NATURE IN HELSINKI

THE WEATHER AND SEASONS IN HELSINKI

Thanks to the warm Gulf Stream, Helsinki's climate is milder than at similar latitudes in, for instance, North America. The average temperature in summer is +16-17 C, but on hot days temperatures may go upto 30 C or more. Mean temperatures during the winter months are around -3 - -5 C, but the weather can change, sometimes from one day to the next, from rain and a few degrees above freezing to severe, biting frosts or blizzards. So it's a good idea when you're out and about to take several thin layers of clothing which you can put on or take off as necessary.

One of the most entrancing features of Finnish nature arises from the strong contrasts between the seasons. The city landscapes can thus take on very different aspects, which makes it rewarding to visit the same site at different seasons.

Winter

The winter's first snow generally arrives in November, but it usually melts away in a day or two. Late autumn and early winter before the snow comes to stay are the time of darkness ("kaamos") at its best - or worst, depending how you look at it. The twilight persists for most of the morning, and falls early afternoon. The gloom and drizzle are relieved by the occasional clear day, when you'd hardly believe you're in the same place. The days are shortest around Christmas, less than six hours. On the winter solstice, December 21, the sun rises at 9.24am and sets at 15.13pm. By midday, the sun has risen 6.5 degrees above the horizon and, if it puts in an appearance, imparts a reddish light.

On average, Helsinki receives a permanent snow cover on Christmas Day, two months later than in Lapland. The snow flatters the city, and gives more light. The open sea and freshly fallen snow create a beautiful contrast, which you can enjoy, for instance, in Kaivopuisto. In early winter, the snow persists better just a little way inland than by the coast. Sometimes, you can ski in Nuuksio when there is no hint of snow in Helsinki. Likewise, the lakes of Nuuksio freeze well before the sea bays. The proximity of the open sea prevents

temperatures dropping far below freezing in early winter, but the air feels raw whenever there is any wind.

The frosts are most severe during January and February. At this time, you may occasionally see the Northern Lights, or *Aurora borealis*, usually one or twice a winter.

As the winter progresses, the snow cover grows, and by mid-March there is an average of 32 cm of snow. The light returns, too. On sunny days in late winter, the light is dazzling, and the hiker will have to screw up his eyes, too long accustomed to the gloom. Especially if you're out skiing on such a day, put sun-cream on exposed skin and wear sunglasses, as levels of ultra-violet radiation are very high at this time.

Spring

As the days rapidly lengthen and the snow begins to melt in March, spring starts to be in the air. During the latter half of April, spring arrives in a rush. The first spring flowers open on warm slopes, on mild days the first butterflies venture out, and flocks of migrant birds invade from the south. At the end of the month, the ice on lakes and bays finally breaks up and vanishes. The temperature generally rises above freezing during the day, but with light frosts at night.

May celebrates the arrival of spring and the approach of summer, and in the countryside sowing work begins in earnest. In shallow waters you will hear the splashing of spawning fishes, and the croaking of frogs during the dusky nights. The leafy groves are lovely with spring flowers and verdure, and the forests overflowing with

birdsong. Courtships are in full swing. All the same, the winter may still snap back with snow showers, even in early May.

The hiker should be aware that temperatures can vary greatly during the course of a spring day; in clear weather, the day can start with frost (calling for a warm overcoat and gloves), but by the afternoon you may feel comfortable in just a T-shirt. And in Helsinki, spring advances unevenly in different places: the cold open sea holds the spring back for two weeks longer than on the mainland. This is reflected in the flowering times of plants. Even at the beginning of June, make sure you take enough extra warm clothes on trips to the outer archipelago!

Spring is the time for rejoicing over the defeat of the winter. People return from a stroll clasping bunches of pussy-willow. The cathedral stairs are seated with sun-starved sojourners sucking up the sun's sustenance. The breaking up of the ice on the River Vantaa draws spectators, and surprisingly large numbers of people throng along the paths through the fields of Viikki with binoculars bouncing on their chests. Anyone seen a swallow?

Summer

In summer, Finns make the most of the the light and warmth they have been starved of in winter. June and July usually bring a few proper heat-waves, lasting at least a few days each.

In June, nature shifts into top gear: nesting activities proceed at a frenetic pace, and the delicate, tentative


Arto Nironen

mantle of spring-flowering plants emerging from the chilly soil has everywhere given way to a vivid burgeoning of greenery. There is one slight drawback: the mosquitoes. Within the built-up parts of the city and on the windy islands they will hardly bother you, but especially in moist spruce-forests they can be an irritating nusiance. Repellents help.

There is no dearth of light at this time. At their longest, the days are nearly 19 hours long. At midsummer, the sun rises in Helsinki at 3.55am and sets at 10.50pm. The sun climbs to an elevation of 53 degrees at astronomical midday.

July is the most popular holiday month for Finns and, on average, is the best month as regards weather. Helsinki's average temperature in July is 17C. The water starts to be acceptable even to squeamish swimmers. Animals are raising and suckling their young. The birds cease to sing, at the latest by the end of the month. The weather can still vary considerably from day to day and, depending also where you are, suitable dress will range from a swimming trunks or shorts to a thin, long-sleeved garment.

The weather usually stays summery well into August. The evenings start to draw in, but are still pleasantly warm. The shore meadows are in full bloom, and the sea-water is now at its warmest. August (elokuu = "harvest month") is the month when nature's growth begins to ripen. Imperceptibly, birds have started to migrate, and the beaks of song-birds, in particular, are pointing southwards in the night sky. The most dramatic thunderstorms of the year generally break out in August.

Autumn

September continues to bring pleasant weather. Rainy and fair weather alternate. Now, though, you will need a raincoat and watertight boots.Now begins the best season for gathering forest mushrooms. The cowberries in drier forests become ripe enough to pick. Migratory birds fill the morning skies, and the trees start to take on splendid colours, called 'ruska' in Finnish. As October proceeds, the leaves begin to fall from the trees, and the weather turns chillier.

Autumn is the windiest time of year; the storms also raise sea-levels. Fishermen try to catch sea-trout from the

tossing waves. Salmon and pike rise into the River Vantaanjoki to spawn.

By the end of November, nature silently awaits the arrival of winter. The gloom and damp are all-embracing. This is the time when the forms of deciduous trees are best defined. Small birds search for feeding places.

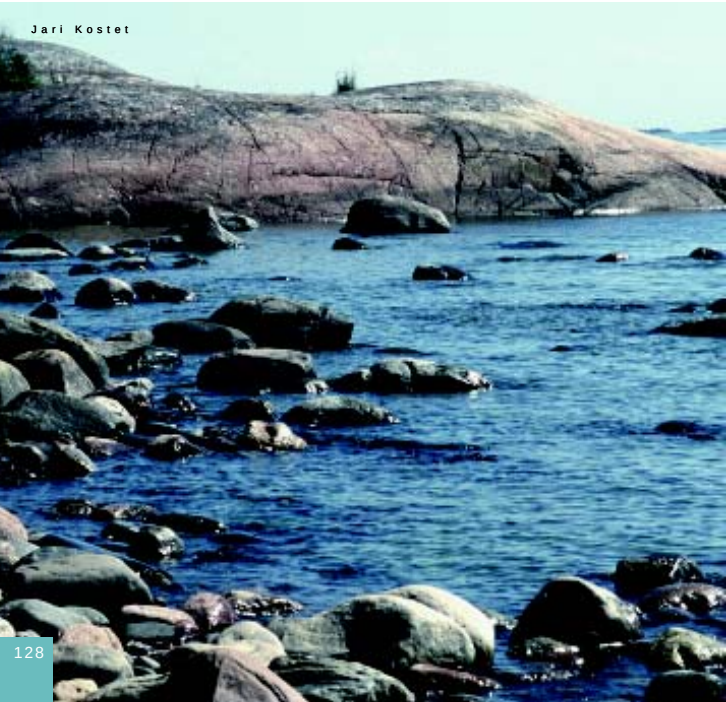
Weather forecasts for Finland in brief:
http://www.foreca.com/eng/weather/
http://www.ilmatieteenlaitos.fi/en/index.html

SPECIAL FEATURES OF NATURE IN HELSINKI

Helsinki, the Daughter of the Baltic, is a fast-expanding, relatively small major city on the north coast of the Gulf of Finland. Helsinki is sited on the margin of broad-leaved oak forests and the coniferous belt. Our nature is transitional between the exuberant natural life of Europe and the more barren world of the eastern taiga.

An ancient land mass emerges from the sea

The ground beneath Helsinki scarcely trembles, as we are stably placed near the centre of a continental plateau. Geologically, we can see the very old and the very young, but nothing in between. The first “pages” of Helsinki’s “geological book” consist of solid bedrock; the last ones of loose sediments and soil. The bedrock of Helsinki and the whole of southern Finland is part of the Sveco-Fennic mountain range that formed slightly under 2000 million years ago. Wherever the rock surface is exposed, you will see only the worn down roots of that mountain range; the actual mountains were eroded away aeons ago. There are no younger, sharp-peaked mountains in Finland. The predominant type of rock in Helsinki is a striated gneiss, also called migmatite.



Jari Kostet

Over the last few millenia, Helsinki's nature has been shaped mainly by the last ice age, and over the last centuries by man. When the ice-cover last retreated 12 000 years ago, the land began to rise. For instance, as recently as 4 000 years ago, the downtown areas of present-day Helsinki were still below the sea. There was a small rocky island where the Houses of Parliament now stand.

The land rises more slowly than in former times, but still at a rate of about 21 cm a century. The exposed surfaces of bedrock are actually the summits of former rocky islands, washed bare by the action of the sea's waves. Today, the archipelago is still in a perpetual state of change. Helsinki presently has more than 300 islands. Small rocks are still gradually emerging from the sea, and bays are growing shallower and shallower, until they progressively dry into shore meadows. The fields of Viikki, for instance, formed in this way. The meadows were slowly transformed to coastal forests, and the islands became embedded in the mainland. Over the past few centuries people have wrested more land from the sea. On the other hand, as the greenhouse effect intensifies and the ice-caps start to melt, sea-levels may begin to rise before very long.

Helsinki lacks the fossiliferous strata you can find in Estonia, that tell of how life evolved. Except for occasional exposed outcrops, the ancient bedrock of Helsinki is covered with soil and sediments formed from detritus eroded from the bedrock by the ice-cap during the last ice-age. Much of the soil consists of till, or moraine, split off the bedrock by glacial action. The valley soils are mostly clays, while the eskers are composed of sand and gravel. The eskers were formed at the end of the last ice-age around 12 000 years ago by the action of meltwaters (see e.g. Vuosaari, The Kallahti Peninsula) . Similar currents also formed giant's cauldrons. The erratic or glacial boulders in the Helsinki area were transported here with large masses of ice towards the end of the ice-age.

From camping site to capital city

The first signs of human habitation in the Helsinki area go back 800 years. The people of that time ate seals, bears and beavers by camp-fires some thirty kilometres to the north of present-day Helsinki. At that

time, the peninsula of Helsinki was still completely submerged. The sea-level was about 60 m higher than nowadays, and in the region of Helsinki only a few of the highest rocks formed small islands.

The trout rising into the River Vantaa enticed people to settle in the valley. In the 14th century, Finns contested with German monks from Estonia for fishing rights.

The city of Helsinki was established by a faltering process of administrative edicts on several occasions and at two sites. In 1550, in response to a decree from the Swedish king, citizens were forcibly settled into the area to create a town that could collect duty from the ongoing trade with Estonia. The old town, 'Vanha-kaupunki', eked out a rather miserable existence by the trout-bearing rapids at the mouth of the River Vantaa for about a hundred years. The bay, however, proved too shallow for larger vessels, and the city was moved to its present site, which had no previous habitation.

Only a little over a hundred years ago, most of the present town centre and adjoining districts formed a natural coastal landscape. The profile of the rocky peninsula was very uneven. When statistical records of the population began in 1750, there were 250 households with 1 500 individuals. The construction of the fortifications of Suomenlinna accelerated the disappearance of woodlands and destroyed the oak forests that had previously grown around Helsinki. By the middle of the 19th century, the population had increased to 20 000 souls, making Helsinki the largest city in Finland. The entire population of the country at that time was 1.6 million.

Towards the end of the 19th century as building work expanded, the awkward profile of the rocky substrate was evened out over large areas. Much of the mosaic of water and islands vanished from the peninsula as the city began to spread. The shallow, reedy sea bay of Gloet that extended into the heart of the city - once famous as a base for ornithological pioneers - was already filled in by the beginning of the 19th century. Small lakes, streams and bogs were drained. Many small islands just off the shore disappeared beneath masses of infill. In the parks, too, rocky outcrops were covered with ballast. Here and there in the city centre the odd rocky summit still lifts its head, though most of the rock will have been buried.

Like the original rocks, so the coniferous forests have all but disappeared from the city centre. Only outside the built up parts, in national parks originally established for the poorer folk (Seurasaari and Mustikkamaa) have the original landscapes survived with their forest cover, whether pine, spruce, grey alder or aspen, more or less intact.

By the beginning of the second world war, Helsinki's population had grown to over 200 000, although the city had, for the most part, spread only over the peninsula surrounding the centre. Not until after the war did our capital extent its suburbs much further beyond the centre. To the north, Vantaa (Swedish: Vanda) and to the west Espoo (Esbo), became cities in their own right. If you travel in these directions, you stay within built up landscapes for twenty kilometres or so. To the east, Helsinki ends sooner and gives way more abruptly to countryside as you enter Sipoo. Upto the end of 1999, Sipoo had only 17 000 inhabitants, but now new dormitory areas are going up there. Helsinki's population at the beginning of 2005 was 560 000. Including the adjacent built-up areas, the population of the metropolitan region now exceeds a million and a half. By international standards, greater Helsinki is Finland's only major city**.**

Births, immigration from overseas and, above all, migration within the country southwards to the main metropolis add 4 000 people to Helsinki's population each year. The city's built up areas are both becoming denser and spreading further out into the surrounding districts. Another reason for the building boom is that people wish to have more living space. In 1975 there were, on average, 24 m^2 of living area per person; nowadays there are 31 m^2.

Lots of odd plants

The hordes of people in the capital may have destroyed or altered the natural environment, but have also created new types of cultural habitats which have especially enriched the flora. If we go by the number of species, the flora of Helsinki is the richest in Finland. The flora is made so diverse by exotic species brought here inadvertently by human activities, or deliberately as utilitarian plants. There are nearly 1100 species of vascular plants (flowering plants and pteridophytes) in Helsinki. The city centre has

100-200 wild plants per sq. km, on the fringes of the built up centre as many as 300-400 species. The numbers of species in the sparsely populated regions of the country are considerably smaller, in southern Finland around 150-200 species per km^2.

Many species arrived in Helsinki such a long time ago that there are no records of their entry. Sailing ships brought new plants to the port. The holds of underloaded ships were often ballasted with soil taken from foreign ports, to be emptied in the harbours of Helsinki.

Few plant species have managed to gain any foothold in our undisturbed nature. Man has created many types of unnatural environments in which the original plants have become less competitive, thus allowing newcomers a chance of getting established. Railway sidings, slopes, yards, fields, ornamental plantings, waste grounds, coal heaps, stone walls and areas of tarmac make up the realm of newcomers.

Mammalian invaders

Almost all the mammals native to southern Finland occur in Helsinki, excepting the large predators and the flying squirrel, which need large tracts of forest. Helsinki's own mammalian emblem, the red squirrel, will be found in any of the down-town parks with conifers. The brown hare, which favours cultural habitats, has become the city hare here in Helsinki. The arctic hare lives in Helsinki's archipelago and forests.

A few mammals have become naturalised in Helsinki and elsewhere in Finland during the 20th century, after being introduced here. Finns brought hedgehogs over from Sweden or Estonia in the 19th century as garden pets. The hedgehog is common in large parks, even near the city centre, but the traffic takes a heavy toll of them.

The muskrat, mink and white-tailed deer are North American arrivals. Musk-rats were deliberately introduced by Finns back in the 1920's, and are now common in Helsinki. The mink is common by stream and shore banks in Helsinki, having originally escaped from mink farms. The raccoon dog, which is native to continental Asia, has spread across Finland as a result of introductions made by the Russians.

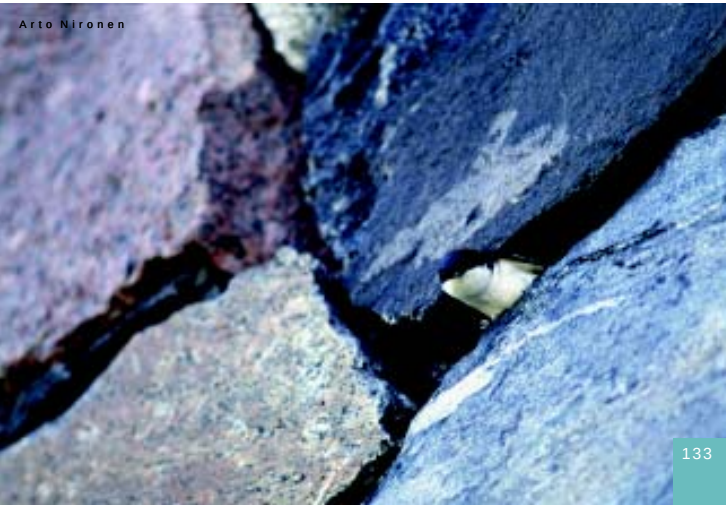
Birds in the city

Most of the common birds of southern Finland nest in the Helsinki region. Since the sea belongs so intimately to Helsinki, all of the common archipelago species nest here.

There are three deliberately introduced bird species living in Helsinki: the pigeon, pheasant and Canada goose. About the only water-bird to overwinter in the small areas of open water in mainland Helsinki is the mallard. The wide range of water-birds you will find in central Europe is lacking here, owing to the severe climate.

The herring gull, lesser black-backed gull and the mew gull that properly belong to the archipelago, nowadays nest in large numbers on the rooves of buildings in the city centre. Over the last few decades, magpies and hooded crows have begun to nest quite fearlessly in the centre. Barnacle geese, their numbers reinforced by the stocks in Korkeasaari Zoo, nest on the rocks off the city's coastline, and congregate in large flocks on lawns.

Many of the birds found in the cities of Europe further south cannot be seen in Helsinki. The city's tame pigeons may soon get company: wood pigeons have established themselves in the suburbs. Those northern thrushes, the fieldfare and the redwing are, much to the disgust of strawberry growers, our city's special feature not to be found in the cities of Western Europe.


Arto Nironen

Helsinki's winter and the national character

Helsinki is one of the few capitals where the sea freezes over nearly every year. It's in winter that the traveller from milder climes will experience the sharpest contrast with his or her own country. The short northern days, the cold, snow and ice offer the adventurous traveller their own special enjoyments, like unravelling the tales told by tracks in the snow, or dried seedheads studded with glittering hoar. There are few birds, but winter is the best time for revealing the presence of mammals. Some wandering birds from more northern regions arrive in winter, such as redpolls and waxwings. So the winter is a good time to encounter Helsinki.

Less than a hundred years ago, before the age of ice-breakers, the frozen Baltic Sea was regarded with fear. The sea isolated Finns from Europe for months at a time. Natural conditions have also isolated Finns from each other. When still basically an agrarian society, Finland was very sparsely inhabited by European standards and, especially in winter, difficult to travel in. Some historians hold that this isolation accounts for the stiff and taciturn Finnish character. Finns still deeply value remoteness and being alone, feelings indulged when they hike off into nature, or make for their summer cottages, for instance.

Helsinkiites have, though, become more urbanised, and people on the bird tower are likely to exchange their findings or indulge in small-talk. Most will be willing to use English, if need be. The ideal of former generations, that of people meeting one another on equal terms in market places, cafés and other public places, is still valid, but you are more likely to find this spirit nowadays in the recreational sites described in this guide. The unhurried, aimless strolling, taking the air and enjoying the presence of other people, features of a previous, more spacious city lifestyle, are now more rewarding outside the busy city centre. And so Seurasaari or, perhaps, the rapids by the Old town, are good places from which to observe the locals. Another interesting feature of this city is the way in which different people, animals and the rest of nature manage to get by together without upsetting each other too much. Or how, sometimes, they can even enjoy and mutually benefit from one another.

Arto Nirohen

THE STATE OF THE ENVIRONMENT IN HELSINKI

On an international reckoning, Helsinki can be fairly satisfied with itself regarding many aspects of the state of its environment. Helsinki has large green areas, a well preserved archipelago and presentable bays. Helsinki is also renowned for its cleanness. There is very little litter lying about. We do, however, still have environmental problems to be resolved, some of which result from our northerly situation.

Air quality

One of the city's worst environmental problems is the poor air quality of the centre and of areas near busy


Arto Nironen

roads. In Helsinki there is one car for every three inhabitants. Now that power stations and factories have cut emissions of sulphur dioxide dramatically, traffic contributes relatively more heavily to pollution than previously. The traffic also causes most of Helsinki's noise pollution, which about 100 000 Helsinkiites suffer from.

Nonetheless, as regards air quality, Helsinki compares well with other large cities in Europe. Our city's location on a windy peninsula jutting out into the sea creates favourable conditions for mixing of the lower atmospheric strata. Exceptionally, during calm periods of very low temperatures, stagnant layers of cold air build up near the ground, and pollutants from the traffic accumulate in the air one breathes. The means of dealing with icy conditions - spreading grit or using studded tyres - have created their own problems: dust levels in the air are higher than in central Europe. And Helsinki's chilly climate seem to make the effects of quite low levels of pollution on people's health worse than one might expect.

Soils are still injured by acid rainfall or deposition, a considerable part of which originates from distant locations in central and eastern Europe. The effects of this on Helsinki's forests, especially the coniferous ones, are all too obvious. Conifers and lichens have suffered badly from atmospheric pollutants.

Helsinki has met its responsibilities for reducing discharges of greenhouse gases well. Thanks to the centralised production of heat and energy connected to a district heating network, the efficiency of energy utilisation (delivered electricity + heat energy/produced energy) is, by international standards, extremely high, about 90%. Natural gas accounts for about 45% of energy production, and any increase in this proportion will depend upon the availablility of gas from the west.

Water

Considerable progress has been made in the protection of Helsinki's waters. The quality of the seawater in the city's inner bays has much improved. All the same, the state of the entire Baltic Sea still causes wide concern.

Water pollution used to be a problem in Helsinki. The shores and and bays of the city became badly infested with algal growth (eutrophicated) from the 1950's to the 1970's. At that time, the city's effluents were discharged from the sewage processing plants straight into the shores and shallow bays around the city's coastline. Nowadays, Helsinki centrally purifies its own sewage and waste water, as well as that from outlying districts. The purified effluents are led out to the open sea along an eight kilometre tunnel through the bedrock. The waters along Helsinki's shores have become much cleaner, and fish caught in the inner bays are demonstrably quite fit to eat. Discharging effluents into the open sea has not appreciably raised nutrient levels out there, although the quality of the water close to the site of discharge has worsened somewhat. Internationally, the central treatment plant is a model of its kind.

The waters of the River Vantaa carry their load arising from farming and dispersed habitation into Vanhankaupunginlahti Bay and the Gulf of Finland. At present, Finland contributes only 10% of the nutrient load entering the gulf. Helsinki has cooperated with the cities of Tallinn and St Petersburg in efforts to reduce the load.

Generally speaking, the quality of water in Helsinki's beaches in summer is good. You can swim in the River Vantaa, too, but the water quality there is not all it could be. Helsinki's drinking water is of excellent quality. The source is the Päijänne reservoir 100 km inland, and the water is purified in Helsinki. Foodstuffs are of demonstrably high quality, too, and safe to eat.

The soil and nature

A third of Helsinki's land area consists of green areas, allowing everyone easy access to outdoor recreation. On the other hand, the region is stressed by unremitting population growth. The city authorities try to avoid development on green areas, and as the population continues to expand former harbour and industrial sites have been taken over for building more accommodation. The soil on such sites often has to be reconditioned or replaced.

Helsinki has 98 km of coastline. As in Helsinki, all over Finland we have woken up to the need to protect our

shores. People would like to live by sea or lake shores, but there are many who would like such places to be left undeveloped for everyone's enjoyment.

In the 1990's, much effort went into describing the flora and fauna of Helsinki. Almost 1100 wild species of vascular plants have been identified. Under our northern conditions, this is a surprisingly high number, of the same order as for Stockholm or Tallinn. Nor is the figure much lower than those for West Berlin (1432) or Vienna (1348). The fauna comprises 36 species of mammal, 4 amphibians and 4 reptiles. For 1996-1997, 171 bird species were sighted during the nesting season. Of these, 123 species were observed to nest in Helsinki with at least reasonable certainty. Helsinki has 38 nature protection areas, whose area totals 420 hectares (1040 acres).

Waste management

The management of waste materials has, by international standards, progressed greatly. Paper has been collected for some time, but nowadays much biowaste is separated out at source in all parts of Helsinki. A network of collection sites for glass, metal and hazardous wastes has been set up. Organic wastes are separated and composted throughout the city. At the time of writing about 40% of Helsinki's waste materials are recycled.

Up till the 1980's, Helsinki's wastes were burnt in large incinerators, but these had to be closed because of atmospheric pollution problems and in response to public protest. Nowadays the metropolitan area produces nearly a million tonnes of garbage every year, half of which is conveyed to a single, large landfill site at Ämmänsuo in Espoo.

The contribution of residents to waste management is crucial, as it's important for wastes to be sorted properly at source or, better still, not to produce them at all. This goes for litter clearance, too. For a major city, Helsinki is pleasantly clean. General attitudes, which for the most part are environmentally friendly in Helsinki, seem best to apply in practice right here, in the field of waste management.

(Reference: Korpinen, P., Silfverberg, K The State of the Environment in Helsinki. Summary Report. Helsinki Environmental Centre Publications 3/1999. Available free of charge at the Helsinki Environmental Centre, 24 Helsinginkatu Street).