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TECHNICAL AND LEGAL ASPECTS REGARDING FOREST RETURNS IN POIANA MĂRULUI

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Abstract

The paper presents the technical aspects but also the legal ones regarding the issue of restitutions of areas covered with forest in a locality of Braşov county. An area of 393.43ha was considered to be measured using two Trimble Pro XT and Pro XH receivers. The measured areas were correlated with the areas registered in the property titles or with the data held by the mayor's office (requests and validations). Accuracy of point coordinates was calculated with GPS equipment in two situations: at the boundary between forestry and agriculture and within forest areas. Very good accuracies were obtained, accuracies that fell within the range 0.2… 0.4m at the border with the agricultural and 0.5… 0.8m inside the forest areas. Also, all the property titles and the record of vesting of possession were synchronized with the concrete land situation, managing to draw up the parcelling plans in order to submit them for approval to OCPI Braşov. However, there are also some situations in dispute, these being the subject of discussions between the owners, the representatives of the mayor's office and the company that carries out the tabulation work.

Key words*: forest, measurements, Poiana Mărului, property titles.*

INTRODUCTION

The work is being carried out for a part of the forests in Poiana Mărului, forests that have been returned according to the property laws. First image partially shows the area considered.

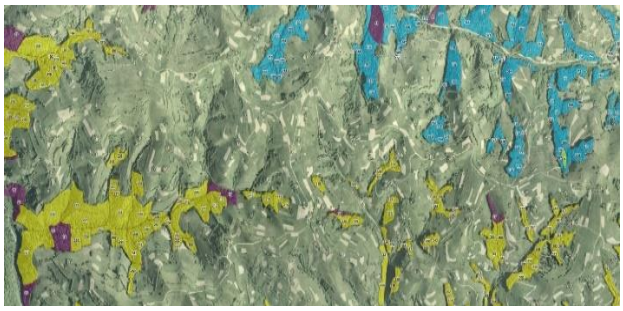

Figure.1 Map with the location of the measured forest areas (partially)

For the beginning, all the property titles were gathered and the Poiana Mărului City Hall was asked for all the lists with the forest validations in order to return them. The second situation resulted from field measurements. Obviously, there were some differences as the forest areas were returned with different property laws, some of them, as it is known, not taking into account the initial physical location (Law 18/1991). Because all these forests are isolated bodies inside Poiana Mărului, it is clear that they are developed behind the households of those who requested them. For this reason, the land measurements took into account what the owners showed, supported (of course) by the neighbors. In the end, these two situations were correlated and a unitary situation was achieved.

MATERIALS AND METHODS

The materials used to solve this work were:
two Trimble PRO XT and Trimble PRO XH dual frequency GPS receivers through which the point coordinates were determined;
the cadastral plans equipped with forest boundaries and the orthophotoplan corresponding to the area;
forest descriptions (so-called parcelling description) taken from the forestry authority.
The research methods used were:

- method of the study of documents in order to visualize the correctness of the titles and the record of vesting of possession or of the validations based on the certificate;
- method of direct topographic measurements - by using the Stop & go method and post-processing the data with the help of data received from a permanent station;

methods of mathematical statistics for the analysis of the accuracy of determining the coordinates of the points with the help of GPS equipment (Dogan et al., 2014; Janez et al., 2004; Ordonaez Galan et al., 2011, 2013; Tereşneu and Vasilescu, 2015, 2019; Tereşneu et al., 2014).

RESULTS AND DISCUSSIONS

Following the field measurements, a table was drawn up to highlight the forest area actually used by each of the forest owners (Table 1).

Table 1. Field measurements and technical and legal problems encountered (extract)

Nr. Crt.	GIS OBJECT	UP	UA	Name	Measured area (ha)	Observations
1	397	XI	69	CORCA TEODORA	1.1176	
2	398	XI	69	BOBEIU IOAN	2.2728	
3	399	XI	69	TOGOE ALEXANDRU COMANICI GHEORGHE	0.2668	
4	400	XI	69	CORCA IOAN	0.0822	
5	401	XI	69	LAZAROIU GHEORGHE	0.9509	
6	402	XI	69	GUIMAN PARASCHIVA	0.4332	
7	403	XI	68	GUIMAN PARASCHIVA	0.0362	
8	404	XI	68	PISEU AUREL	0.7003	
9	406	XI	68	PISEU AUREL	0.3309	
10	407	XI	68	PISEU AUREL	3.2325	
11	408	XI	68	PISEU AUREL/ ADAM ION	0.2648	
12	409	XI	68	TOGOE ION	0.1032	
13	410	XI	68	PISEU AUREL/ADAM ION	0.1255	
14	411	XI	70	PISEU MARIA	0.8378	
15	412	XI	70	ENESCU ELVIRA	0.7048	
16	413	XI	70	PASOIU (RASOIU) ANA	1.6487	
17	414	XI	70	LIHACIU ANA (ANA STAN PERSOIU)	0.7370	
18	415	XI	70	TITILINCU ARON	0.6157	
19	416	XI	70	BALAU IOAN	2.2786	OVERLAY SERVER
20	417	XI	70	TITILINCI ION	0.4397	
21	418	XI	70	PERSOIU IANCU PERSOIU EMIL	0.7538	
22	420	XI	70	ORZAN ION	0.2470	OVERLAY SERVER
23	422	XI	70	ORZAN GHEORGHE	0.5309	OVERLAY SERVER
24	423	XI	71	TITILINCU ARON GURAN ARON	0.3964	
25	424	XI	71	POPA IOAN DRAGOI MARIA	2.4997	
26	434	XI	72 - 76	DOBRESCU ILIE	6.0628	
27	435	XI	72A	CEAPA NECULAI	2.7239	
291	770	XI	122	NITU ILIE	0.4834	NITU ILIE PROBLEMS WITH PRODAN

Several types of problems have been reported, each requiring a specific approach to address. Regarding the issue of overlaps with cadastral works performed by various individuals authorized to perform cadastral works, they have been contacted and the action of verifying topographic measurements and preparation of repositioning documentation is underway. With regard to the disputed issues, where two owners claim the same forest area, a commission has

been set up at the town hall level to find a compromise solution by which each party will receive the requested part of the forest as area.
All the field data as well as the written ones were introduced in the GIS project, which is a very efficient way to manage such a situation. At the level of such a project, in addition to the synthetic situation at the level of the entire measured surface (Figure
2), it was possible to highlight the surfaces with problems such as litigation (Figure 2), or the overlaps with buildings registered in the integrated system of cadastre and land registry (Figure 3).

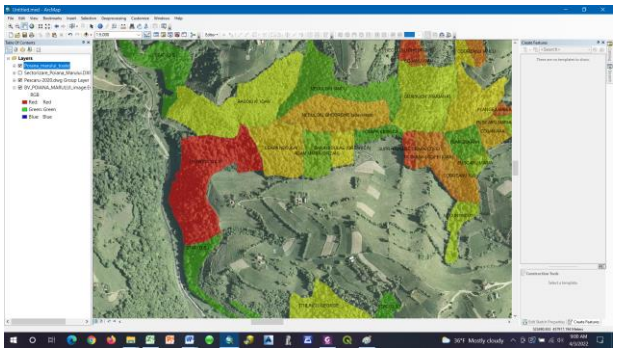

Figure 2. GIS Project overlapping over ortophotoplan

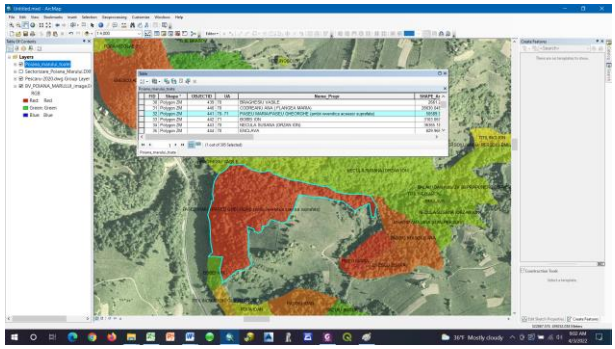

Figure 3. GIS project – Litigations highlighting

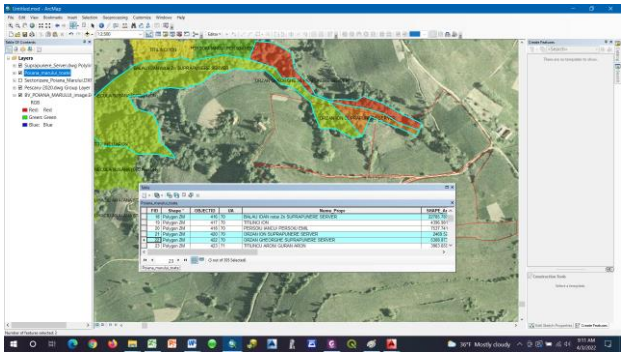

Figure 4. GIS Project – overlays highlighting

The situation shown in Figure 4 is a special case as the owner chose to update his cadastre for the entire area recorded in the land registry, even if part of it overlapped over the forest that was the subject of property laws. In order to solve this situation, it was proposed to the owner to restore the geometry of the buildings registered in E-Terra, in the sense of surface rectification and thus omitting the forested perimeter, and then to draw up the parcelling plan to be submitted for approval to OCPI.

CONCLUSIONS

The problem of tabulating forest areas that have been returned with property laws is a very thorny one and requires both technical skills to solve field measurements and preparation of documentation, as well as legal knowledge to find legal solutions and agreed by beneficiaries. The corresponding areas were measured, the correspondence with the forest parcelling and the existing scripts at the town hall were identified and the corresponding parcelling plans were drawn up. Where the situation is unclear due to overlaps with other agricultural buildings or where several owners request the same forest area, repositioning and / or surface rectification works are carried out and the owners' acceptance is expected regarding the solutions proposed by the designated commission.

REFERENCES

Dogan U., Uludag M., Demir D.O., 2014. Investigation of GPS positioning accuracy during the seasonal variation. Measurement 53: 91-100.

Janez G., Adrados C., Joachim J., Gendner J.P., Pepin D., 2004. Performance of differential GPS collars in temperate mountain forest. Comptes Rendus Biologies, 327: 1143-1149.

Ordonez Galan C., Rodriguez Perez J.R., Garcia Cortez S., Bernardo Sanchez A., 2013. Analysis of the influence of forestry environments on the accuracy of GPS measurements by means of recurrent neural networks. Mathematical and Computer Modelling, 57 (7-8): 2016-2023.

Ordonez Galan C., Rodriguez Perez J.R., Martinez Tores J., Garcia Nieto P.J., 2011. Analysis of the influence of forestry environments on the accuracy of GPS measurements by using genetic algorithms. Mathematical and Computer Modelling, 54 (7-8): 1829-1834.

Tereşneu, C.C., Vasilescu, M.M., 2019, The influence of orographic and tree stand factors on the precision of planimetric coordinates determined using GPS equipment in a forest environment. In Forest and sustainable development. pp. 177-184.

Tereşneu C.C., Vasilescu, M.M., 2015: Testing the accuracy of the GPS locations as a pre-requisite of forest cadastre related bordering issues. In the Proceedings of the national scientific session "Forest and sustainable development", Transilvania University of Brasov Publishing House, (p.356-361).

Tereşneu, C.C., Vorovencii, I., Vasilescu, M.M., 2014: Statistical study on the accuracy of determining points coordinates in mountain forests from Bran-Brasov, Romania. In 14th SGEM Geoconference on Informatics, Geoinformatics and Remote Sensing, Conference Proceedings, Vol. 3, (pp. 893-900).