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THE FIRST RESULTS OF THE EXPERIMENTAL AREA OF TÜNDÉRHEGY (ПЕРВЫЕ РЕЗУЛЬТАТЫ С ЭКСПЕРИМЕНТАЛЬНОЙ ПЛОЩАДИ ТЮНДЕРХЕГИ)

Приведены данные детального описания участка леса в Тюндерхеги. Изучена динамика структуры древостоя: изменения соотношения пород, плотности, сомкнутости крон, потери первоначальных показателей. Было изучено 1380 видов с помощью различных показателей, предоставленных GPS.

Introductio

The Pilisi Parkerdő Zrt.'s Forestry department of Budapest is planning to establish a forestry reserve in the Mountains of Buda in the near future. That is how it came the survey of the assigned study area nearby Tünderhegy in the summer of 2012. The measured data of the plot provide the description of the current state. The further results of the surveys, that will be done specified from time to time, can be compared against the recently measured conditions. These comparisons can give a momentous help during the research of the processes occurring in time in the forest, in other words during the research of the forest dynamics.

On another research area, we can also make comparison among the surveys about the temporal changes in tree-stand structure. From the surveys, done every five years, we can get information of the tree-stand structure changes such as mixture ratio, density, the change of closure of canopy layer or ingrowth and loss of prime numbers.

Description of the area

The complete selected plot can be found in downtown part of Budapest, in the XII district. It's infrastructure is well-established and easily approachable.

The stand is very unique and it is protected by nature protection and the Natura 2000 network. The cutting is limited, the last one was in 2011 and was not forceful. The

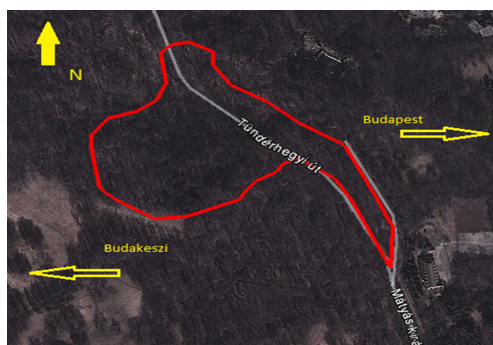


Figure 1. The geographical position of the experimental area

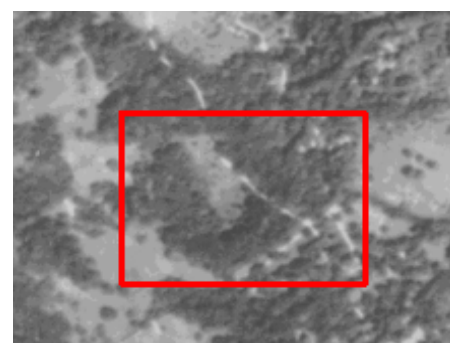


Figure 2. Air photo from 1941 and satellite from 2012

most part of the forest was afores-
ted in the past seventy years, which
you can see well in the pictures. The
plant community shows ravines character,
it is extremely rich in species, you can
find a lot of reserved herbaceous plants.
We have to mention the huge 194 years
old beech, 155 years old sessile oak and
the 107 years old common ash trees that
is also described in the forest planning.

Sadly these days a local forester has
to face many problems due the close
capital and the well established infrastruc-
ture. The biggest problems are the illegal
bumps and settlements of homeless people.
The newest problem is downhill cycling
which is widespreading in the hills of
Buda increasing the erosion and debase
the area.

Material and method

During the field measurement I surveyed
all of the boles with the help of the
Field-Map program. This is a software
which can communicate between data
collecting-measuring equipments and the
computer. The main point of the system
is mapping, it can manage many mapping
and measuring tasks virtually. The
recorded datas can be stored in the own
reference point network.



Figure 3. The Fiel-Map system

I measured every piece of tree on
the plot. I measured breast diameter
and height on every tree which had
breast height diameter over 7 cm. The
used equipment was Vertex IV. I also
mapped the logs of dead trees.

I examined 1380 wood specimens,
based on different perspectives, provided
with GPS coordinates. After the survey
I could

complete detailed forest stand
structure.

Results

I have analysed the vertical and
horizontal structure of the forest stand.
Tree species proportion was also
examined.

Species proportion was also
examined in the different diameter
and height classes (Fig. 6 and 7).

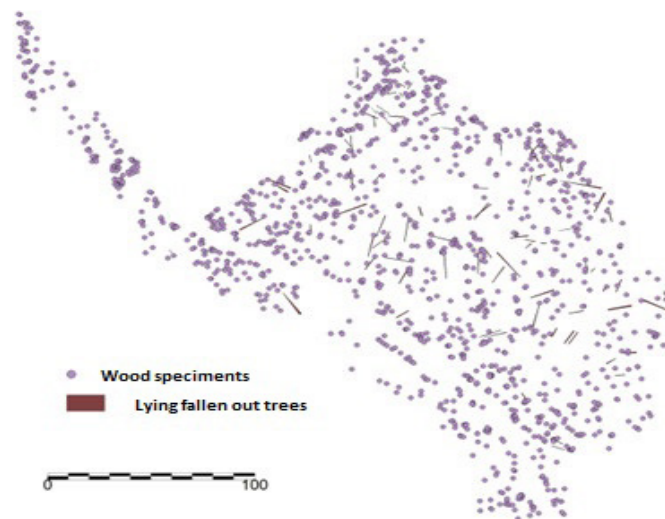


Figure 4. Live and death wood specimen

Wood structure of the experimental area

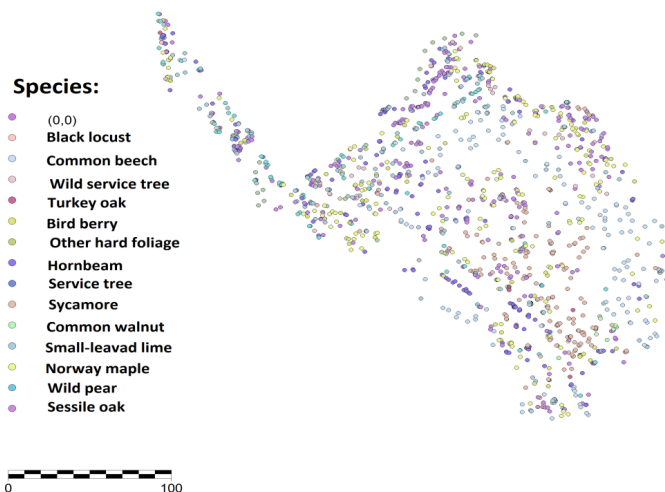


Figure 5. Tree species proportion on the plot

Summary

The history and the plants community of the forests deserves appreciation and attention. The previous woodcutting and the leway of this activity significantly influenced the image of the fo-

rest. There are still very old beech trees and sessile oak trees in the forest but their renewal is complicated in the new competitive circumstances, without the human interference these trees will be suppressed. However, in the

meantime, a new, rich in species and closed plant-community evolved and spreaded slowly by itself. The observation of these two process could help to understand the unbidden forest dynamics in the long term.

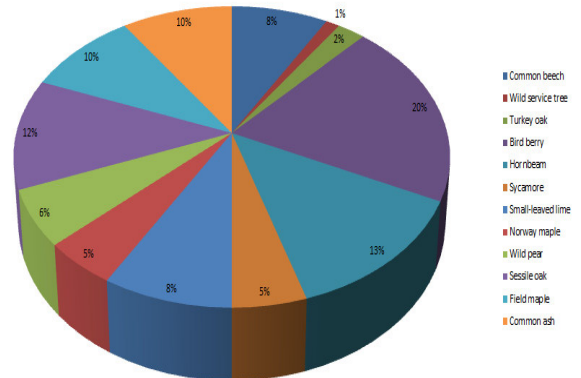
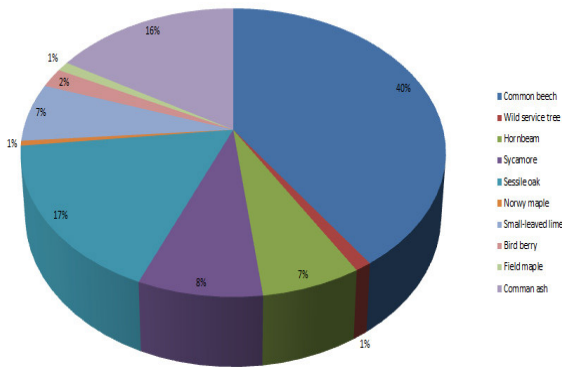
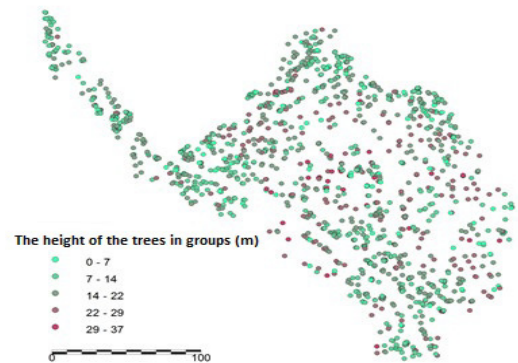
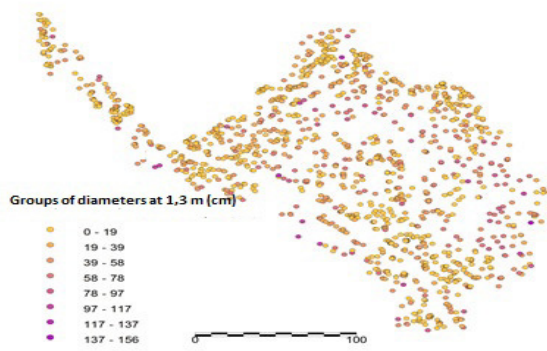


Figure 6. Groups of diameters at 1,3 m and species ratio over 50 cm diameter

Figure 7. The height of the trees in groups and species ratio at deadwoods