AULANKO PARK FOREST

The Finnish Forest Research Institute
Unioninkatu 40 A
SF-00170 Helsinki 17

Phone (90) 661 401

Telex 125 181 hyfor sf
attn. metla/

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Photo: Erkki Oksanen

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Text: Reino Saarnio
Photos: Erkki Oksanen
Tuomas Heiramo

Helsingin Liikekirjapaino Oy
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To the visitor

The Finnish Forest Research Institute welcomes you on an excursion to the rich nature and extraordinary sights of Aulanko Park Forest.

The Aulanko area is in many ways an excellent object for conservation. Extending across the ridge between Lake Aulanko and Lake Vanajavesi, it occupies a beautiful location displaying great scenic variety. It has easy access, lies close to the Aulanko Tourist Centre and within easy reach of many places of historical interest. Finally, the overall beauty of the region is another factor which greatly adds to its attraction.

However, the beauty and the appeal of the area, its very future in fact, are largely in the hands of the visitors. A respectful attitude to nature and an understanding of its susceptibility are essential for the continued development of the park. The future of Aulanko can only be secured through successful co-operation between the visitors and the Forest Research Institute. The closer the protection regulations are observed and the cleaner the area is kept, the better it serves its purpose.

View from the lookout platform over Lake Aulanko.

The history of the Park Forest

Aulanko Park Forest was established by a decree issued on July 4, 1930 by the Governor of the province of Häme. There were a number of reasons for this measure.

A stronghold stood atop Aulanko Hill, which is the highest point in the area, rising 150 m above sea level and 70 m above Lake Aulanko, already before the introduction of Christianity to Finland. The hilltop was an ideal place for a fortification, since its abrupt slopes on three sides made it easier to defend. The stronghold was probably destroyed about 1250 when the Swedes, upon invading Finland, set about building the castle of Häme, whose austere shape still today towers above Hämeenlinna.

The history of Lusikkaniemi, the spoon-shaped point in Lake Aulanko, remains hidden in the mists of the past. Its original name, translatable as Demon's Point, suggests that the boulders on the crest of the point were once used in sacrificial ceremonies.

Considerable changes to the original scenery were made during 1883—1910, when Colonel Hugo Standertskjöld (1844-1931), owner of Karlberg Manor, carried out an ambitious programme of construction work. Known as the creator of Aulanko, Standertskjöld was born in Vanantaa Manor in the county of Janakkala. After living abroad for a couple of decades and making a huge fortune in arms manufacture in Russia, he returned to Finland and invested some of his money in buying Karlberg Manor in 1883.

Restoring and landscaping the manor house and its grounds after Central European models took up most of the Colonel's attention. At best he had 150 horsemen and more than one hundred other workmen in his employ. Rocks were quarried, the two ponds, Swan Pond and Wood Pond, were dug. These ponds, covering a total of 4.2 hectares, involved the excavation of more than 100 000 cubic metres of earth, which was moved to other parts of the park. 14 kilometres of new road were constructed, and a massive 33 metres high lookout tower was erected on the site of the ancient stronghold. Further building work included several summerhouses, pavilions, lookout platforms and a special ruined fortress.

The original landscape was also altered by planting various conifers and hardwoods, and a large variety of shrubs and flowers all over Aulanko Hill. Of the trees planted in the Colonel's days, we can still find conifers such as larch, Siberian fir and cembra pine, and hardwoods such as linden, maple and elm.

Hugo Robert Standertskjöld, creator of Aulanko. *Museovirasto*

The park became the location of the first zoo in Finland at the turn of the century. In addition to native fauna, it also included deer, goats, peacocks and pheasants. The zoo was, however, soon closed, the main reason being that the animals suffered from all sorts of man-made mischief. Even some instances of poaching were recorded. The only animals kept today are the waterfowl on the ponds: swans and several imported species.

The first ideas of conserving Aulanko Hill and its surroundings came up at about the same time. The plans were put into effect in 1930. The establishment of a conservation area under the control of the nature conservation authorities had the double aim of protecting the achievements of Colonel Standertskjöld and of preserving, under strict expert surveillance, a piece of Häme's beautiful nature for future generations.

The agreement between the Forest Research Institute and the city of Hämeenlinna was ratified by the Ministry of Agriculture and Forestry on February 22, 1935. The State undertook to provide an annual appropriation towards maintenance and administration expenses. The Ministry also decided to entrust the control and maintenance of the area to a two-member management board. The members were appointed by the Forest Research Institute and the city of Hämeenlinna. The board took swift action along the lines laid down in a special management plan. A rich variety of exotic tree species were planted in stands or small groups to enrich and diversify the park. Furthermore, there was a welcome increase in many broad-leaved species that have only a limited distribution in Finland. Today all the broad-leaved species growing in Finland are represented in the Park Forest.

Among those who have taken a special interest in Aulanko Park Forest since the days of Colonel Standertskjöld, treasuring and carrying on the lifework of that great lover of nature, two names deserve special mention: in the 1930's, professor Olli Heikinheimo, director of the Forest Research Institute at the time, and more recently professor Sakari Saarnijoki.

In 1963, Aulanko Park Forest was transferred to the State and placed under the administration of the Finnish Forest Research Institute.

The renovated office of the Finnish Forest Research Institute.

The Park Forest today

The landscape meeting the eye of the visitor in the park today is much different from that seen at the beginning of the century. The general impression of a well-kept park is gone; instead, we now see imposing forest and firmly established vegetation. Decades of ruthless natural selection have either killed or severely injured some of the more delicate trees and shrubs, poorly adapted to Finnish climate. The rapid increase in motoring has necessitated an improved road network. Since 1970, motorists have been able to drive in comfort along a surfaced circular road. The footpaths have been repaired as well. The annual number of visitors has grown steadily; recent estimates go up to a quarter of a million.

The rights of the public are limited in the Park Forest by the Nature Conservation Act, which prohibits any action that may damage or injure nature. However, the Aulanko area differs from strict nature reserves and national parks in that visitors are allowed to move about more freely. Also, the staff of the park have more scope in practising landscape management and in enhancing the park as a pleasant and peaceful place for all forms of outdoor recreation.

Excursion trail

Brief descriptions of the most interesting and historically most important points and sites are given in the following. The numbers refer to points marked on the enclosed map. Point 1 is at the beginning of the one-way circular road.

Point 1. Guideboards. The coloured, four-language guideboards list the restrictions imposed on visitors in the Nature Conservation Act, and point out the most interesting and historically most important objects.

Point 2. A spruce-dominant stand of large trees on both sides of the road. The stand originated through natural seeding some 140 years ago. In terms of wood production the stand is over-mature, but it has great scenic value and an almost primeval atmosphere. On the other hand, some signs of deterioration can already be seen. Dozens of decayed or dried-up trees have to be removed each year. Measures should be carried out in the near future to encourage natural regeneration.

In southern Finland, Norway spruce usually flowers in May. The seeds mature during the same growing season and are shed either in autumn or early the following spring. Spruce seldom has very good flower years, perhaps once in every 12-13 years.

Spruce can grow taller than any other European tree. The average height of the largest trees in this stand, the so-called dominant height, is 33 m. The volume of wood in the stand is about 650 cu.m./ha.

Spruce is used for lumber and pulpwood.

Point 3. A spruce with a witches'-broom. Witches'-broom is a genetic disturbance resulting in an abnormally dense growth of the branches. The branches in a witches'-broom are short and excessively ramified. A witches'-broom can develop at the top of a tree or in different parts of the crown. It is interesting that seeds collected from the cones in a witches'-broom produce offspring similar to the broom itself.

Norway spruce has many other varieties of shape as well. Some of these are known by the names "snake spruce" and "umbrella-topped" spruce.

Five distinct types of spruce can be distinguished on the basis of differences in the growth habit of the branches. The names given to these types refer to their external appearance: combs, brushes, brooms, ribbons etc. Irregularities in the structure of the stem, such as knots and swellings, have given rise to the name "gnarled spruce". In the spring or early summer a keen observer may spot a spruce with young shoots of abnormal colour. These colour varieties are known as "gold spruce" or "purple spruce".

Point 4. A relatively large and uniform stand of rowans on both sides of the road. Rowan has a very wide distribution and is one of the most common tree species in Finland. Still, you seldom come across a pure rowan stand in Finland; they usually grow singly, or in small groups. This particular stand originated through natural seeding and has been maintained as a rowan stand by repeated removals of competing faster-growing species and hold-overs.

The stand of rowans at point 4.

Rowan usually blooms in Finland around the 10th of June and produces abundant flowers every two years or so. Its white floral splendour is followed in the autumn by a plentitude of red berries, which attracts waxwings and other birds to a delicious autumn meal. Man, too, has learned to use rowanberries. The sweetest berries make tasty jam, and can be used for wine and liqueurs as well.

At its best, rowan reaches the height of 15 metres. The largest trees in this stand are 10 metres tall, and the cubic volume 43 cu.m./ha.

Rowan wood is hard and flexible and makes very fine plywood. Up to a few decades ago it was much used in cottage industries for the manufacture of household utensils. It was so highly valued that there is even a proverb in its praise.

The Rose Valley Pavilion.

Point 5. Rose Valley. The name derives from Colonel Standertskjöld's plans to establish a large rose plantation in the area. Despite many good attempts the plans never came out quite as intended. The site is still predominantly parklike in character. Sparsely stocked with large broad-leaved trees, the site receives plenty of sunlight and has a diverse and luxuriant ground vegetation.

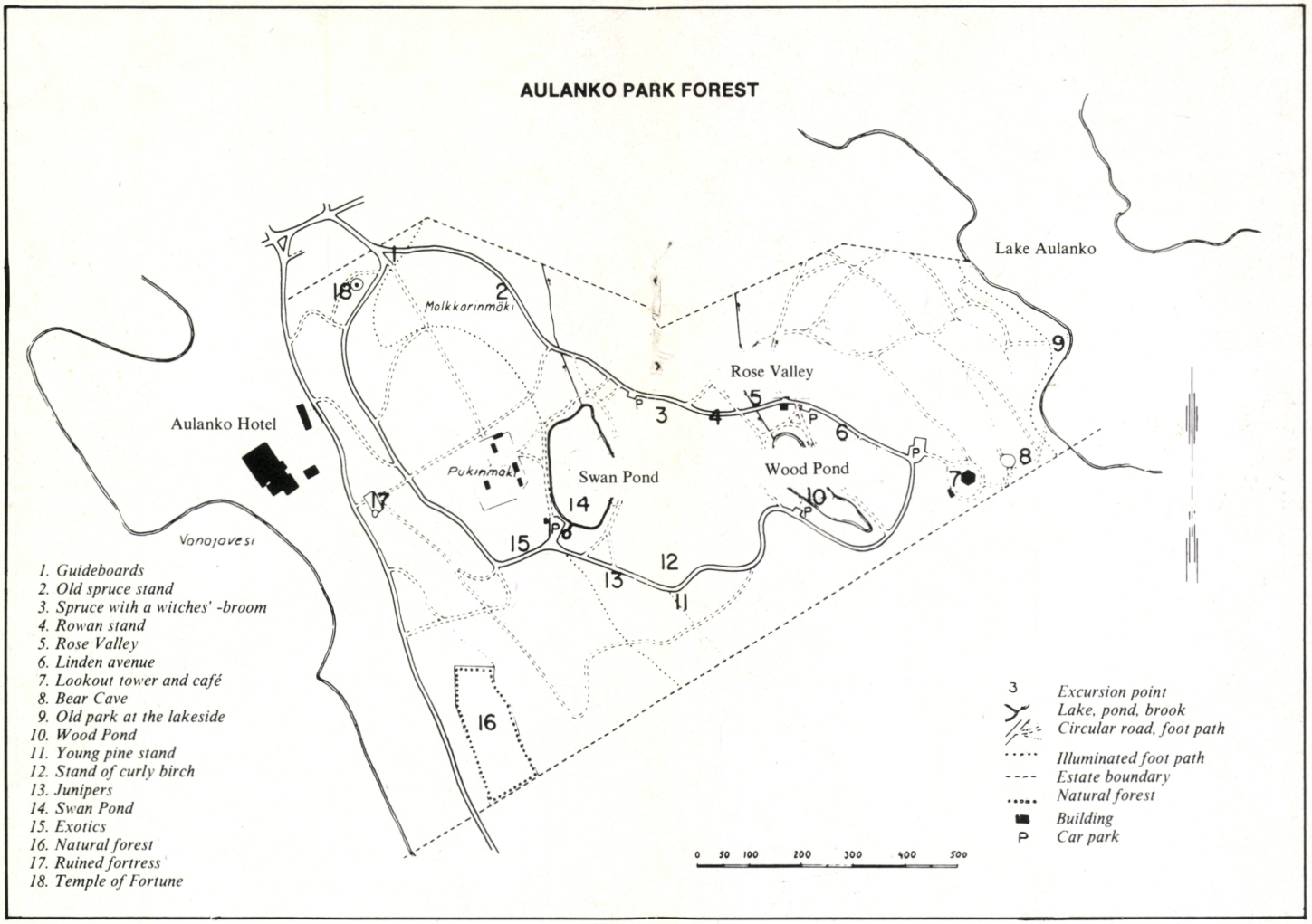
Foreign species, including yews and two kinds of thuja, and various shrubs were planted along the ditch running from Wood Pond in the late thirties. Some of the hardwoods and larches planted in the Colonel's days are still standing. A tall larch, with a height of 30.5 metres, diameter at breast-height of 75 cm and a volume of 3.6 cu.m., is growing next to the path in the strip between the road and Wood Pond.

The Rose Valley Pavilion is located alongside the road. Of all the wooden summerhouses and pavilions erected by the Colonel, this is the only one still remaining.

Point 6. Linden avenue. Several alleys lined by lindens or larches were established in the Colonel's days. Many of them have been destroyed over the years as a result of being overgrown by faster-growing species. One of the best preserved alleys is this stretch of

road bordered by rows of lindens. Linden has always been one of the most popular ornamentals in parks and on boulevards. Its rich, deep green foliage and good resistance to pollution have made it a popular choice for built-up areas. However, the linden stock in our forests has been decreasing throughout the present century. Its natural growing sites have been turned into fields or it has been used for firewood, as it has little economic value. Linden bark was earlier used in the manufacture of bast. The wood makes very good matches.

The linden avenue.



Point 7. The top of Aulanko Hill. The highest point of the park is crowned by a massive, greyish tower built of stone. The lookout tower was one of the last major projects that the Colonel undertook before selling the Manor. The tower was designed by Waldemar Aspelin. Construction was begun in 1906, and concluded the following year. The tower is 33 metres high. The platform at the foot of the tower was built at the same time. Below the platform, the more curious visitor will find a fresco with a hunting motif by the artist Lennart Segerstråle.

Aulanko Hill commands a fascinating view. You feel an urge to stop for a moment to rest and enjoy the Finnish scenery of forests and lakes. Down at the foot of the steep hill lies Lake Aulanko with the earlier mentioned point, Lusikkaniemi, jutting into it.

The café on the hilltop was originally only a tiny shack, where the park warden lived.

Point 8. Take 322 steps down the stone stairs from the lookout platform and you'll arrive at the Bear Cave. If you don't like the stairs, you can get to the statue of a bear family by walking along the footpath curving around the hill. The statue was carved out of stone by Robert Stigell.

From the Bear Cave it is easy to see how abruptly the hill ascends towards the tower. Over the direction of the lake there is a small stand of birch, mainly silver birch. Finland has three native birch species: silver birch, pubescent birch and the shrub-like dwarf birch. Silver birch usually grows bigger than pubescent birch and is thus of more value to forestry. In addition to the above, a subspecies of pubescent birch, mountain birch, is found over wide areas in northern Finland. Both major birch species are beautiful trees and fit perfectly into the Finnish scenery, lending light and gaiety to a landscape often too monotonous. In southern Finland, birch flowers towards the end of May and starts shedding seed the following July. There are also some varieties with lobate leaves; a few such individuals have been planted in the Park Forest. Also, there is a highly unusual variety, the so-called curly-grained birch, which is economically very valuable. See point 12.

The Bear Cave.

Point 9. This area was one of the numerous parks of old Aulanko. The stone stairs leading down to the shore, where there used to be a boathouse, are still there. Siberian fir and larch are notable examples of the foreign species growing on this site.

Point 10. Wood Pond, an artificial pond, which is the summer feeding ground of tame swans and wild ducks and gulls. There are a number of foreign tree species, e.g. Siberian fir, cembra pine and larch, growing close to the path around the pond. These three are the exotics that have been cultivated for the longest time and with best success in Finland. Siberian fir and cembra pine have mostly been cultivated for decoration and landscaping, while larch, especially Siberian larch, also is of direct economic importance to forestry. Some of the larches in the area are hybrids, which are typically very fast-growing. In the best cases, such hybrids grow faster than either of the parent trees.

Unusually shaped varieties of the native spruce, called "weeping spruce", are to be found at three different spots in the Wood Pond area. This variety is characterized by pendulous branches drooping close to the stem. At the eastern end of the pond you'll find a few specimens of a peculiar variety, which look like needle balls that have cropped up out of the ground. The broad-leaved species in this area include a.o. large-leaved elm, Siberian crab apple and several shrubs. A tall juniper is growing next to the road.

The Wood Pond.

Point 11. On the left, soon after a sharp bend in the road, is a fairly extensive stand of young Scots pine, which was established by artificial regeneration. The area was planted in 1948 with 4-year-old, once transplanted seedlings. The seedlings were planted very densely with no regular spacing. The seed was collected from elite pines in Vilppula. The stand has been treated with two light thinnings.

Scots pine flowers in Finland during the second week of June. By the end of the first summer the pine cone is about the size of a pea, and reaches full size during the second summer. The seed ripens in the autumn and is shed early the following spring.

Like spruce, pine has several races and different varieties, though they are not as common as those of spruce. The reddish brown heartwood shows up clearly against the pale yellow sapwood. Pine is used for sawtimber, poles, railway sleepers, pit props and pulpwood. It is used in plywood manufacturing as well. Products of chemical wood processing, such as pine soap and turpentine, are well known. Earlier, pine was much used in Finland for making tar.

Point 12. Curly-grained birches. This stand was established in 1939 by planting 4-year-old, once transplanted seedlings of the Aulanko origin. The stand has been thinned several times by removing normal birches and poorly shaped curly-grained birches.

Formation of curly grain is most often associated with silver birch, less commonly with pubescent birch. Similar grain figures have occasionally been observed in other tree species as well, but these occurrences are quite rare in comparison with the birch.

Curly birch has a small natural distribution area. It grows singly or in small groups mainly in the south of Finland. It is especially common in southern Häme, and the Aulanko area too has a fair stock of wild curly birch. The major areas where it occurs outside Finland are across the border in the Soviet Union.

Curly-grained wood results from abnormalities in the functioning of the cambium cells. It is a genetic disease symptomized by the brown colour of the grain cells and highly irregular grain figures. The most important external characteristics are usually clearly visible on the stem: knobs and grooves of different shape and size, and ring-shaped abnormalities. Other external symptoms are slow growth and strong ramification. A bushy growth form is very common. Curly-grained wood is very decorative, strong and resilient. It is much used for the manufacture of knife handles, different ornaments, and sometimes even furniture. Curly-grained wood is rare and valuable; it is the only domestic timber that is priced according to weight.

Point 13. A group of junipers at the side of the road. Spread throughout the northern hemisphere, juniper has a wider distribution than any other conifer. It is found in a wide variety of shapes, the most decorative being the cypress-like columnar shape.

Juniper flowers early in the spring. The berries do not ripen until the third summer after flowering. The berries are said to be somewhat poisonous, but this has not prevented people from using them as a cure for kidney complaints and even as a flavouring in spirits.

Juniper grows rapidly at first, but the growth rate soon slows down. In spite of its slow growth, juniper occasionally reaches a very old age, and the tallest individuals in Finland exceed 10 metres in height.

The wood is beautiful and fragrant, fine-grained, flexible and resistant to rot. There is no resin in it. In the old days juniper wood was much used for plates, cups and other dishes.

Point 14. Swan Pond, the larger of the two artificial ponds excavated in the Colonel's days, has been the focal point of the Park Forest for decades, and still is. This parklike milieu is where the human hand has most radically altered the original landscape of the park. The parklike quality is, however, gradually disappearing, as some of the more uncommon and exotic plants and trees die.

In summer, most of the mute swans, geese and ducks in the park are to be found swimming on the pond. Autumn brings great flocks of ducks and gulls to eat the last little autumn delicacies. Several foreign tree species grow in the neighbourhood, e.g. Siberian fir, cembra pine, larch and Douglas fir. Of the native species, common alder is found at the southern and aspen at the eastern end of the pond.

Common alder, the more valuable of the two alder species native to Finland, grows along the shores of the Baltic, beside lakes and brooks and in some spruce swamps. It requires plenty of water and thus only thrives on permanently moist sites. Common alder flowers early in the spring, in southern Finland around mid-April. The seeds are usually shed the following autumn. They normally germinate very poorly, the species mainly regenerates by means of its strong suckering capacity.

The wood has a beautiful colour and resembles mahogany. Thus it is of importance to furniture industry.

The aspen stand at the eastern end of the pond originated from root suckers, which is how aspen typically regenerates, as its regeneration from seedlings is very poor. Pure aspen stands are seldom encountered in Finland. This is because aspen does not compete well - other species easily take over the site, leaving only a few aspens scattered here and there. Still, aspen has a place in the Finnish landscape. Older individuals especially, with their cheerfully quivering leaves, are an attractive addition to any view. Many mammals and birds live in hollow aspen trunks, and the trunks and foliages also support an abundant insect life. Animals such as moose, hares, beavers and voles find aspen bark very delicious.

Aspen wood is almost white, easily workable and resilient. Present supplies do not meet the needs of the woodworking industry. Aspen is the main raw material for making matches, but it can also be processed for plywood, woodwool and high quality paper. And Finns are familiar with a further application. Sauna benches are often made of aspen.

Point 15. Small stands or groups of various exotics were planted in this area in 1938. The exotics have only ornamental value, as they fall far below the native species as regards growth. What is the purpose, then, of cultivating foreign species? Apart from adding variety to the landscape, they are undoubtedly valuable for training and research purposes and for tree breeding. To be sure, a couple of exotics are important for forestry as well. One is larch, which on best sites may yield as much timber as the native conifers, and is very resistant to decay. This makes it ideal for foundation and underwater structures. In earlier days it was also used for shipbuilding.

One of the exotics on this site, Serbian spruce, is native to the Balkan Mountains. Before the Ice Age it grew throughout Europe, but the encroaching ice forced it all the way to the Balkans. It now grows there in small separate stands over an area of some 250 ha. Since its discovery, it has been extensively cultivated in all parts of Europe. It is not only an excellent ornamental, with a narrow crown often reaching to the ground, but has also proved very resistant to various forms of pollution.

Point 16. A natural forest. The forest here has been preserved in a completely natural state, i.e. no logging is done, and no dead standing or fallen trees are removed. Similar areas are found in strict nature reserves and national parks.

The area provides us with an excellent opportunity to compare untended natural forest with the managed amenity forest found elsewhere in the park.

Point 17. The ruined fortress. One of the first structures built by the Colonel. Contrary to popular belief, the fortress was never actually used for defense, even though it is in many ways similar to medieval Finnish fortresses. In fact, the fortress was built for completely peaceful purposes, the tower commanding a breath-taking view over the Manor and Lake Vanajavesi. The only martial element was a small cannon that fired salutes in honour of approaching guests and to let the townspeople know that Karlberg was having a ball.

Today the fortress acts as the stage for Aulanko Children's Theatre. Performances have been given ever since 1960.

The southern tower of the ruined fortress.

Point 18. The Temple of Fortune. A round building built on a heap of stone, whose function is not fully known. The Temple and a piece of open ground close by provided the setting for many festivities. Each summer the Colonel invited his tenants to a grand summer party, which was arranged on a workday, attendance being obligatory. Full wages were paid on the festival day.

Originally, the Temple was fitted out with hand-painted, coloured window panes. These were, however, broken soon after being installed. But the Temple itself still stands as a memorial to Colonel Hugo Standerstkjöld, a philanthropist and a lover of nature.

The Temple of Fortune.

Forest Research at Aulanko

Aulanko Park Forest is not only a remarkable tourist spot, but also one of the research forests of the Finnish Forest Research Institute. In total, the Institute has more than 150 000 ha. of research forests. Their locations are shown on the map on the inside of the back cover.

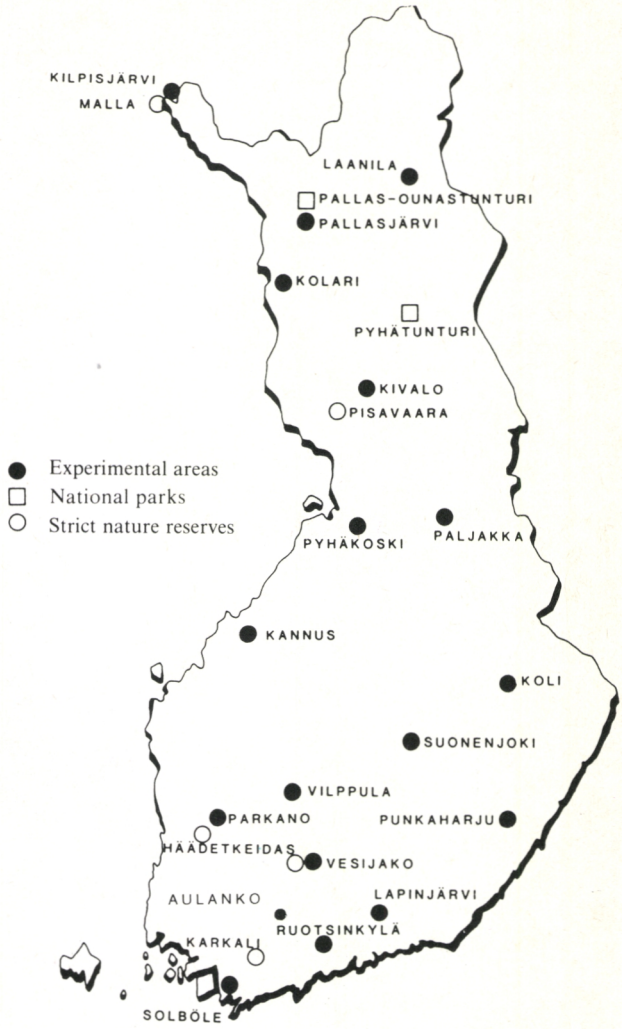
Forest research in Aulanko focuses on the seed crops of spruce, pine and rowan. Special collecting funnels have been set up in the forest for this purpose. Researchers have also selected a number of sample trees and made observations on their flowering and seed crops.

Other valuable research material in Aulanko includes mature plantations of exotics, stands of curly birch and special varieties of spruce. Forest tree breeders are conducting a progeny test on silver birch, and yield researchers have investigated forest growth and yield on permanent sample plots.

Aulanko is also used for research. The topics include seed crops of forest trees and multiple use of forests.

The Finnish Forest Research Institute

The Finnish Forest Research Institute, founded in 1917, is a State owned research organisation, which is subordinated to the Ministry of Agriculture and Forestry. Its main task is to carry out research to promote Finnish forestry and the expedient use of Finland's forest resources. The Institute has nine departments, ten research stations and a staff of 800. For research and experiment purposes the Institute administers some 150 000 hectares of State forests all over the country, which include two national parks and five strict nature reserves.



Research forests of the Finnish Forest Research Institute.