

HIGH CONSERVATION VALUE FORESTS IN CRIȘUL REPEDE GORGE, ALEȘD FOREST DISTRICT, PRODUCTION UNIT V, DUMBRAVA

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Abstract

Researches conducted over an area of 349.3 ha of forest land were aimed at determining high conservation values (HCVs), the types of forests and types of ecosystems.

After consulting forest management plans at Bihor County Forestry Directorate, the researches performed in the field, 25 management units (mu) containing high conservation values, rare, endangered, endemic, relict species, rare natural ecosystems of community interest, were selected and analyzed on the basis of a table.

Key words: forests, values, conservation, high, natural reserve

INTRODUCTION

Researches on forests that contain high conservation values have already been carried out in the area by Burescu (2009, 2010, 2011, 2013, 2014, 2015). Information regarding forests with high conservation value from other geographical regions of Romania are available to us from the works of authors Abrudan et al. (2006, 2009), Biriș (2001, 2004), Biriș and Veen (2005), Biriș et al. (2002), Cenușă (2001), Doniță and Biriș (2001), Doniță et al. (2008), Gafta and Mountford (2008), Giurgiu (2001), Ioraș and Abrudan (2007), Radu et al. (2004), Stanciu et al. (2004), Stăncioiu (2008), Stăncioiu et al. (2010), Vlad et al. (1997). In Europe, research was carried out by Jennings et al. (2003).

MATERIAL AND METHOD

“The National Guide for the Identification and Management of High Conservation Value Forests” (“Ghidul național pentru identificarea și managementul pădurilor cu valoare ridicată de conservare”), whose coordinators from WWF were Stanciu, Mihul, Dinicu (2004), was consulted.

The research was conducted in the Nature Reserve Crișul Repede Gorge, Bihor county. The strictly protected area comprises management units located on the right side of Crișul Repede: 1A, 1B, 1C, 1D, 1E, 1F, 2A, 2B, 3A, 3D, 4A, 4B, 5A, 5B, 6, 7A, 7B, 8 with enclaves E1, E2, E3, as

well as those located on the left side of Crișul Repede: 94A, 94B, 95, 96N1, 97A, 97B, 97C, 97N₁.

The management units were researched by us on the spot in terms of floristic composition, type of resort, type of forest, type of ecosystem, type of soil, rock, type of litter. The information obtained was used for the precise characterization of the high conservation and selection values of the forest plots containing high conservation values, rare, endangered, vulnerable, plant, endemic, relict species, rare natural forest ecosystems of community interest.

In order to determine the existence of rare species and ecosystems that must be protected, as well as their state of preservation, we have consulted the red lists drawn up by Boșcaiu et al. (1994), Dihoru, Negrean (2009), Olteanu et al. (2004).

RESULTS AND DISCUSSION

Following the work methods applied forest areas were identified that contain high conservation values, considered according to type and number of rare, threatened, endangered species they contain, the type of natural forest ecosystems of community interest, rare relicts or endangered by human activities.

Table 1 presents data regarding the forests with high conservation values in Aleșd Forest District, Production Unit V Dumbrava.

HCVF 1, with critically endangered and threatened species, that require full protection, were included in the protected area.

HCVF 3 were also included in the protected area, as forest areas that are located in or contain rare, threatened or endangered forest ecosystems.

The protected area in the Crișul Repede Gorge also includes forest areas HCVF 4.2, located on cliffs with a slope of up to 45°, limestone scree, erosive lands with soil protection function (category 1.2a).

In, the table, the belonging of a management unit to a particular HCVF, is indicated by recording the area of the respective unit in the case corresponding to the appropriate HCVF, followed by a parenthesis in which the functional category of the forest in question is specified. If a forest in a management unit corresponds to other HCVF categories, this is indicated by recording once again the forest area in the other columns of the table.

Description of the forests in the management units that contain high conservation values

HCVF 1.1. Forests included in protected natural areas, natural monuments for which a special regime of protection and conservation has been put in place. According to the assessment criteria, this category includes forest stands in the management units: mu 3D, 4A, 5A, 5B, 6, 7A,

7B, 8. It is the simplest case because these forest areas have been declared a Botanical Nature Reserve in accordance with Law 5/2000, Law 462/2001, Government Emergency Ordinance 57/2007, Decision 251/1982 and Decision 19/1995 of Bihor County Council. The researched forest is included in the functional categories 1.5.c (Forests established as nature reserves) and 1.5.f (Forest for the protection of natural monuments) as shown in Table 1.

HCVF 1.2, 1.3. Forests that contain rare, threatened, endangered, national endemic, regional endemic species, tertiary relicts, glacial relicts. We have included in this category Turkey oak and durmast woods with *Ruscus aculeatus* butcher's-broom (mu 4A, 5A, 8, 96N1), Turkey oak and durmast woods with *Fritillaria orientalis*, oriental fritillary (mu4A, 5A, 6, 7), Turkey oak and durmast glades (open woods) with *Pulsatilla montana* (mu 6, 8), oak woods and downy oak (*Quercus pubescens*) glades, Italian oak (*Quercus virgiliana*) with *Iris aphylla*, *Pulsatilla montana* (mu 6, 7A, 7B, 8).

HCVF 3 (B.1.) Rare forest ecosystems, beech woods (*Fagus sylvatica*) of hills with *Vaccinium myrtillus* (mu 2B, 4A, 4B, 5B, 7).

HCVF 3 (B.1.) Rare forest ecosystems, beech woods (*Fagus sylvatica*) with *Phyllitis scolopendrium* on limestone rocks (mu 94A, 94B, 95, 96A).

HCVF 3 (B.1.) Rare forest ecosystems, ash and sycamore maple woods (*Fraxinus excelsior*, *Acer pseudoplatanus*) of gorges and scree (mu 8, 94A, 95, 96).

HCVF 3 (B.1.) Rare forest ecosystems, beech woods (*Fagus sylvatica*) of hills with *Epipactis helleborine* and *Cephalanthera damasonium* (mu 1A, 1F, 3A, 94A, 94B, 95, 97A, 97B, 97C).

HCVF 3 (B.1.) Beech woods (*Fagus sylvatica*) with *Iris graminea* (mu 97A, 97B).

HCVF 3 (B.2) Relict forest ecosystems, beech woods (*Fagus sylvatica*) with *Ruscus aculeatus* (mu 2A, 3D, 4A, 5B, 7B, 8).

HCVF 3 (B3.) Forest ecosystems endangered by human activity, Turkey oak (*Quercus cerris*) woods with oriental fritillary (*Fritillaria orientalis*) (mu 4A, 5A, 6, 7).

HCVF 3 (A1.B3) Forest ecosystems of dwarf almond shrubs (*Amygdalus nana* syn.: *Prunus tenella*) in downy oak (*Quercus pubescens*) glades on limestone rocks and scree (mu 7B, 8).

HCVF 3 (A.3.) Complexes of forest ecosystems and glades of downy oak (*Quercus pubescens*) with *Pulsatilla montana* on limestone rocks (mu 6, 7A, 7B, 8).

HCVF 3 (B.1.) Bushes with *Spiraea ulmifolia* on limestone scree and rocks (mu 97A, 97B, 96N1).

Table 1

Management units identified as high conservation value forests (HCVF) of Aleşd Forest District, Production Unit V Dumbrava – Crişul Repede Gorge (Area = 349.3 ha)

MU	Area hectares	Type of forest	Type of ecosystem	Belonging to one of the categories of high conservation value forests (by indicating the area in hectares and the functional zoning).			
				HCVF 1.1	HCVF 1.2, 1.3	HCVF 3	HCVF 4.2
1A	3.1	4214	4116		3.1	3.1(1-2a)	3.1
1B	2.6	7112	7214				2.6
1C	1.6	7112	7214				1.6
1D	1.9	7112	7214				1.9
1E	1.4	7112	7214				1.4
1F	2.0	4214	4116		2.0	2.0(1-2a)	2.0
2A	13.8	7113	7111		13.8	13.8(1-2a)	
2B	4.1	4242	3356		4.1	4.1(1-2a)	
3A	4.4	4214	4116		4.4	4.4(1-2a)	4.4
3D	1.7	7113	7111	1.7(1-5c)	1.7		1.7
4A	24.7	4242	3356	24.7 (1-5c)	24.7		24.7
4B	1.5	4242	3356	1.5(1-5c)	1.5		1.5
5A	3.3	7113	7111	3.3(1-5c)	3.3	3.3(1-2a)	3.3
5B	2.2	4242	3356	33.5(1-5c)	2.2	2.2(1-2a)	2.2
6	27.1	7113	7111	27.1(1-5c)	27.1	27.1(1-2a)	27.1
7A	8.0	7113	7111	8.0(1-5c)(1-5f)	8.0	8.0(1-2a)	8.0
7B	6.1	7113	7111	6.1(1-5c)(1-5f)	6.1	6.1(1-2a)	6.1
8	78.8	4213	3374	78.8(1-5)	78.8	78.8(1-2a)	78.8
94A	8.1	4213	3374		8.1	8.1(1-2a)	8.1
94B	30.1	4213	3374		30.1	30.1(1-2a)	30.1
95	84.5	4213	3374	84.5(1-5)	84.5	84.5(1-2a)	84.5
96A	18.3	4213	3374	18.3(1-5)	18.3	18.3(1-2a)	18.3
97A	13.4	4214	4116			13.4(1-2a)	13.4
97B	4.7	4213	3374			4.7(1-2a)	4.7
97C	1.9	4213	3374			1.2(1-2a)	1.2

CONCLUSIONS

1. The conduct of researches for the identification and assessment of forests containing high conservation values in Aleşd Forest District, Production Unit V Dumbrava District allows solving problems of major interest for forestry at regional level – Bihor County Forestry Directorate, with reference to:

- the determination and classification thereof into 5 types of values: HCVF 1.1, HCVF 1.2, HCVF 1.3, HCVF 3, HCVF 4.2;

- the inventory and mapping of forests that contain high conservation values by management units (MU) and production units (PU), with the establishment of the mode of management in view of forest protection and biodiversity conservation;

2. The use of the typology in the “Practical Guide for the Identification of High Conservation Value Forests” (“Ghid practic pentru identificarea pădurilor cu valoare ridicată de conservare”) requires that research on the structure and functions of the forest should be conducted

according to types of ecosystems, types of forests, for only thus can forest regeneration, management and protection technologies be substantiated, for sustainable management.

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