DENDROFLORAL MAPPING IN THE UNIVERSITY CAMPUS, A SMALL STEP TOWARDS GREEN CADASTRE

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Abstract

The University campus has undergone transformations over the years with regard to use of the land. In the early years of college I saw undeveloped land, then a parking lot, the parking lot was reduced by making way for a collection of tulips and finally became an oasis of beauty. Now, the green space around Campus offers a recreation corner through the landscape function. This paper proposes a spatial and qualitative mapping of the dendrofloral. Spatial by collecting coordinates corresponding to each copy with the help of GPS TRIMBLE Juno SB handheld using TerraSync software. Qualitatively, through the identification and description of each copy met with elements of a useful characterisation of green cadastre. A map of the distribution of dendrofloral, carried out through the use of CAD software, contains species reporting directly from the coordinates.

Key words: field identification, green space, mapping, vegetation.

INTRODUCTION

Green space is defined as a tiled or a semi-natural ecosystems, whose specificity is determined by woody vegetation, trees, floricultural and herbaceous vegetation (Act No. 24 of 12 January 2007 on the regulation and administration of urban green spaces).
Green land covers inventory of woody vegetation in urban green spaces and the lying on the streets or in the premises of the properties. To make an inventory of vegetation in terms of the dynamics of development and structural change, over time, the character of this land being differentiated from classical net urban cadastre.
As a result of the reduction in urban green spaces in our country by law is the obligation of the local government "to ensure the land destined for an area of green space of 20 m^2/ inhabitant, until 31 December 2010 and of not less than 26 m^2/ inhabitant, until 31 December 2013" (O.E.G. no. 114/ 2007). At present, there is no clear strategy isf development of green spaces but green survey was done in a few places in the country (Bucharest, Timisoara, Oradea).
With regard to the green areas of University campus, it was greatly expanded in the last 3 years.

MATERIALS AND METHODS

The area under study is the University Campus –Stefanesti point, with a total area of 2127 square meters, dominated by building, teaching greenhouse and parking space provided.
The study material consists of all dendrological species. Working method used consisted of a complex inventory of all vegetation.
Collection of coordinates for each specimen, was made by using the GPS Trimble Juno SB handheld (figure 1).
This device has incorporated three main functions: GPS, camera and operating system Windows-Mobile 6.1. GPS receiver facilitates data collection to incorporate them into GIS. GPS is a positioning system based on NAVSTAR operational satellites constellation orbiting Earth once every/at each 12 hours. Trimble Juno SB handheld can use various

types of software, the TerraSync software was used. To complete mapping all data was transferred to specialized CAD software.
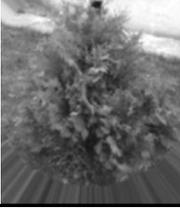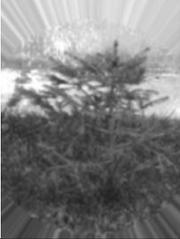

Figure 1. GPS Trimble Juno SB

RESULTS AND DISCUSSIONS

Have been identified with Z = 240,70 m (Table 1) a total of 10 species of trees and shrubs, 57 specimens.

Table 1. Identification

No	Plant name	Y	X
1	Thuja occidentalis"Columna" 493779.74 493799.33	493779.74 493799.33	373947.92 373932.95
2	Euonymus fortunei "Emerande N Gold"	493780.78 493786.25 493795.33	373944.43 373943.53 373934.78
3	Berberis thunbergii	493791.78 493793.25 493793.76	373937.41 373937.57 373935.97
4	Euonymus fortunei "Emerald Gaiety"	493792.91 493794.76	373938.89 373937.54
5	Chamaecyparis lawsoniana"Columnaris"	493785.21	373941.84
6	Thuja orientalis"Aurea"	493784.71 493787.01	373943.50 373942.09
7	Picea abies	493779.74	373945.23
8	Juniperus squamata	493778.58	373945.99
9	Hydrangea macrophylla	493824.38 493823.85 493823.38 493822.90 493822.19 493821.67 493821.15 493820.43	373936.77 373935.99 373935.34 373934.74 373933.81 373933.13 373932.39 373931.91

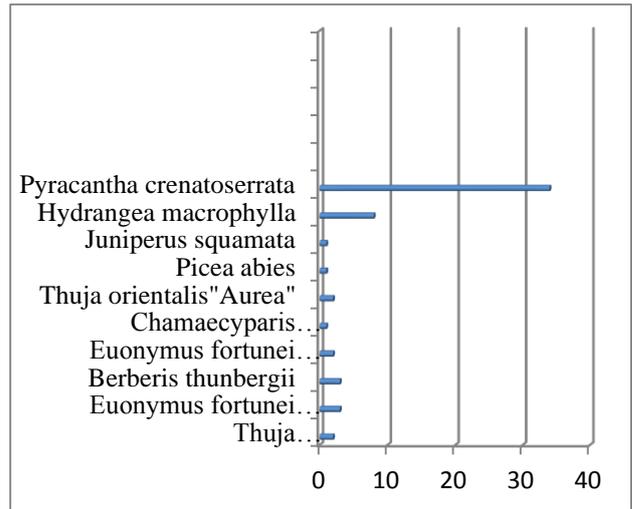| No	Plant name	Y	X
10	Pyracantha crenatoserrata	493819.86	373931.19
		493819.97	373930.54
		493820.54	373930.75
		493821.30	373930.26
		493821.98	373929.77
		493821.54	373929.10
		493821.13	373928.42
		493820.69	373927.75
		493819.96	373926.73
		493819.56	373926.16
		493819.19	373925.63
		493818.46	373924.65
		493817.83	373923.75
		493817.46	373923.22
		493817.09	373922.70
		493816.71	373922.19
		493816.11	373921.39
		493815.69	373920.86
		493815.13	373919.97
		493814.88	373919.67
		493814.51	373919.11
		493813.95	373919.44
		493813.39	373919.76
		493813.37	373920.49
		493812.56	373920.33
		493812.54	373920.98
		493811.60	373920.88
		493811.71	373921.54
		493810.88	373921.47
		493810.86	373922.13
		493810.06	373921.98
		493810.05	373922.64
		493819.86	373931.19
		493819.97	373930.54

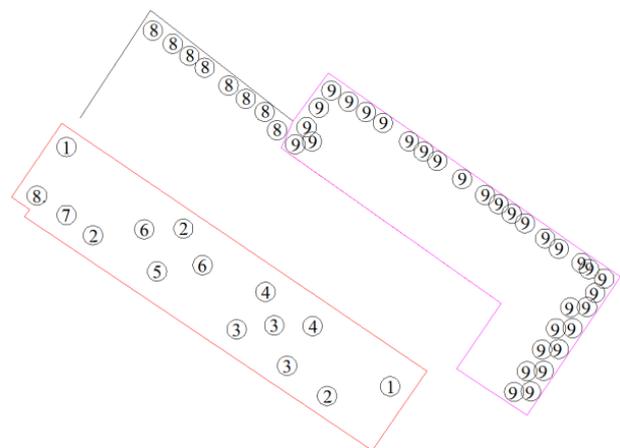Figure 2. The number of specimens per species.

Figure 3. Dendrofloral map

Figure 4. Detail

Largest share a *Pyracantha crenatoserrata* with 34 specimens, then *Hydrangea macrophylla* with 8 specimens, *Euonymus fortunei "Emerande N Gold"* and *Berberis thunbergii* with 3 specimens, 2 specimens of the *Thuja occidentalis"Columna"*, *Euonymus fortunei "Emerald Gaiety"* and *Thuja orientalis "Aurea"*, and a representative *Chamaecyparis lawsoniana "Columnaris"*, *Picea abies* and *Juniperus squamata* (figure 2).

A map of the distribution of dendrofloral was achieved through direct reporting to the coordinates of points on the cadastral plan (figure 3).

Is presented a detail of the distribution of dendrofloral (figure 4).

The contribution of this paper is especially practical.

From the analysis of data obtained through observations and measurements, result it follows that this project can be extended to a complete complex cadaster feature where you can calculate the ecological function and the function of green landscape (Marian and Matei, 2012). The study area has a major benefit for the youth, report between green space and artificial surface is less.

CONCLUSIONS

Through the large number of species identified on a fairly small area, 2130m^2, the green space of the campus can be not only a place of recreation through the landscape, but also provides a significant potential in terms of scientific and education.

We recommend the continuation of green cadastre to capture the evolution of changes in land use.

Embedding the data obtained on a superior type G.I.S. will lead to development of information technique and layers, the result is higher quality, requiring only the use of your PC computer. In this way, data can be updated very easily.

In the context of current legislation, the paper can be used in addition to green Cadastre of the city Stefanesti.

REFERENCES

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