



()
()
1202, -

2014

1.	.....	3
2.	,	4
3.	.....	7
3.1.	.....	7
3.2.	.....	10
4.	.....	14
4.1.	,	14
4.2	.....	15
4.3	.....	15
4.4	.....	15
4.5	.....	16
4.6	.....	16
4.7	.....	17
4.8	-	23
5.	.....	38
5.1.	.....	38
5.2.	.....	39
5.3.	.....	39
5.4.	.....	40
5.5.	.....	41
5.6.	(.....).....	42
6.	.....	43
7.	.....	63
8.	.....	64

1.

P1202 (— —).

” “
Ranunculus flammula

1202,

()

().

2. ,

,
.

76-

94 (XI) (. 53/05, 81/05 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13 and 42/14).

77

”

“ (

8174/2005).

(,) .

—

, (. 36/12).

,

— , , , . — , , , .

, ,

. 11-

7654/2 29.07.2014

()

()/

() 4.01:

” “ ” “

— ,

:

- (4.01,1999, , 2013);

- (4.11, 2006);

- (4.04, 2001);

- (2013).

2013 . (

2002).

/

/

/

è
:
;
()
:
/) 10%
2 m in situ (1.0 ha,
):
;
;

() 4.50

: ()

()

/ 4.01,

()

Infoshop.

3.

R1202

1202

, R1202

3.1.



1:

1949,,

93%

1.200 m.

92 km².

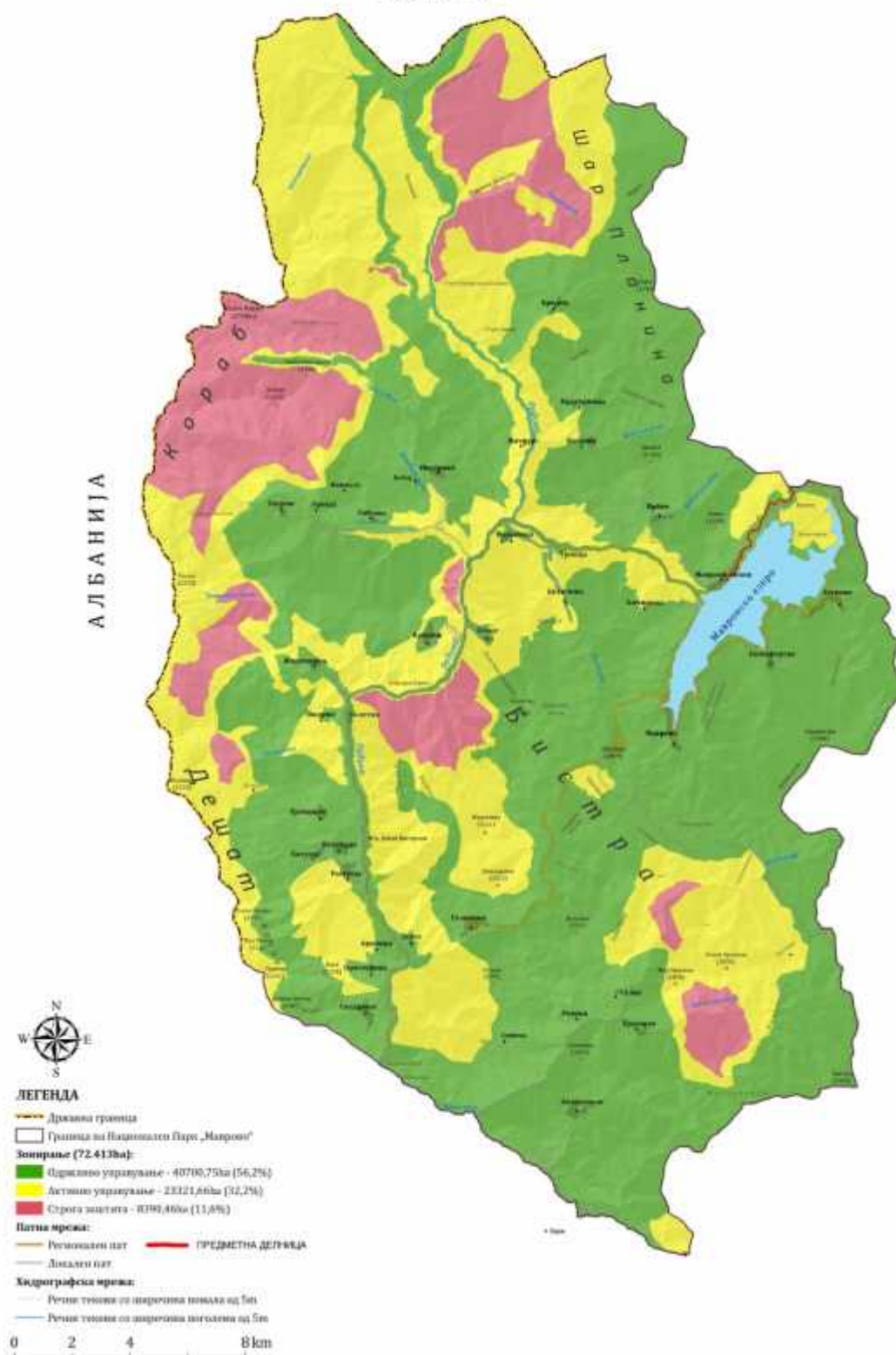
(1.318),

6.5 km.

2),

ЗОНИРАЊЕ НА НАЦИОНАЛНИОТ ПАРК „МАВРОВО“

КОСОВО



2:

—

(

)

”

“

”

“



3:



Слика 4: Букова шума покрај патот Езеро



Слика 5: Поглед на Мавровското

3.2.



6:

:

-
-
-
-
-

+

50(60) km/h

$2 \times 3,25 + b \text{ m} = 6,50 + b$

$2 \times 1,0 \text{ m}$

$2 * (0,50 + 0,50 - 1,0) \text{ m}$

$q_{\min} = 2,5\%, q_{\max} = 5(7)\%$

1,0m,

0,5m.

(

),

,

:

-

,

3mm

RB 200.

;

-

22

4-11 cm,

10 cm¹;

¹ Only in Rehabilitation Type III

- 6 cm; - 22s

- 4cm; -11/16s

RB 200.

- ;
- ;
- ;
- ;
>60 mm 80 MPa.

- / -22s

4 cm; -11/16s

4cm;

RB 200.

(,).

(, . 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11,123/12, 93/13, 187/13, 42/14),

A - IPPC²

A – IPPC

A – IPPC
A – IPPC.

² IPPC – Integrated Pollution Prevention and Control

” “

.

,

(().

:

, ,

(, ,)

/ EMP.

4.

4.1.

(pr.) (MmD1,2), (v) (FD1,3),
(FD1,3)

(MmD1,2).

(v).

(pr).

Q=0,05 - 1,0 l/s.

(d), (pr), (s) (al),

25l/s.

0,1 0,4l/s.

f<10-3m/s.

-
-
-
-

: Rendzic Leptosols, Haplic; Cambisol, Leptic; Cambisol, Dystric; Umbric Regosol (Umbrisol), Haplic; and Regosol.

4.2

5.7⁰ MCS.

4.3

2,20C⁰

7,10C⁰

(16,30C⁰;

1103mm.

100mm,

50mm.

30 110

166 , : - 91‰, - 147‰, - 219‰, - 104‰, - 47‰,
 -55‰, - 122‰ - 145‰.

4.4

(3).

100 m.

50 m

1,202

1370

357

m³

50 m,

26 m, 10 km, 3 5 km.

)
4.5

< 10₁₀ (PM10₁₀)

19µg/m³, 16 µg/m³.
24 (50 µg/m³).
10
SO₂, CO NO_x,

10

1.

4.6

60dB (A).

(NL3)

L_{Aeq}

1m

67.5dB (A).

()

(A),

11 m

3 m

L_{Aeq}= 59.7 dB (A),

L_{Aeq} = 64.5 dB

L_{Aeq}= 55.0 dB (A).

35 m

>10m

(NL4)

1.5m

L_{Aeq}

65.5dB (A).

()

8 m

L_{Aeq} = 60.0 dB (A),

27 m

L_{Aeq}= 55.0 dB (A).

8m

2 –

2.

(),

4.7

(3)
(Ass. *Calamintho grandiflorae* Fagetum),
(*Fagus sylvatica*).

Ranunculus flammula,

R. flammula

”

“

” “ (7).
(, 2003).

”

“

3.

³ Melovski Lj, Matevski V. (2008): Development of criteria for the selection of wetland habitats for strict protection – case study of Bunec site in the National Park “Mavrovo”

”

“



7: ()⁴

(3),

– (Ass. *Abieti-Fagetum macedonicum*),

200m. , 100

” “ (Dama dama).

430 ha

1000 , 38 , 35
12 (Dryopteris carthusiana,
Ranunculus flammula. Viola shariensis, Salix appendiculata, Salix silesiaca, Lotus uliginosus,
Epilobium nutans, Epilobium palustre, Cirsium tymphaeum, Cirsium grecescui, Gentiana

⁴ Modified from Melovski Lj, Matevski V. (2008): Development of criteria for the selection of wetland habitats for strict protection – case study of Bunec site in the National Park “Mavrovo”

57

: *Abies borisii*

regis, *Acer obtusatum*, *Acer pseudoplatanus*, *Actaea spicata*, *Ajuga reptans*, *Anemone nemorosa*, *Aremonia agrimonoides*, *Asperula odorata*, *Asphodelus albus*, *Brachipodium sylvaticum*, *Campanula* sp., *Carex* sp., *Cerasus avium*, *Chamaecytisus austriacus*, *Chrysosplenium alternifolium*, *Cruciata glabra*, *Dactylis glomerata*, *Daphne mezereum*, *Dentaria bulbifera*, *Digitalis viridiflora*, *Euphobia amygdaloides*, *Fagus sylvatica*, *Fragaria vesca*, *Galeobdolon luteum*, *Galium* sp. , *Hordeum* sp. , *Juniperus communis*, *Lembotropis nigricans*, *Mycelia muralis*, *Neottia nidus – avis*, *Orthilia secunda*, *Poa nemorosa*, *Polygonatum* sp. , *Populus alba*, *Populus tremula*, *Potentilla micrantha*, *Primula vulgaris*, *Prunus cerasus*, *Pteridium aquilinum*, *Pulmonaria officinalis*, *Rosa* sp., *Rubus canescens*, *Rubus idaeus*, *Rubus* sp., *Salix silesiaca*, *Sanicula europaea*, *Scilla bifolia*, *Simphytum tuberosum*, *Stelaria media*, *Trifolium* sp. , *Veronica officinalis*, *Vicia* sp. , *Viola odorata*, *Viola reichenbachiana*.

8: *Ranunculus flammula*9: *Dryopteris carthusiana*

11 , 12
 , 140 38 82
 18 , 64

Coleoptera

: *Molops rufipes*
steindachneri, *Tapinopterus dochii*, *Cychrus semigranosus montenegrinus*, *Pterostichus*
brucki, *Carabus croaticus ljubetensis*, *Aptinus merditanus* *Omphreus gracilis*.

: *Salamandra*
salamandra *Podarcis muralis*.

: *Buteo buteo*,
Columba palumbus, *Strix aluco*, *Caprimulgus europaeus*, *Erithacus rubecula*, *Turdus merula*,
Turdus viscivorus, *Certhia familiaris*, *Garrulus glandarius*, *Fringilla coelebs*, *Pyrrhula pyrrhula*

: *Aegithalos caudatus*
(European status: ETS-S), *Anas querquedula (European status: SPEC-3; ETS-V; WBD-II/1; Bern-III; Bonn- II)*, *Anthus trivialis (European status: ETS- S)*, *Ardea cinerea (European Status: ETS-S)*, *Crex crex (European Status: SPEC-, ETS-V, WBD-I, Bern-II, COR- t)*, *Hirundo rustica (European Status: SPEC-; ETS-D; Bern-II)*, *Jynx torquilla (European Status: SPEC-; ETS- D; Bern-II)*, *Lullula arborea (European Status: SPEC -, ETS -V ;WBD- I; Bern - III; COR- t)*, *Nucifraga caryocatactes (European Status: SPEC-S)*, *Passer montanus (European Status: ETS-S)*, *Regulus ignicapillus (European Status: SPEC-; ETS-S; Bern-II; Bonn-II)*. *SPEC-1, ETS-V, WBD-I, Bern-II, COR- t)*, *Hirundo rustica (European Status: SPEC-3; ETS-D; Bern-II)*, *Jynx torquilla (European Status: SPEC-3; ETS- D; Bern-II)*, *Lullula arborea (European Status: SPEC -2, ETS -V ;WBD- I; Bern -III; COR- t)*, *Nucifraga caryocatactes (European Status: SPEC-S)*, *Passer montanus (European Status: ETS-S)*, *Regulus ignicapillus (European Status: SPEC-4; ETS-S; Bern-II; Bonn-II)*.



10: Erithacus rubecula

(Meles meles), (Ursus arctos), (Capreolus capreolus),
 (Canis lupus), (Lynx lynx martinoi), (Martes foina),
 (Apodemus sylvaticus Apodemus flavicollis).



10: Lynx lynx martinoi

15,11ha, 186 ” “
 (). 6

” “

: (),

⁵.

: *Viola shariensis*,
Salix appendiculata, *Salix silesiaca*, *Lotus uliginosus*, *Epilobium nutans*, *Epilobium palustre*,
Cirsium tymphaeum, *Cirsium grecescui*, *Gentiana pneumonanthe*. *Cirsium grecescui*

Crex crex



11: *Gentiana pneumonanthe*

⁵ Ibid 2

4.8 -

()

1202

1202

“ ” “ ”

“ ”

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-

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a)

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b)

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;

c)

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:

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A2 (M4) – 1202
 (P409) - , 2235 (413) –
 , 2238 (414) - 1202
 (P415), –



12:

4 11 15 15 1

- ”
- ”
- ”
- ”

○

1990

1990

2

3

052 722 2009 79.8 2
 km²,
 57.8% 34
 (20.5%).

8.880 (

2004). 11,9 km²,
 80 km².² 42² 36
 (” “), 14
 4,776, 1,969 41,2%

2002 8.698
 , 4.297 49,4% , 4.323 50,6%
 , 2,288 26,3% 15 , 2,257
 25,9%
 (51.7%) , 33.4%
 . 7.4%
 49%, 27%.

1:

								15 .	15-60 .	60 .	
1		45	33	149	81	68	40	92	17	31	
2		22	2	4	2	2	-	-	4	-	
3		9	5	31	13	18	13	18	-	5	

” “
 ” “ ” “ ” “
 ” “
 (2.200 m²)
 5 km
 100
 100
 163 44
) (

2.

2:

163	130	31	1	1



13: " " - 0

1568 . . .

30

, 30

100

1857

1957



14:

1350

16

5 km

(. 20/04).

31 42

12 :”

“ 45

(38).

65

a.

b.

c.

d.

e.

, 20.04, 115/07, 18/11, 148/11 23/13)

740



15:

XI 1021

1020

XIX

30

XX

20



Picture 16: Galichka Wedding (Wedding in Galichnik)

1500 m

2 km

35

km

(1996:113;).

4

(1996:113,).

500 m

(1996:113;).

1953

„Mavros“

()

1973

(1996:113;).

, 5- 7- ,
9-10-
, 14-15- . , ().
è
(, 2008). 9).
- ,
,
,
() (2008:). 23).

5.

5.1.

: SO₂, NO_x, CO, PM₁₀,

CO, PM₁₀,

: SO₂, NO_x,

PM₁₀ –

PM₁₀

5.2.

100-200 m

5.3.

()

5.4.

).

(

5.5.

60dB (A)
4.6.,

50dB (),

>10 m >8 m . .

- 103 dB (10m 75 dB);
- 110 dB (10m 82 dB);
- 96 dB (10m
- 68 dB);
- 102 dB (10m 74 dB).

()

25-55 m.

5.6.

()

(, ,),

- *Ranunculus flammula*.

(*Crex crex*),

6.

(5)
5.

5:

		<ul style="list-style-type: none">• () , ()) IPPC					IPPC
		<ul style="list-style-type: none">•					

		<ul style="list-style-type: none"> • ; • ; • ; • ; • ; 					
/		<ul style="list-style-type: none"> • (•); 					

		<ul style="list-style-type: none"> • ; • ; • (8-17) 					
		<ul style="list-style-type: none"> • ; 					

		<ul style="list-style-type: none"> • ; • . () • • ; () 	N.A.			/	

		<ul style="list-style-type: none"> • • • 					

		•					
		• • ‘ ‘ ‘ ‘ •				/	

		<ul style="list-style-type: none"> • • 					
		•					

		<p>(:). , , . • • ,</p>					

		<ul style="list-style-type: none"> • • • 					

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/	/	• : :0}					

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6:

	?		?	?				
/								
	(IPPC) A-							
	-							
	-	,						

” “

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	-							
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8.

1: PM₁₀

2: