

# VUOSAARI LANDFILL

**HYBRID PARKS: COMBINING ABILITIES, CREATING SYNERGIES AND ENHANCING THE PERFORMANCE OF PARKS FOR SUSTAINABLE DEVELOPMENT POLICIES.**



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HYBRID PARKS

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## **PRACTICE & THEME**

### **LANDSCAPING OF VUOSAARI LANDFILL SITE IN HELSINKI, FINLAND**

Environment: Raising public awareness on biodiversity in municipal and regional cooperation



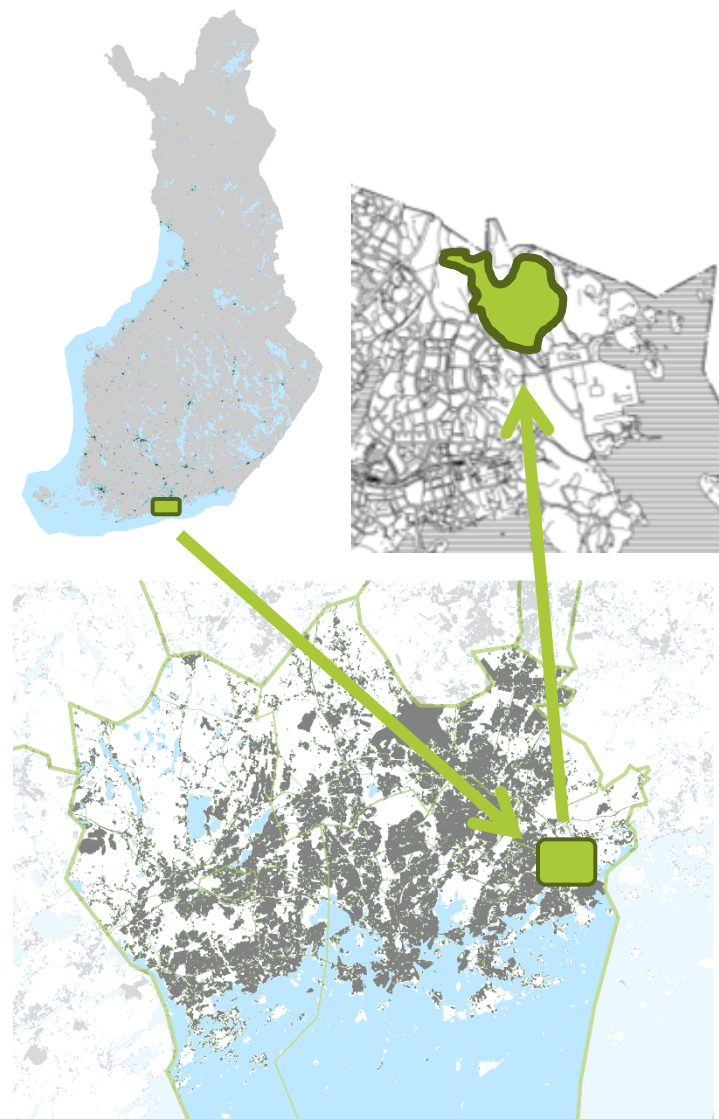
# OBJECTIVES OF THE PRACTICE

- The purpose of the practice is to develop a **comfortable and versatile recreational use** of Vuosaari landfill site (= **social activities**).
- Preserve the original purpose of the site – **storage of the construction land masses** from the port and residential areas (= **economic activities**).
- Stored **top soil organic layer serves as a seed bank** providing the first step to desired effect – an ecologically sustainable vegetation and habitat development. A **deposit site** for the transferred plant species that would be otherwise lost in the construction (= **environmental activities**).



# LOCATION

- country: Finland
- region: Southern Finland
- metropolitan area: Helsinki Metropolitan Area
- site: N60.226148  
E25.158134



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# DETAILED DESCRIPTION

- proportions
- origin
- timescale
- legal framework
- process and cooperation
- implementation



# HYBRID PARKS

# PROPORTIONS

- size: 60 ha
- height: 65 m
- storage: 80 000 m<sup>3</sup> from the port site  
(total capacity 2 mil m<sup>3</sup>)
- species richness: 10 years follow up  
pointed 390 vascular plants and 9  
endangered, 16 near threatened ja  
38 least concern insects



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# ORIGIN

- Originally a waste storage site and inert material landfill.
- Household waste landfill closed 1988, the section for inert material still in use.
- The landscaping of the site started in 1994.
- Building of port at Vuosaari started 2003 and was completed 2008.



# TIMESCALE

1956



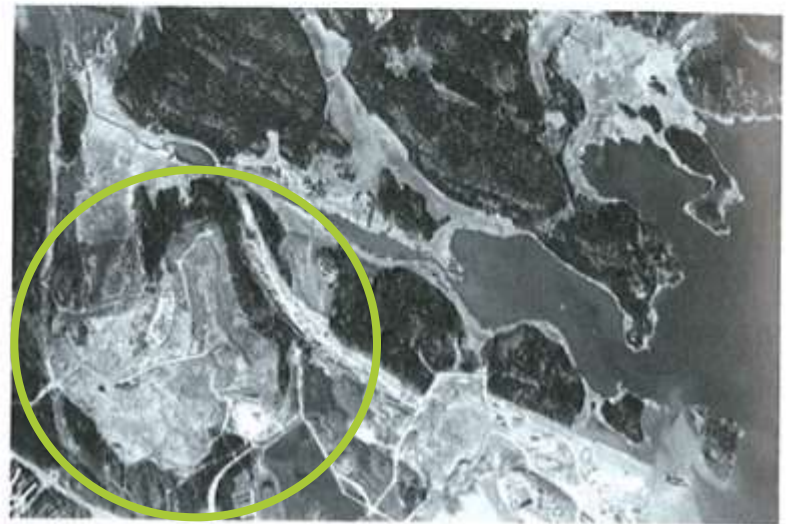
1965



1984



2004



## LEGAL FRAMEWORK - permits

- Environmental permit for landfill 1996
- EIA 1998 (steering group: City of Helsinki authorities, Helsingin Energia, Environmental Centre of the Helsinki city, Centre for Economic Development, Transport and the Environment)
- NATURA 2000 sites in the vicinity (Mustavuori, Östersundom)



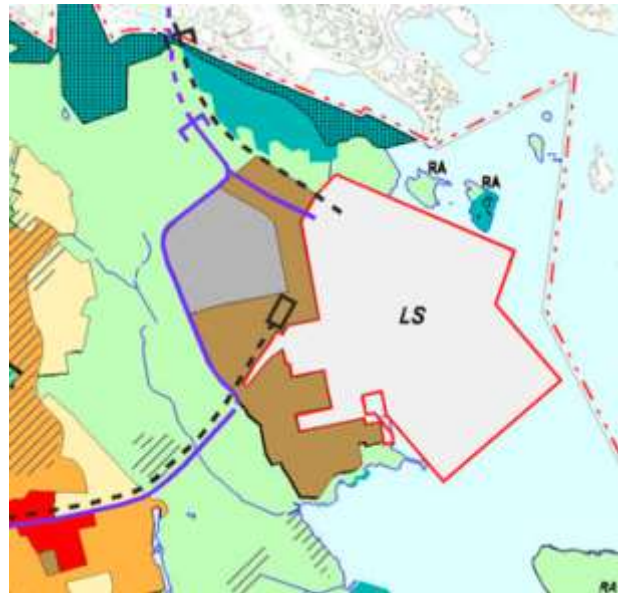


# LEGAL FRAMEWORK - land-use planning

Regional Plan



General Plan



Detailed Plan



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# PROCESS & COOPERATION

## PERMITTING

- Helsinki City Authority
- Environmental Centre of the Helsinki city
- Centre for Economic Development, Transport and the Environment

## PLANNING

- Helsinki City
- FCG
- Others..

## INICIATIVE / IMPLEMENTATION

Helsinki City - Public Works  
Department

## EVALUATION

Finnish Environment  
Institute - SYKE)

## MARKETING / RAISING PUBLIC AWARENESS

Helsinki City - Public  
Works  
Department

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# IMPLEMENTATION

- The official project "Landscaping of the Vuosaari Landfill" started in the end of 2002 as a joint project of the Public Works Department at City of Helsinki and Helsinki Port Authority.
- Finnish Environmental Institute (SYKE) concluded research on microbiological activity of top soil during 2003-2005.
- A General Landscaping Plan for the site completed in December 2004 by former Suunnitelukeskus Ltd (nowadays part of the FCG Ltd concern).

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# IMPLEMENTATION

- A Detailed Landscaping Plan finished in December 2007.
- Implementation of the landscaping is continuous process.
- Responsible authority for implementation is the City of Helsinki, Public Works Department, represented by Jukka Toivonen.



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# EVALUATION

- Practice has appeared to be an excellent example of “**Integrated Planning Approach**” as following applied:
  - Restorative design
  - Ecological design
  - Regenerative development
  - Conventional design



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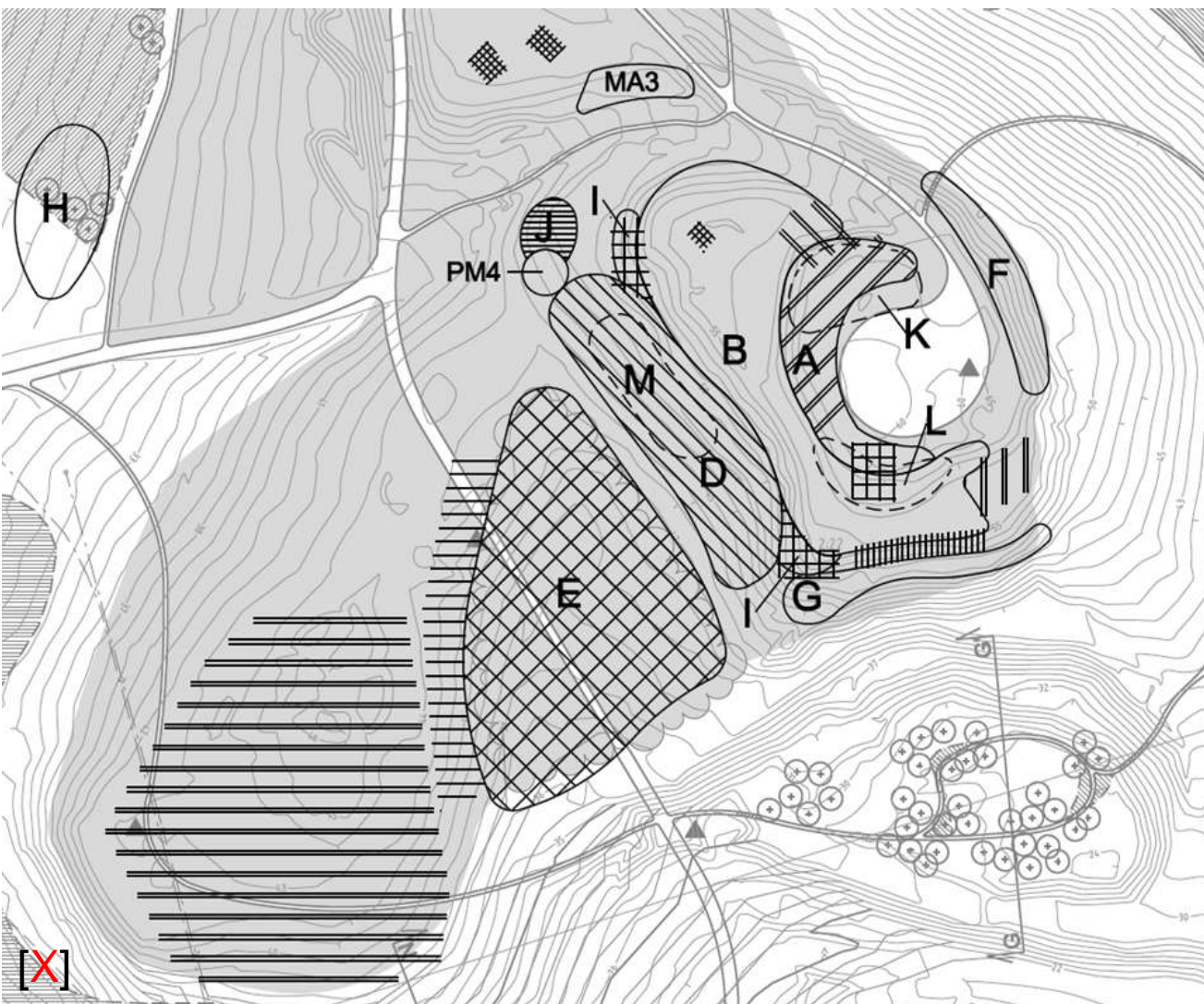
# EVALUATION

- practice resulted:
  - Site representing the typical regional habitats of the Southern Finland's archipelago.
  - Pastures, alder and ash grows, heather and juniper stands as well as overheated slopes typical for these habitats.



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- A** *Juniperus communis*, *Calluna vulgaris* 23.-27.5.2003;  
kanerva 15.10.2003 (huipulle ainoastaan *Juniperus communis*)
- B** *Polygonatum odoratum*, *Polypodium vulgare*, *Sedum telephium*,  
*Viola tricolor*, *Dianthus deltoides*, *Fragaria vesca*, *Juniperus*  
*communis*, *Calluna vulgaris* (taimistoita) 28.5.-4.6.2003;  
*Calluna vulgaris* (VK) 14.-20.10.2003
- D** *Polygonatum odoratum*, *Polypodium vulgare*, *Sedum telephium*,  
*Dryopteris filix-mas*, *Linnaea borealis*, *Oxalis acetosella* 28.5.-  
4.6.2003; *Athyrium filix-femina*, *Oxalis acetosella*, *Dryopteris filix-*  
*mas*, *Anemone nemorosa*, *Caltha palustris* 13.6.2003; *Linnaea bore-*
- E** *Hepatica nobilis*, *Oxalis acetosella*, *Alchemilla vulgaris* -, *Corydalis*  
*solida*, *Anemone nemorosa*, *Dryopteris filix-mas* 19.-23.5.2003;  
*Melica nutans*, *Anemone nemorosa*, *Geum rivale*, *Viola palustris*,  
*Thalictrum aquilegifolium*, *Athyrium filix-femina*, *Caltha palustris*,  
*Convallaria majalis*, *Oxalis acetosella*, *Lythrum salicaria*,  
*Malanthemum bifolium*, *Lysimachia thyrsiflora*, *Valeriana*  
*sambucifolia* 26.6.2003; *Lythrum salicaria*, *Thalictrum*  
*aquilegifolium* (savikasolita) 21.8.2003; *Athyrium filix-femina*,  
*Dryopteris carthusiana* (taimistoita) 22.-24.10.2003
- F** *Rosa majalis* (taimistoita) 22.7.2003
- G** *Rosa popnellii* (HY) 23.7.2003
- H** *tuntemattomia ruusulaikkelta* (taimistoita) 30.7.2003
- I** *Veronica longifolia*, *Veronica officinalis*, *Viola tricolor* 18.8.2003;  
*Jasione ps.* (taimistoita) 21.10.2003
- J** *Sedum telephium*, *Sedum acre* 18.-27.8.2003;  
*Sedum aizoon* 18.7.2003
- K** *Thymus serpyllum* (taimistoita) 1.10.2003
- L** *Jasione ps.* (taimistoita) 21.10.2003
- M** *Ribes alpinum* 29.8.2003
- PM4** *Viola tricolor*, *Sedum telephium*, *Sedum* -, hopeahärkki,  
*Rumex acetosella*
- MA3** *Antennaria dioica*, *Pilosella officinale* (kylvö) 23.6.2003

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# EVALUATION

- Practice promoted following social activities:
  - Destination for nature enthusiasts.
  - Popular recreational destination for local inhabitants.



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# EVALUATION

- Practice promoted following educational activities:
  - Regular excursion destination for high school and university students as well as for planning professionals.



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# COMPETITIONS AND PRESENTATIONS

Presented practice is a:

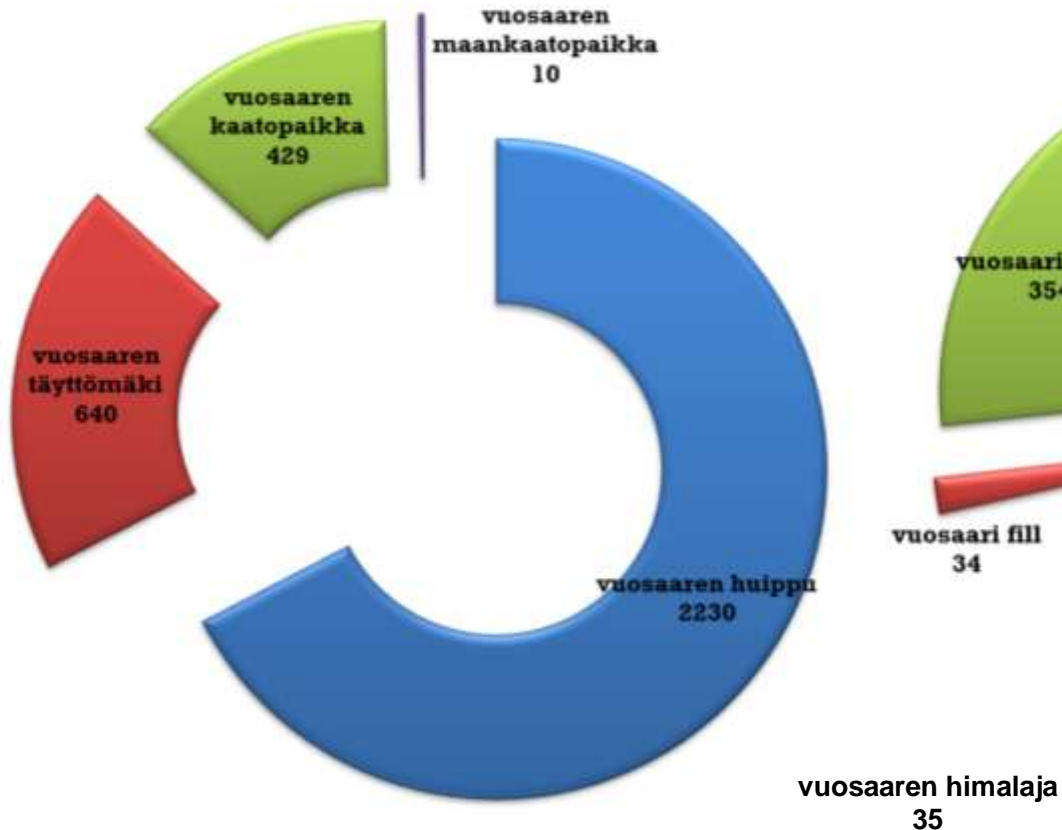
- winner of the **Finnish Countdown 2010** competition, **Finnish IUCN**,
- winner of "The Best Finnish Landscaping Project 2010" ("Suomen paras maisemahanke 2010"),
- part of **New Nordic Landscapes** at Nordic Lighthouse, EXPO 2010, Shanghai, Kiina (1.6.-15.8.2010).



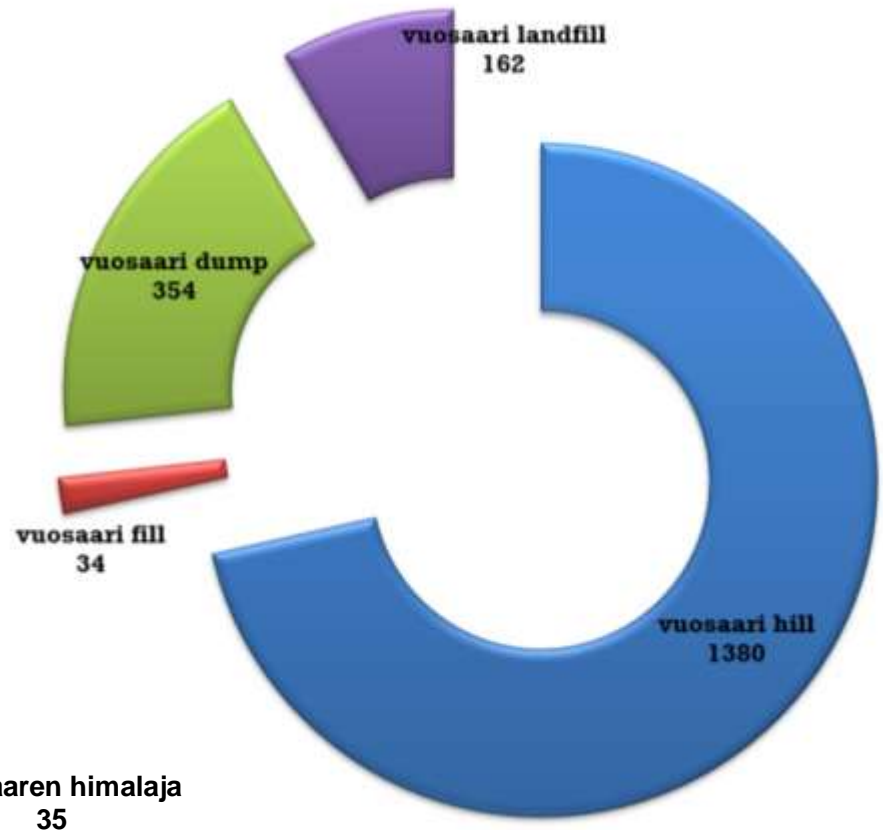
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# PUBLIC AWARENESS (WEB)

GOOGLE SEARCH RESULTS - FINNISH



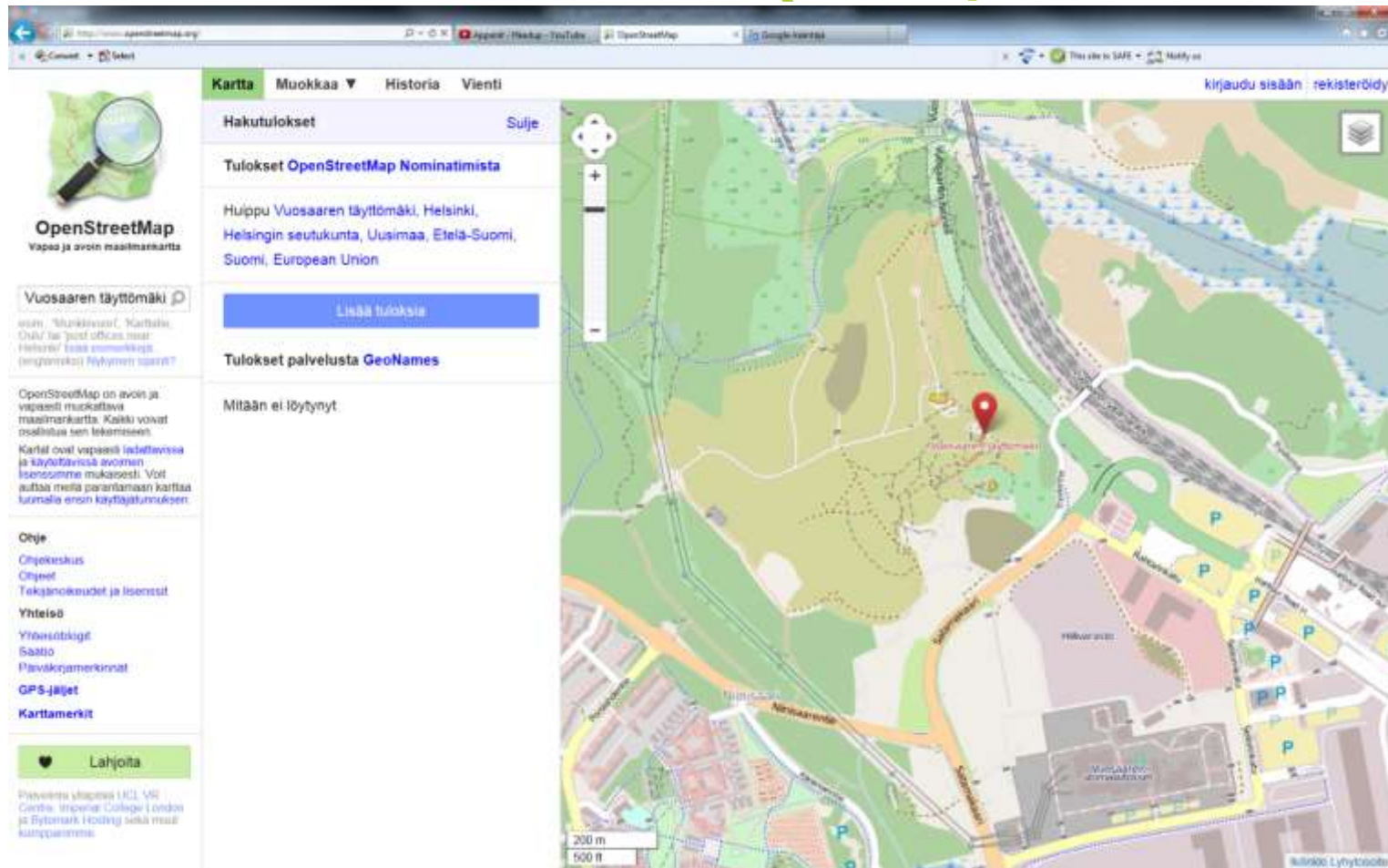
GOOGLE SEARCH RESULTS - ENGLISH



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## PUBLIC AWARENESS (WEB)



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# LESSONS LEARNT

- Integrated Planning Approach in landscaping can be applied in practice.
- Practice resulted in an important biodiversity sustaining and promoting site in the region of Helsinki (eg. Helsinki Metropolitan Area)
- The practice successfully provides environmental, social (recreation) functions while part of it is still providing economical function (storage of inert material).
- Cooperation between authorities increases value of the final project as well as local approach and passion of individual.
- It is necessary to develop a clear brand to secure effective marketing of the practice values.



# REFERENCES

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- General Plan on-line 12.4.2013: [http://www.hel.fi/hki/Ksv/fi/Yleissuunnittelu/Yleiskaava\\_2002](http://www.hel.fi/hki/Ksv/fi/Yleissuunnittelu/Yleiskaava_2002)
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- Wallenius, K., I. Heiskanen ja M. Niemi 2004. Maaperän entsyymiaktiivisuuksien seuranta Vuosaaren huippu – hankkeessa. Vuosiraportti 2003. 39 p
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- Heikkonen, M. 2008. Vuosaaren satama ja ympäristö. Vuosaaren sataman rakennusprojekti, VUOSA.181p.
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