UNIVERSITY OF CRAIOVA **Series: Geography**
UNIVERSITATEA DIN CRAIOVA **Seria: Geografie**

Vol. 12 (new series) – 2009
Vol. 12 (serie nouă) – 2009

ACCESSIBILITY IN THE RESONANCE PINE OF LĂPUŞNA AND LES HAUTS DE CHARTREUSE NATURAL RESERVES – VECTOR OF THEIR VULNERABILITY TO THE TOURISTIC PRESSURE

ACCESIBILITATEA ÎN REZERVAȚIILE NATURALE MOLIDUL DE REZONONȚĂ LĂPUȘNA ȘI LES HAUTS DE CHARTREUSE – VECTOR AL VULNERABILITĂȚII ÎN FAȚA PRESIUNII TURISTICE

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Abstract: The present paper starts from the following premises: the accessibility in the natural reserves can become a risk factor for the protected natural elements, if the access is not correlated with the interests of preservation. In this case the density and the quality of the transport network are the factors which increase the flow of visitors in a natural reserves. In order to prove this hypothesis we used two case studies: the Resonance pine of Lăpuşna and Les Hauts de Chartreuse natural reserves. So, for the two reserves it was analyzed the existing transport infrastructure, as well as its quality, which is translated in the time needed for driving until the entrance in the natural reserve.

Key words: natural reserves, accessibility, tourism, transport infrastructure, vulnerability, the Carpathians, the Alps.
Cuvinte cheie : rezervaţii naturale, accesibilitate, turism, infrastructura de transport, vulnerabilitate, Munţii Carpaţi, Munţii Alpi

The Resonance pine of Lăpuşna natural reserve is located in the central part of the Eastern Carpathians, in Mureş county, a county where the transport networks has a total length of 1,944.1 km, and the density of 29.9 km to 100 km² of territory, an indicator placed under average of the country of 32.9 km/100 km² territory.

The national roads in this county have a length of 402.9 km, out of which 375.3 km are modernized, and represent 20.7% from the total length of the public roads. The county and communal roads (with a cumulated length of 1,541.2 km) have a percentage of 79.3% from the total network of public roads of the county. The length of county roads is of 781.6 km out of which 638.7 km are modernized, and the length of communal roads is 759.6 km out of which 98.3 km are

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modernized, representing 40.3% and respectively 41.3% from the total length of the public roads.

Regarding the distribution of these roads we can state that the Gurghiu massive resembles a compact island, crossed by a single county road trough the central region (The Gurghiu Valley), its representation and the detail on types of public roads can be observed in Fig. 1. On this map, we can notice that the county road which crosses this region is the same one providing access to the Resonance pine of Lăpuşna natural reserve.

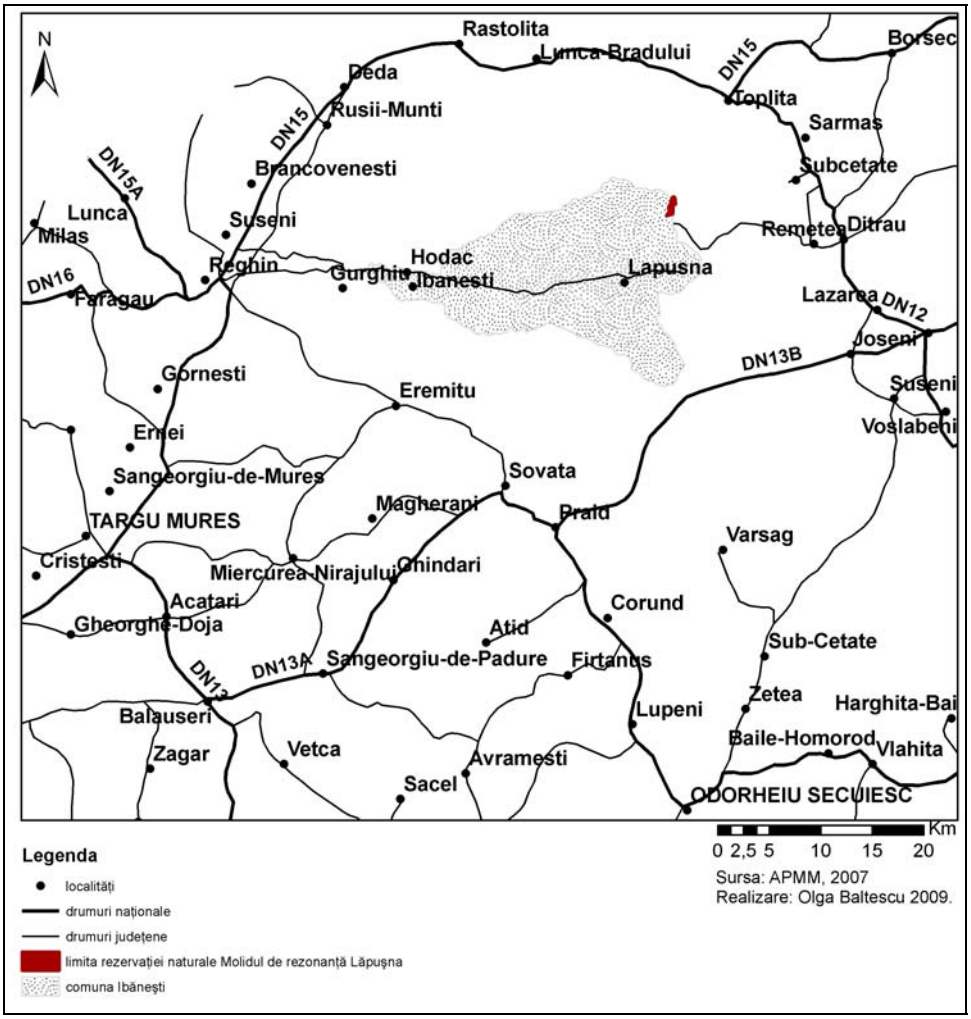

Fig. 1 Road network nearby the Resonance pine of Lăpuşna natural reserve

The distance between the natural reserve and the end of the county road crossing the Ibăneşti commune is of 5.6 km, and the county road coming from Remetea (Harghita county) ends exactly at the eastern limit of the natural reserve, favourizing direct access into the reserve. The railway network which serves this

region is made up mainly of the main railway which connects Bucharest to Baia Mare (on the route Braşov-Miercurea Ciuc-Topliţa-Deda) and by the branch of this main railway which make the connection between Deda and Târgu Mureş. The closest railway station to the Resonance pine of Lăpuşna natural reserve is the one in Topliţa, at a distance of 10.5 kilometers.

But, as from Topliţa there is not a direct road to make the connection with the natural reserve, we can say that the railway network is on a secondary place regarding the elements which favors the accessibility in the natural reserve.

Compared to the region where the Resonance pine of Lăpuşna natural reserve is located, the one corresponding to the ***Les Hauts de Chartreuse natural reserve*** is much more developed from the point of view of the transport infrastructure, as we can see in Fig. 2.

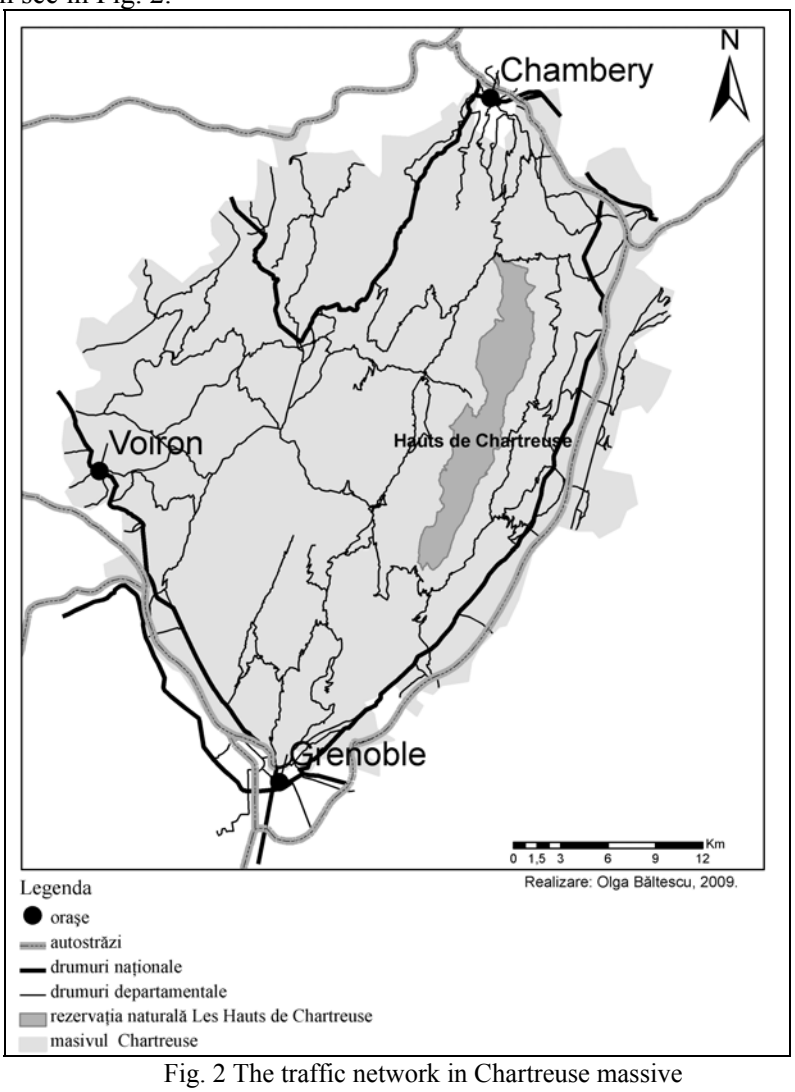

Fig. 2 The traffic network in Chartreuse massive

Taking into account the surfaces of the regions studied and of the graphic scale of the maps we immediately deduct the fact that the network of roads from the Chartreuse massive is more developed that the one nearby the reserve from the Carpathians. These roads provides direct access into the reserve in the north part (Col du Granier) and south (Col du Coq), and for the extremities in the east and west, the access is done up to an average distance of 1.5 km, on the eastern side, respectively 2.2 km on the western side. In addition, close to the eastern limit of the reserve, the department roads are connected to the national roads and to the highway which make the connection between Grenoble and Chambéry. The average distance between the eastern limit of the Les Hauts de Chartreuse natural reserve and the national roads is of 4 km, and to one up to the highway is of 5,5 km.

The railway network follows the same spatial layout, going in parallel with the highway and the national roads. The closest railway station to the Les Hauts de Chartreuse natural reserve is the one from Pontcharra, located to a distance of 5 km from the natural reserve. We remind the presence of a stretch of touristic railroad – the funicular from Saint Hilaire de Touvet (the equivalent of the Mocăniţei) in the proximity of the reserve, with a length of 1.2 km. This funicular is located at a distance of 1.7 km from the natural reserve, but it is not connected to the stretch of the main railroad which connects Grenoble with Chambéry.

The transports developed in this region represent, as we reminded at the beginning of the chapter, a catalytic agent for the flow of tourists toward the natural reserve and in this way a vector of its vulnerability. A good attendance of the Les Hauts de Chartreuse natural reserve and its location close to two big cities (Grenoble and Chambéry) determines an intense touristic frequency of approximate 215,000 annual visitors.

This flow of visitors cannot be coordinated by the personnel of the natural reserve made up of 3 persons, the vulnerability of the preserving objects being directly proportionally with the number of tourists.

The intense frequentation of Les Hauts de Chartreuse natural reserve is determined not only by the density of the transport network, but also by its quality, a quality which is directly felt in the time used for driving on the distance up to the reserve. The quality of the roads in the Chartreuse massive is very good, and the times for making the distance up to the reserve are reduced. The time for driving on a distance from any point of the Chartreuse massive and the limits of the natural reserve does not exceed 35 minutes (Fig. 3). A very important aspect in studying the frequency of this natural reserve is the time needed by the visitors coming from Grenoble, Chambéry and Voiron to arrive at its limit, because the greatest part of the flow of visitors comes from these three cities.

The time for driving from Voiron to Saint-Pierre-de-Chartreuse (so up to the western limit of the reserve from where the touristic routes start) is of 29 minutes, for a distance of 26.3 km.

The time for making the distance of 25.2 km between Grenoble and Col du Coq (the south limit of the reserve) is of 35 minutes, and the one needed to make

the distance between Chambéry and Col du Granier (the north limit of the reserve) of 16.3 km is 18 minutes.

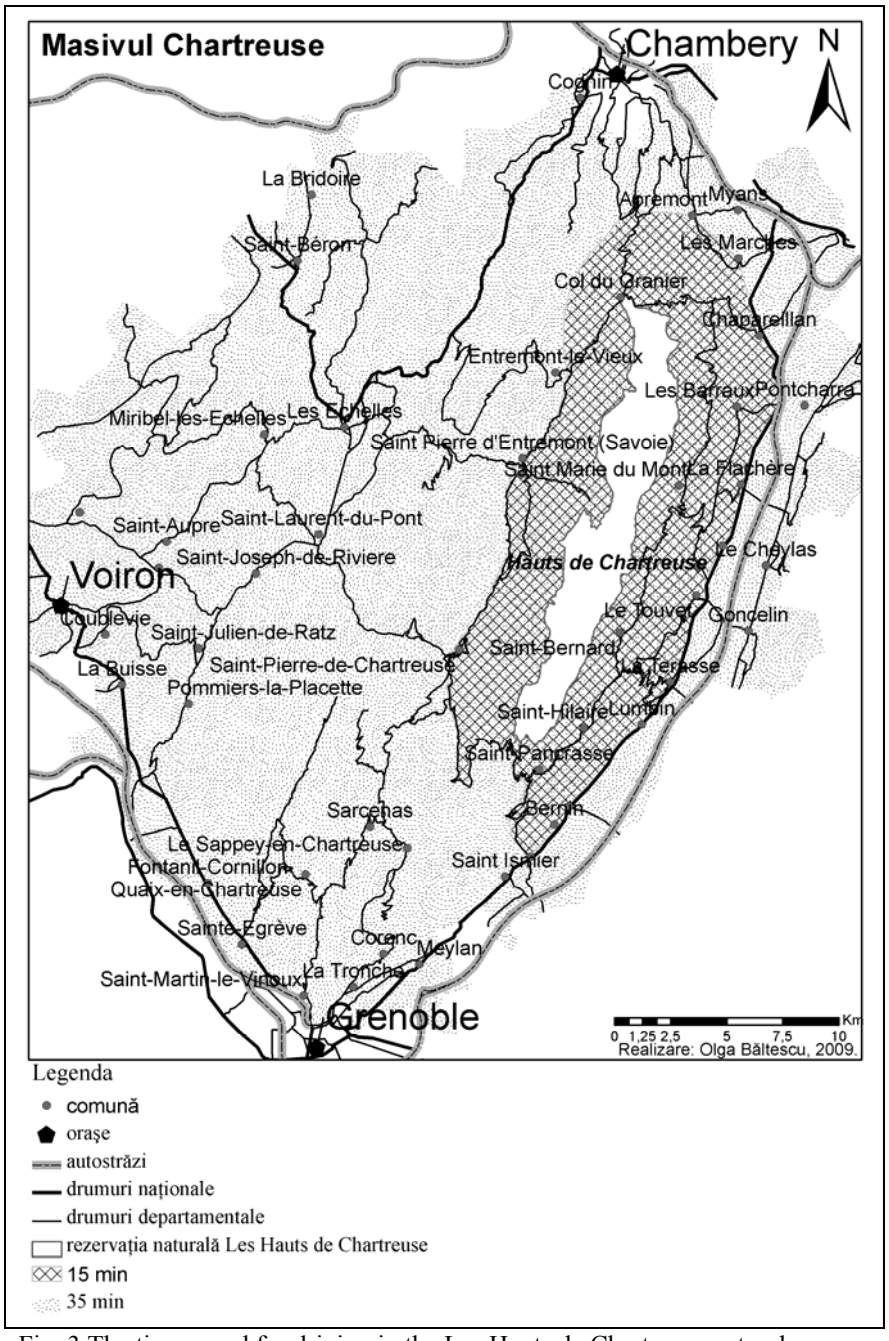

Fig. 3 The times used for driving in the Les Hauts de Chartreuse natural reserve

Regarding the eastern limit, in Fig. 4, we notice that the time used to drive on the distance between the communes bordering the Chartreuse massive and the points where the touristic routes starts towards the reserve is about 15 minutes. This short time and the existence of the highway nearby this area make the degree of accessibility to rise and, implicitly the number of visitors.

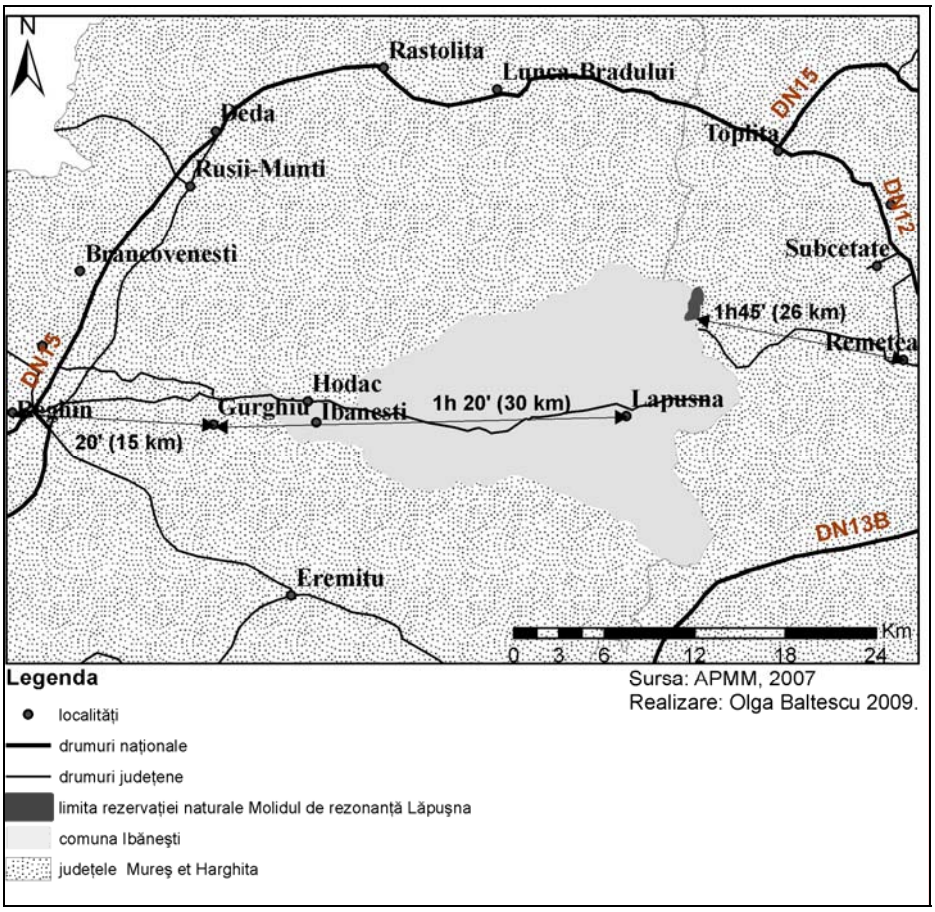

Fig. 4 Times used to drive in the Resonance pine of Lăpuşna natural reserve

But, the situation changes for the Resonance pine of Lăpuşna natural reserve. As we could see at the beginning of this chapter, the density of the transport network is low, and regarding the quality of the roads, they do not rise at the European level.

As we can see in figure number 4, for distances equal to those in Chartreuse, the driving times doubles, even triples on certain stretches of the road. The only road stretch where the ration time/ distance is approximate equal to the one in Chartreuse is the one between Reghin and Gurghiu.

The distance between Gurghiu and Lăpuşna though is only 30 km (so, approximate equal to the one between Grenoble and the southern limit of the Les

Hauts de Chartreuse reserve), the time for making it is of one hour and twenty minutes, (compared to thirty five minutes for the previous case we mentioned).

The poor quality of the roads in this region is felt even more on the stretch of the road connecting the Remetea commune with the Resonance pine of Lăpuşna natural reserve. The time needed to make the distance of 26 km, between the two points, is of one hour and fourty five minutes.

This situation explains the isolate character of the region where the Resonance pine of Lăpuşna is placed, the flow of tourists being reduced due to the long time needed for driving in this area and due to the difficult road (critical on some stretches).

Conclusions

The researches performed demonstrated that the accessibility in the natural reserves can become a risk factor for the natural elements protected, the transport infrastructure being a catalyst agent for the flow of visitors toward the natural reserves and therefore a vector for their vulnerability. Form this point of view, the two reserves are located at opposite poles: the Resonance pine of Lăpuşna natural reserve is located in an relatively isolated area, the flow of visitors being reduced because of the long time need for reaching this area and because of the difficult road, and the Les Hauts de Chartreuse natural reserve is very accessible and it is characterized by an important flow of visitors. In these conditions, to provide a corresponding infrastructure for the tourism is the first step for preventing the vulnerability of the natural reserve in front of human pressure, an infrastructure which must be correlated with the coordination of touristic activities by the personnel of the natural reserve.

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