Odaigahara

Designation:
Yoshino-Kumano National Park
Location:
Kamikitayama and other villages, Yoshino-gun, Nara Prefecture
Year Initiated: 2002

Evaluation Committee for Odaigahara Nature Restoration Promotion Plan

The Committee is working on planning for restoration of the forest ecosystem that has extensively damaged due to multiple disturbances, such as typhoon windthrow, sika deer bark stripping, and increased visitors.

Goal **Preserve the existing forest ecosystem and restore the historical one that supported the healthy growth of young trees through natural regeneration before the 1960s**

Daija-gura rock

Spruce forest in Higashi-odai Subalpine coniferous forest, dominated by two rare species of Kinki District, the spruce and Nikko fir (*Abies homolepis*), and cool temperate deciduous forest, dominated by the oak, remain together in one large area.

The Odaigahara Forest features a plateau-like terrain that undulates with gentle slopes between elevations of 1,300 and 1,700 m. With the annual precipitation reaching 4,800 mm, it is one of the highest rainfall areas in Japan. Odaigahara is largely separated into two regions based on vegetation. In the Higashi-odai area, the dominant vegetation is subalpine coniferous forest, in which spruce (*Picea jezoensis var. hondoensis*) occurs close to its southern limit, whereas cool-temperate deciduous forest of the Japanese beech (*Fagus crenata*) and oak (*Quercus mongolica var. crispula*) in the Nishi-odai area. At the west of Odaigahara, continuous forests stretch to the Omine Mountain Range, exhibiting forest types similar to Odaigahara according to elevation.

The forest vegetation in Odaigahara, however, has experienced the combination of human and natural disturbances - a large number of trees fallen by typhoons were carried away in the 1960s, resulting in desiccation of the forest floors and expansion of bamboo fields (*Sasa nipponica*); human access to the forests has increased after roadway opening; and bark stripping by sika deer (*Cervus nippon*) has become serious. Consequently, the Odaigahara Forest has been deteriorated with progressive simplification of stand structure. Therefore, the recovery of connectivity with adjacent forests and restoration of the forest ecosystems are in progress.

Bark stripping by sika deer.

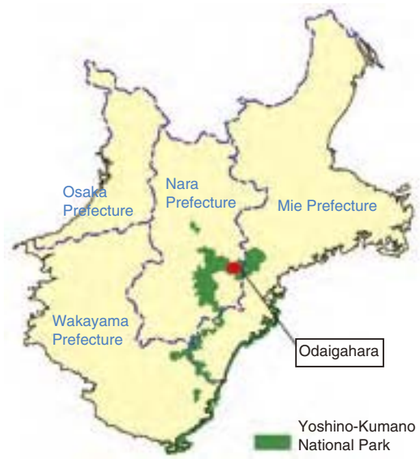
Increased public use by highway opening is one cause impacting the forest environment.

Related Web Sites
Odaigahara Nature Restoration Project:
http://kinki.env.go.jp/nature/odaigahara/odai_shizensaisei_mezasite.htm

Approaches

- Assist young stand development with appropriate techniques for the forest type →①②③
- Help the recovery of healthy sika deer populations
- Improve the quantity and quality of park use

Restoration of the Odaigahara forest ecosystem needs to address the changes in their surrounding environments, the connectivity with the surroundings, and improvement of the quantity and quality of park use. Preliminary efforts are underway, including feasibility testing on reducing bark-stripping damage and enhancing young stand development, and studies regard to a comprehensive park use management such as promotion of mass transit use.



Odaigahara Nature Restoration Promotion Plan

Approaches to preservation and restoration of forest ecosystems - specific techniques based on site resiliency

Site Resiliency	High	Medium	Low
Approaches	Preservation	Preservation + Restoration	More Active Restoration
Specific techniques under feasibility testing	Deer exclosure fencing	Deer exclosure fencing Bamboo-grass mowing Ground plowing	Deer exclosure fencing Bamboo-grass mowing Ground plowing Surface soil excavation Seeding

① Feasibility testing for forest ecosystem preservation and restoration

The effectiveness in stimulating young stand development is being tested. Various techniques, from fencing for deer exclosure; blocking strong sunlight by shade nets; mowing bamboo grass cover; plowing ground, to combinations of these were chosen based on the ability of natural recovery (site resilience) that were evaluated in consideration of forest cover type.

An experimental site for bamboo grass mowing.

Collecting data on environmental conditions and seed production.

② Fencing for deer exclosure

A larger area surrounding the area of high density population was entirely fenced to eliminate the impact of sika deer on the forest vegetation.

An exclosure fence

③ Wrapping individual trees with wire nets

In areas of urgent forest conservation, protection of individual trees from bark stripping has been implemented by wrapping them with wire nets.

Wrapping with a wire net