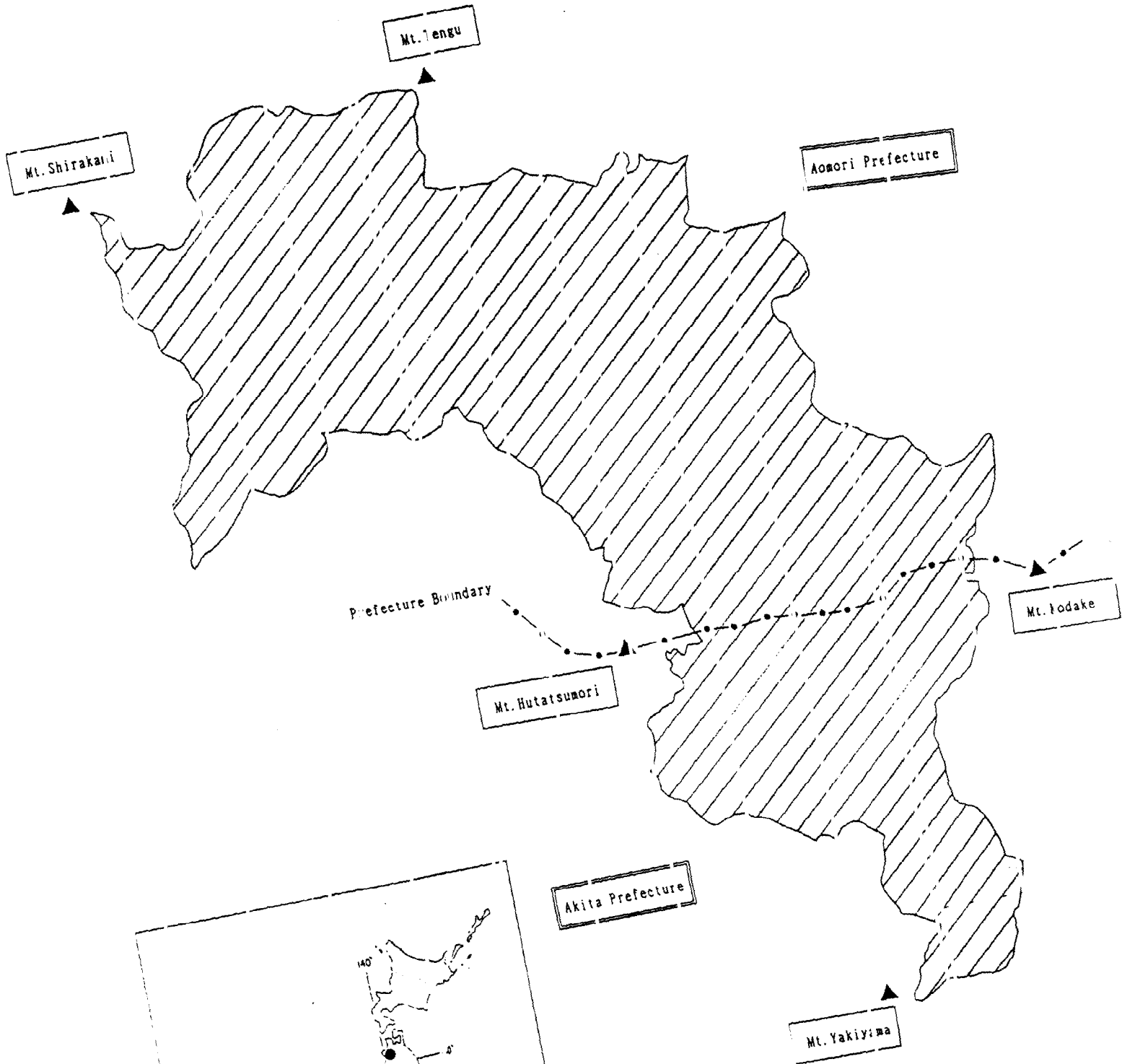
The nomination, as presented by the Government of Japan, provides the following justification for inclusion:

Natural property

- (ii) **Outstanding examples representing significant ongoing geological processes, and biological evolution.** Consists almost entirely of an outstanding example of a beech forest, typical of the region, which has survived for 8,000 to 12,000 years.
- (iii) **Contains unique, rare or superlative natural phenomena, formations or features of exceptional natural beauty.** The scenery and wilderness condition of the Shirakami area is wild and rare in eastern Asia.
- (iv) **The most important and significant habitats where threatened species of plants and animals still survive** Many endemic and endangered species occur within the nominated area.

Fig.

Shirakami-Sanchi Recommended Area



WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

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1. DOCUMENTATION

- i) IUCN/WCMC Data Sheet (1 reference)
- ii) Additional Literature Consulted: Makita, H. et.al. 1989. On the Nature of Land Forms and Plant Communities of the Oirase Valley in the Shirakami Mountains. Translated from the Science Reports of Hirosaki University; F. Kudo. 1993. The Shirakami Mountain Range. National Federation of UNESCO Association of Japan. 5.p.; Miyamoto, T. 1991. **Shirakami**; Stewart-Smith, J. 1981. **In the Shadow of Fujisan** Japan and its Wildlife. Viking. 208 p.
- iii) Consultations: 7 external reviewers, Japanese and Prefecture Government officials, local University scientists.
- iv) Field Visit: May, 1993. Jim Thorsell, Les Molloy

2. COMPARISON WITH OTHER AREAS

The Shirakami nomination is the largest virgin remnant of the cool-temperate beech forests that once covered the hills and mountain slopes of northern Japan. It is a monospecific canopy of Siebold's beech (*Fagus crenata*), one of Japan's two endemic beech trees (the other being Japanese Beech, *Fagus japonica*). This is in contrast to the other Japanese nomination (Yakushima) with its high level of biodiversity and ancient cedar forests. Both types of forest are very significant in the traditional Japanese view of nature.

The genus *Fagus* to which beech belongs has an evolutionary history that began in the Cenozoic era and radiated out from the northern hemisphere. Today the distribution of *Fagus* is discontinuous, and, as shown on the following map, consists of 11 species, 2 of which are endemic to Japan. World Heritage sites where other beech species occur are Huangshan in China and the Great Smokies in the United States but in neither of these are they the main feature of the nomination as they are in Shirakami.

Within Japan, *Fagus crenata* is found within a number of other protected areas including the Mount Hukusan Biosphere Reserve (18,000 core zone) and in Joshinetsu-Kogen National Park. The nearby Towada-Hachimantai National Park actually has a larger area of beech forest than Shirakami but it is segmented by highways and includes crowded tourist facilities. Shirakami comprises the largest remaining tract and the one in the most pristine condition. There are also eight other sites in China and Korea in the Oriental Deciduous Forest Biogeographical Province but none of these are *Fagus crenata* ecosystems as is Shirakami.

In conclusion, there is no other protected area in Japan that contains a large unmodified beech forest like that found in Shirakami. In a broader sense, Shirakami is similar to the Garajonay World Heritage site in Spain (1986) which is of similar size and has similar numbers of species. The **rationale** for Garajonay was that it was the last, best remnant of a vegetation assemblage from the region that has since disappeared, leaving it as a "fossil-forest" remnant (for reasons of climatic change). Using similar logic, Shirakami is the last, best relict of the beech forests that once covered northern Japan and 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.)

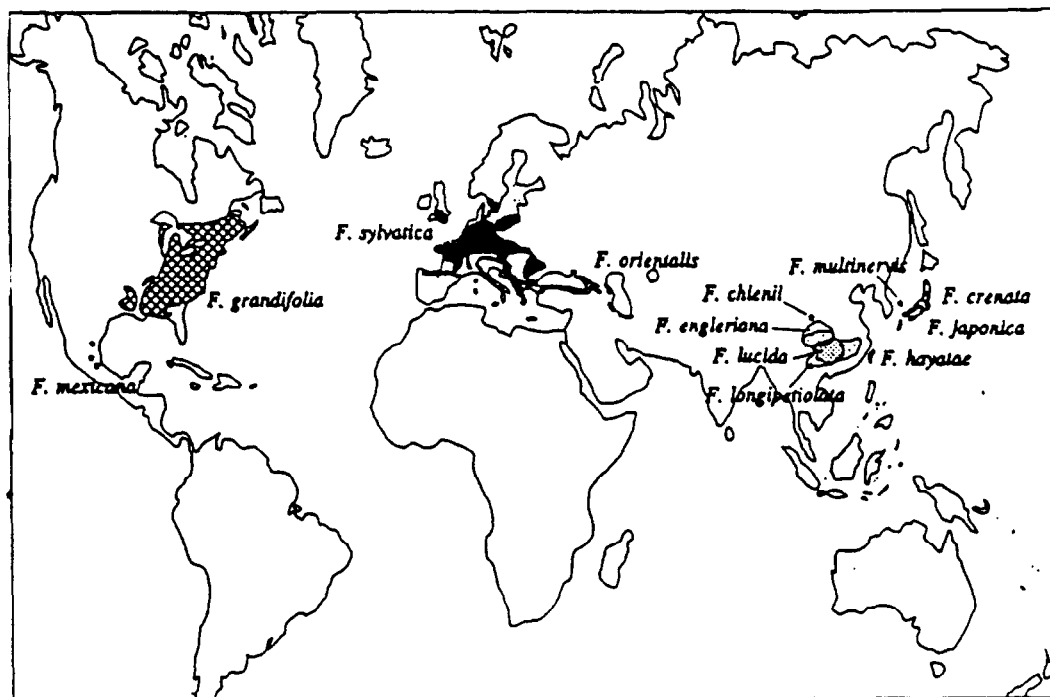


Figure 1.1

Ranges of the *Fagus* species.

Sources: *Fagus grandifolia* & *Fagus mexicana* (Little, 1971); *Fagus sylvatica* (Meusel et al., 1965); *Fagus orientalis* (Browicz & Zielinski, 1982); *Fagus lucida*, *Fagus longipetiolata* & *Fagus engleriana* (Tsien et al., 1975); *Fagus hayatae* (Zheng et al., 1985; Hsieh, 1989); *Fagus chlenii* (Zheng et al., 1985); *Fagus multinervis* (Kim, 1988); *Fagus crenata* & *Fagus japonica* (Umehara et al., 1985).

3. INTEGRITY

Three concerns over integrity issues are:

- 3.1 **Size of Property.** The Shirakami mountain range is some 450 km² in size. Much of this is a patchwork of logged over areas, plantations, agricultural land and settlement. The pristine 100 km² of this total is included in the nomination but another 68 km² which is also undisturbed has been left out and designated as a buffer zone. Inasmuch as the nomination seeks to preserve a beech ecosystem, it is suggested that the buffer zone be incorporated in the nomination and a new buffer zone be delimited around an enlarged central core (consisting of the existing Prefectural natural parks and other semi-protected areas). This would then result in a much more viable site with a size of some 170 km². In suggesting this extension it is recognized that a wider range of forest recreation activities would be provided in the outer limits of the property.
- 3.2 **Legal Basis.** The nominated area is overlaid with legislation from three different government agencies in Japan. Although this vertical compartmentalisation of conservation management provides a diversity of approaches, it also is complex and requires extra effort to ensure coordination among the agencies. All of the nominated area is given protection but would still allow the Directors of both the Environment and Forestry Agencies to permit

various types of uses. The means in force are not the strongest legal mechanisms for protection in Japan (the Wilderness Area category is) and there is some logic to upgrade the protection of the site in accordance with its conservation importance. IUCN thus considers the legal basis adequate for this point in time but would encourage stronger protection be considered in future.

- 3.3. **Management.** Management of the Shirakami for conservation purposes began only in 1990 after a decision to disallow construction of an access road through the area. The Nature Conservation Law itself came into effect only in 1992. Although the preparation of a management plan has commenced, there is still no formal structure in place to manage the site as a unit. Eventually a Director of the site with his own staff and budget will be appointed but, in the meantime, the responsibility for protecting the area is shared among the different agencies (primarily Forestry). As the site has no road or trail access and thus few visitors, such an arrangement is sufficient for now. But as the area becomes better known and as a trail system is in place there will be a need for a more practical operational presence. IUCN is assuming that the core area will be managed exclusively as a "wilderness" with only non-mechanized access allowed. The management plan is awaited to confirm this understanding.

A specific management issue of some concern is the status of the Japanese black bear in the site and the effect that hunting pressures are having on these species both within and in the migration areas outside the site. Further information has been requested from the Japanese authorities on this topic.

A second issue to be addressed in the management plan will be the policies to be used to ensure that local traditional harvesting of plant products in the area is sustainable. The collection of forest products is subject to regulation but how these will be applied in the Shirakami is not known.

4. ADDITIONAL COMMENTS

The Shirakami area has been given high public profile over the past decade as a result of the campaign to oppose a controversial road construction project and is now seen as a symbol of a conservation success in Japan. There is also widespread public and political support for the site from the Government agencies, the Prefectures, the surrounding village mayors and local people. This goodwill bodes well for the long term integrity of the site and will certainly be reinforced by World Heritage status.

5. EVALUATION

Wild areas in densely-populated and long-inhabited Japan are rare occurrences. Even the national parks of Japan are subject to extractive uses and are often extensively developed. Shirakami's values are not its scenic and touristic appeal but are concerned with biological and scientific features. In a sense it has **become** valuable as other such areas have been almost totally converted by man.

Although the nominated beech forests of Shirakami are not unique in Japan (there are many other stands in the country), the extent of its pristine forest without extrinsic developments does set it apart. Furthermore, the area is not fragmented; its circumference to area ratio is low; its shape is oval and it is surrounded by a succession of buffering areas. All of these contribute to good protected area design (with the exception of extending the site to incorporate the buffer as discussed in section 3.1).

From a global perspective Shirakami is one of a number of remnant ancient forest blocks, in this case a monodominant Japanese beech forest. The ecosystem of which beech is the major species does, however, include other components such as bamboo, black woodpecker, serow and black

bear among many others, all interacting in a functional whole. The site is thus very important for studies on terrestrial cool-temperate ecology, particularly on eurasian beech forest ecosystem processes, and the monitoring of this particular biological community. It thus meets natural criterion (ii). It does not meet criterion (iv) as, in terms of species diversity, such forests are depauperate and there are no species endemic to the site.

As outlined in the above section on Integrity, however, there are three issues that require further attention before the nomination can be considered complete:

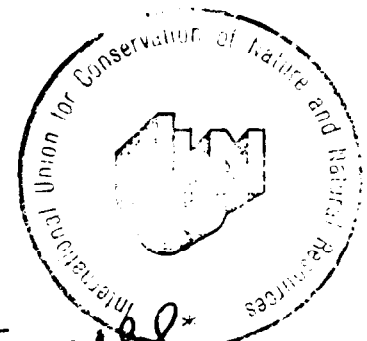
- information on the prospects of extending the site to include buffer zone;
- consideration of the potential to upgrade the legal status of the site; and
- demonstration within a management plan of the cooperative mechanisms to be put in place and the operational measures to be undertaken to actively manage the site.

Subsequent to receiving the recommendations from the Bureau the Japanese authorities have indicated that

- they agree that the former buffer zone should be included in the nomination and the size of the site now would be 170 km².
- the Environment Agency will add another level of protection and designate the site as a Wildlife Protection Area.
- the management plan with a clear outline of management structure will be completed early in 1994.

6. RECOMMENDATIONS

As Shirakami meets natural criterion (ii), it merits inscription on the World Heritage List. But, in light of the three concerns on integrity, the Bureau decided to **refer** the nomination back to Japan in accordance with procedures set out in Paragraph 55 of the Operational Guidelines. IUCN is now satisfied with the response as outlined above and recommends the site for inscription by the Committee. A follow-up progress report in three years time to be undertaken by IUCN in cooperation with the Japanese authorities, however, should be scheduled.



J. Thorsell*