

Annex I

List of species and habitats

No.	Appendix II species	Gornja Neretva Phase 1 EIA	Gornja Neretva Phase 2 EIA	Ulog EIA	Other source and notes
1.	<i>Canis lupus</i>	p 58, pp 59-62	p 58	p 52	Emerald – Standard Data Form
2.	<i>Ursus arctos (Ursidae)</i>	p 58, pp 59-62	p 58	p 52	Emerald – Standard Data Form
3. ¹	<i>Lutra lutra</i>	p 58	p 58	-	
4.	<i>Euphydryas aurinia</i>	p 59-62	p 57	-	Emerald – Standard Data Form
5. ²	<i>Phengaris arion (Maculinea arion)</i>	p 59-62	p 57	-	
6.	<i>Bombina variegata</i>	p 57	p 55	-	Herpetoloska baza BHHU: ATRA Emerald – Standard Data Form
7.	<i>Hyla arborea</i>	-	-	-	Herpetoloska baza BHHU: ATRA
8.	<i>Rana Dalmatina</i>	-	-	-	Herpetoloska baza BHHU: ATRA
9. ³	<i>Bufo viridis</i>	-	-	-	Herpetoloska baza BHHU: ATRA
10.	<i>Lacerta agilis</i>	p 57	p 55	-	
11.	<i>Lacerta viridis</i>	p 57	p 55	-	
12.	<i>Natrix tessellata</i>	p 57	p 55	-	
13.	<i>Vipera ammodytes</i>	-	-	-	Herpetoloska baza BHHU: ATRA
14.	<i>Zamenis longissimus (as Elaphe longissima)</i>	-	-	-	Herpetoloska baza BHHU: ATRA
15.	<i>Coronella austriaca</i>	-	-	-	Herpetoloska baza BHHU: ATRA
16.	<i>Algyroides nigropunctatus</i>	-	-	-	Herpetoloska baza BHHU: ATRA
17. ⁴	<i>Podarcis melisellensis</i>	-	-	-	Herpetoloska baza BHHU: ATRA
18.	<i>Cerambyx cerdo</i>	pp 59-62	p 58	-	Emerald – Standard Data Form
19.	<i>Anthus trivialis (Motacillidae)</i>	p 57	p 55	-	
20.	<i>Carduelis cannabina</i>	p 57	p 55	-	
21.	<i>Carduelis carduelis</i>	p 57	p 55	-	

¹ The description of fauna in the EIAs for species 1, 2 and 3 is based on the local hunting documentation, on species likely to be present in such habitats, and on a description of species mentioned in the project undertaken to establish the Emerald network in BiH. As such, it is unclear how near the species lives to the project site and what its current status is in the area.

² Species under 4 and 5 are mentioned in the Gornja Neretva EIAs in a description of species mentioned in the project undertaken to establish the Emerald network in BiH. As such, it is unclear how near the species live to the project site and what its current status is in the area.

³ The Gornja Neretva EIAs state that the species under no. 6 is present, but give no indication of the date when this was established. The BiH Herpetological society confirms its distribution across this part of Bosnia and Herzegovina, whilst for species under 7, 8 and 9 it confirms its distribution across all of Bosnia and Herzegovina [Herpetoloska baza BHHU: ATRA](#).

⁴ The distribution range of species under numbers 13-17 are confirmed by the BiH Herpetological society <https://www.bhhuatra.com/species/reptiles>.

22.	<i>Carduelis chloris</i>	p 57	p 55	-	
23.	<i>Coccothraustes coccothraustes</i>	p 57	p 55	-	
24.	<i>Emberiza cia</i>	p 57	p 55	-	
25.	<i>Emberiza cirulus</i>	p 57	p 55	-	
26.	<i>Erithacus rubecula</i>	p 57	p 55	-	
27.	<i>Falco subbuteo</i> (Falconiformes)	p 57	p 55	-	
28.	<i>Jynx torquilla</i> (Piciformes)	p 57	p 55	-	
29.	<i>Lanius collurio</i> (Laniidae)	p 57	p 55	-	
30.	<i>Lanius excubitor</i> (Laniidae)	p 57	p 55	-	
31.	<i>Luscinia megarhynchos</i>	p 57	p 55	-	
32.	<i>Monticola saxatilis</i>	p 57	p 55	-	
33.	<i>Motacilla alba</i> (Motacillidae)	p 57	p 55	-	
34.	<i>Muscicapa striata</i> (Muscicapinae)	p 57	pp 55-56	-	
35.	<i>Oenanthe hispanica</i>	p 57	p 56	-	
36.	<i>Oenanthe oenanthe</i>	p 57	p 56	-	
37. ⁵	<i>Oriolus oriolus</i>	p 57	p 56	-	
38.	<i>Parus caeruleus/ Cyanistes caeruleus</i> (Paridae)	p 57	p 56	-	
39.	<i>Parus major</i> (Paridae)	p 57	p 56	-	
40.	<i>Phoenicurus ochruros</i> (Muscicapinae)	p 57	p 56	-	
41.	<i>Picus viridis</i> (Piciformes)	p 57	p 56	-	
42.	<i>Serinus serinus</i>	p 57	p 56	-	
43.	<i>Sylvia atricapilla</i> (Sylviidae)	p 57	p 56	-	
44.	<i>Sylvia cantillans</i> (Sylviidae)	p 57	p 56	-	
45. ⁶	<i>Sylvia communis</i> (Sylviidae)	p 57	p 56	-	
46.	<i>Alcedo atthis</i>	-	-	-	Emerald – Standard Data Form
47.	<i>Ardea purpurea</i>	-	-	-	Emerald – Standard Data Form
48.	<i>Ardeola ralloides</i>	-	-	-	Emerald – Standard Data Form
49.	<i>Egretta garzetta</i>	-	-	-	Emerald – Standard Data Form
50.	<i>Emys orbicularis</i>	-	-	-	Emerald – Standard Data Form
51.	<i>Euphydryas maturna</i> (<i>hypodryas maturna</i>)	-	-	-	Emerald – Standard Data Form
52.	<i>Ixobrychus minutus</i>	-	-	-	Emerald – Standard Data Form
53.	<i>Lycaena dispar</i>	-	-	-	Emerald – Standard Data Form
54.	<i>Nycticorax nycticorax</i>	-	-	-	Emerald – Standard Data Form
55.	<i>Osmoderma eremita</i>	-	-	-	Emerald – Standard Data Form

⁵ Sighted a few kilometres downstream from the planned plants in summer 2018.

⁶ Species under 19-45 are mentioned in the Gornje Neretva EIAs on the basis of research carried out from 1978-1981 and 1984, so their current status is unclear.

56.	<i>Rosalia alpina</i>	-	-	-	Emerald – Standard Data Form
57.	<i>Testudo hermanni</i>	-	-	-	Emerald – Standard Data Form

No.	Appendix III species	Gornja Neretva Phase 1 EIA	Gornja Neretva Phase 2 EIA	Ulog EIA	Other sources and notes
58.	<i>Austropotamobius pallipes/Austropotamobius torrentium</i> ⁷	pp 59-62	p 57	-	Sadbera Trožić-Borovac: Freshwater crayfish in Bosnia and Herzegovina: The first report on their distribution, Knowledge and Management of Aquatic Ecosystems , July 2011; Opinion by the Institute.
59.	<i>Meles meles</i>	p 58	p 56	-	
60.	<i>Martes foina</i>	p 58	p 56	-	
61.	<i>Martes martes</i>	p 58	p 56	-	
62.	<i>Salamandra salamandra</i>	p 57	p 55	-	Herpetoloska baza BHHU: ATRA
63.	<i>Rana ridibunda/ Pelophylax ridibundus</i>	p 57	p 55	-	
64.	<i>Rana temporaria</i>	p 57	p 55	-	Herpetoloska baza BHHU: ATRA
65. ⁸	<i>Rana graeca</i>	-	-	-	Šunje, E., et al. The revision of the Greek stream frog (<i>Rana graeca</i> , Boulanger 1891) distribution and conservation status in Bosnia and Herzegovina, UZIZAŽ, Vol. 13. 2017
66. ⁹	<i>Lissotriton vulgaris</i>	-	-	-	Herpetoloska baza BHHU: ATRA
67.	<i>Ichtyosaura alpestris</i>	-	-	-	Herpetoloska baza BHHU: ATRA
68.	<i>Bufo bufo</i>	p 57	p 55	-	Herpetoloska baza BHHU: ATRA

⁷ Sadbera Trožić-Borovac: Freshwater crayfish in Bosnia and Herzegovina: The first report on their distribution, [Knowledge and Management of Aquatic Ecosystems](#), July 2011, says *A. pallipes* is present in the river Neretva rather than *A. torrentium*.

⁸ Distribution of this species in this part of BIH confirmed by Šunje, E., Lelo, S., Jelić, D. The revision of the Greek stream frog (*Rana graeca*, Boulanger 1891) distribution and conservation status in Bosnia and Herzegovina, [UZIZAŽ, Vol. 13. 2017](#)

⁹ Personal communication with BIH Herpetological society suggests high likelihood of presence in the area. [Herpetoloska baza BHHU: ATRA](#)

69.	¹⁰ <i>Dalmatolacerta oxycephala</i>	-	-	-	Emina Šunje, et al: Distribution and conservation of Dalmatolacerta oxycephala (Duméril & Bibron, 1839) in Croatia and Bosnia and Herzegovina , January 2015.
70.	<i>Anguis fragilis</i>	-	-	-	Herpetoloska baza BHHU: ATRA
71.	<i>Vipera berus</i>	-	-	-	Herpetoloska baza BHHU: ATRA
72.	<i>Dinarolacerta mosorensis</i>	-	-	-	Herpetoloska baza BHHU: ATRA
73.	<i>Lucanus cervus</i>	pp 59-62	p 58	-	Emerald – Standard Data Form
74.	<i>Aegithalos caudatus</i>	p 57	p 55	-	
75.	<i>Alauda arvensis</i>	p 57	p 55	-	
76.	<i>Buteo buteo</i>	p 57	p 55	p 52	
77.	<i>Emberiza calandra</i>	p 57	p 55	-	
78.	<i>Fringilla coelebs</i>	p 57	p 55	-	
79.	<i>Phylloscopus collybita</i>	p 57	p 56	-	
80.	<i>Sitta europaea</i>	p 57	p 56	-	
81.	<i>Streptopelia turtur</i>	p 57	p 56	-	
82.	<i>Turdus merula</i>	p 57	p 56	-	
83.	<i>Turdus pilaris</i>	p 57	p 56	-	
84.	<i>Turdus viscivorus</i>	p 57	p 56	-	
85.	¹¹ <i>Upupa epops</i>	p 57	p 56	-	
86.	<i>Accipiter gentilis</i>	-	-	p 52	
87.	<i>Perdix perdix</i>	-	-	p 52	
88.	<i>Coturnix coturnix</i>	-	-	p 52	
89.	<i>Aquila chrysaetos</i>	-	-	p 52	Emerald – Standard Data Form

No.	Appendix I species	Gornja Neretva Phase 1 EIA	Gornja Neretva Phase 2 EIA	Ulog EIA	Other sources and notes
90.	<i>Aquilegia kitaibelii</i>	-	-	-	Emerald – Standard Data Form
91.	<i>Cypripedium calceolus</i>	-	-	-	Emerald – Standard Data Form
92.	<i>Eryngium alpinum</i>	-	-	-	Emerald – Standard Data Form

No.	Resolution No. 6 (1998) ¹²	Gornja	Gornja	Ulog	Other sources and
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¹⁰ Not included in the EIAs for the projects but the upper Neretva is the limit of its range, according to Emina Šunje, David Richard Bird, Dušan Jelić: [Distribution and conservation of Dalmatolacerta oxycephala \(Duméril & Bibron, 1839\) in Croatia and Bosnia and Herzegovina](#), January 2015.

¹¹ Species under 62-73 are mentioned in the Gornje Neretva EIAs on the basis of research carried out from 1978-1981 and 1984, so unclear current status.

¹² Revised Annex I of Resolution 6 (1998) of the Standing Committee to the Bern Convention, T-PVS/PA (2011) 15, Standing Committee 31st meeting Strasbourg, 29 November - 2 December 2011, available at <https://rm.coe.int/1680746347>. This table includes additional species not mentioned in the Appendix II and Appendix III tables.

	species	Neretva Phase 1 EIA	Neretva Phase 2 EIA	EIA	notes
93.	<i>Ciconia ciconia</i>	-	-	-	Emerald – Standard Data Form
94.	<i>Circaetus gallicus</i>	-	-	-	Emerald – Standard Data Form
95.	<i>Circus aeruginosus</i>	-	-	-	Emerald – Standard Data Form
96.	<i>Morimus funereus</i>	-	-	-	Emerald – Standard Data Form
97.	<i>Myotis capaccinii</i>	-	-	-	Emerald – Standard Data Form
98.	<i>Myotis emarginatus</i>	-	-	-	Emerald – Standard Data Form
99.	<i>Myotis myotis</i>	-	-	-	Emerald – Standard Data Form
100.	<i>Rhinolophus blasii</i>	-	-	-	Emerald – Standard Data Form
101.	<i>Rhinolophus euryale</i>	-	-	-	Emerald – Standard Data Form
102.	<i>Rhinolophus ferrumequinum</i>	-	-	-	Emerald – Standard Data Form
103.	<i>Rhinolophus hipposideros</i>	-	-	-	Emerald – Standard Data Form
104.	<i>Rhodeus sericeus amarus</i>	-	-	-	Emerald – Standard Data Form
105.	<i>Cottus gobio</i>	-	-	-	Opinion by the Institute.

No.	Resolution 4 ¹³ habitat	No. code	Natura 2000 code	Gornja Neretva Phase 1 EIA	Gornja Neretva Phase 2 EIA	Ulog EIA	Other sources and notes
1.	H2.2 Cold limestone screes		8120	pp 59-62	pp 56-59	-	Access to information ¹⁴ .
2.	H2.4 Temperate-montane calcareous and ultra-basic screes		8120	pp 59-62	pp 56-59	-	Access to information.
3.	H3.2 Basic and ultra-basic inland cliffs		8210	pp 59-62	pp 56-59	-	Access to information.
4.	C3.55 Sparsely vegetated river gravel banks		3240 and 3220	pp 59-62	pp 56-59	-	Access to information.
5.	F9.1 Riverine scrub		3240	pp 59-62	pp 56-59	-	Access to information.
6.	G1.11 Riverine <i>Salix</i> woodland		3240	pp 59-62	pp 59-59	-	Access to information.

¹³ Revised Annex I to Resolution No. 4 (1996) of the Bern Convention on endangered natural habitat types using the EUNIS habitat classification (Adopted by the Standing Committee on 6 December 2019), available at <https://rm.coe.int/16807469e7>

¹⁴ Presence of these habitat types confirmed in the Reply to the Access to Information request, no. 07/1.30-625-628/20 from 21/09/2020 by the Ministry of Education and Culture of Republika Srpska, Institute for protection of cultural-historical and natural heritage, available at <https://drive.google.com/file/d/1FKSe5NCFeBmvgoVgQ2kIbTdujGWEWggW/view>.

Annex II

Description of the Upper Neretva hydropower projects

1.1 Information about the planned projects

The Upper Neretva projects consist of a 35 MW Ulog hydropower plant and the HES “Gornja Neretva” hydroelectric system that consists of 7 small hydropower plants on the upper Neretva and its tributaries with a total installed capacity of 15.01 MW. The Ulog dam location is near the centre of the candidate Emerald Site¹, and the planned location of the HES “Gornja Neretva” plants is also inside of the candidate Emerald Site Gornji tok Neretve.

1.1.1 “Ulog” hydropower plant

The 35 MW Ulog hydropower project, promoted by “EFT – HE Ulog” d.o.o. Kalinovik (hereinafter, “Investor”, “EFT”), would be built on the upper section of the river Neretva, downstream from the village of Ulog. The project would involve a 53 metre-high dam and a 2758 m long derivation tunnel leading to the powerhouse.

On 20.11.2009, the Republika Srpska Ministry of Industry, Energy and Mining signed a concession contract with EFT (Holdings) ApS, registered in Denmark. The project received an environmental permit on 11.07.2011 – no. 15.04-96-126/11², after the site was proposed as ASCI (Emerald) in October 2005³. On 02.12.2011, the Bern Convention Standing Committee adopted a list of nominated candidate Emerald Sites, including the Upper Neretva (*Gornji tok Neretve*) in Bosnia and Herzegovina⁴.

In July 2013, two tragic incidents occurred at the construction site for the Ulog hydropower plant when a worker from the Prijedorputevi company was killed by a rock breaking off a cliff face while building access roads. Only four days later on 8 July, another worker from the same company was killed by a rockslide, and another worker taken to hospital.⁵ After this, the works were put on hold while more geological research was done. However, on 14/04/2016, the investor applied for a renewal of environmental permit no. 15.04-96-126/11 from 11/07/2011. The Ministry took Decision no. 15.04-96-126/11 of 08.07.2016 extending its 2011 Decision approving the project’s environmental permit.⁶

On 28.06.2017, the Ministry received a notification on changes to the project from EFT – HE Ulog d.o.o. informing it about changes in the project, which were *inter alia* changes in location of the dam approximately 60m downstream, changes to the shape and design of the dam, changes in the position of the surge tank that turned out to be unstable, as well as other accompanying changes such as those relating to the pipeline, supply tunnel and so on. However, rather than assessing the changes in an appropriate screening procedure, the Ministry notified the EFT in the form of a letter that it confirms that the changes do not represent significant changes to the project and that the current environmental permit stays in force.

Apart from the assessment of the plant itself, the construction of the power lines for the Ulog hydropower plant were assessed separately. In 21.07.2011, an environmental permit for construction of a 35kV power line 15.8km long, was issued to the investor EFT – HE Ulog. However, it is not clear if this project was subject to an environmental impact assessment⁷. Similarly, on 07.08.2018, the decision on approval of an environmental impact assessment study for the construction of a 2x110 kV connection power line 20.7km long for the Ulog hydropower plant, was renewed for the

¹See, Emerald Network, European Environmental Agency, available at <https://emerald.eea.europa.eu/>, <https://drive.google.com/file/d/1NBmUKwoqxUAoMvdftf8aS7BahHXpknOmL/view>.

² Decision on environmental permit no. 15.04-96-126/11 from 11/07/2011, Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, available at https://drive.google.com/file/d/1ja3x-s3wZpfcUHSr2rIrw6GTxeiuY_H9/view

³ <https://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=BA0000002&release=2>

⁴ Convention on the conservation of European wildlife and natural habitats, Standing Committee, 31st meeting, Strasbourg, 29 November – 2 December 2011, T-PVS (2011) 26, available at <https://rm.coe.int/0900001680746b0d>

⁵ See news items here: https://www.glassrpske.com/lat/hronika/crna_hronika/Odron-zatrpao-radnika/126056, <https://www.rtvbn.com/13544/zbog-pogibije-dva-radnika-zabranjen-rad-prijedorputevima>.

⁶ Decision on the renewal of Decision no. 15.04-96-126/11 from 11/07/2011 to the “EFT – HE Ulog” d.o.o. Kalinovik from 08/07/2016, available at <https://drive.google.com/file/d/13STMvJ4njgJMXyo46STEh68P5TjxPAN/view>.

⁷ A request for information was sent to the authorities for clarification.

Elektroprijenos-Elektroprenos BiH, which was submitted by an EFT proxy.⁸ Therefore, the environmental impact of these power lines was a subject of separate procedure.

1.1.2. Gornja Neretva hydropower plants

On 10.05.2010,⁹ a concession contract was signed with Marvel d.o.o. for seven hydropower plants on the upper Neretva and its tributaries, upstream from the Ulog plant. All of them would be situated in what was in 2011 accepted as the *Gornji tok Neretve* proposed candidate Emerald Site.¹⁰

All seven hydropower plants are designed as a hydroelectric system HES “Gornja Neretva”, meaning that all seven plants can be seen as one energy unit, however divided between two municipalities, the Municipality of Gacko and the Municipality of Kalinovik.¹¹

In February 2012, the investor applied for a screening decision for the HES “Gornja Neretva” after which the Ministry of Spatial Planning, Construction and Ecology of Republika Srpska issued a screening decision, no. 15.04-96-33/12 from 29/05/2012 that determined that an EIA study was necessary. However, since the investor faced difficulties in obtaining urban-technical conditions¹² for all the projects on the river Neretva from the Municipality of Kalinovik, after obtaining the location permits for three out of seven hydropower plants, the investor signed a contract with the Projekt a.d. company from Banja Luka for development of an EIA study that would assess only these three plants.¹³ The impact of the other four plants was assessed separately in a new EIA study.¹⁴

Therefore, although the HES “Gornja Neretva” represented one system in the energy point of view, and could be seen as one unit¹⁵, it was divided into two Phases that were subject to a separate environmental impact assessment. Phase 1 included the “Igaščica”, “Mjedenik” and “Grebenac-Usce” hydropower plants, whilst Phase 2 included “Uloški Buk”, “Plačikus”, “Trnovica” and “Grebenac-Krupac”.¹⁶

Apart from splitting the HES “Gornja Neretva” plants into two phases and assessing their environmental effects separately, the EIAs failed to assess the planned power lines for the plants.¹⁷ Information on such power lines was mentioned in the Report of the Commission for Concessions of Republika Srpska for 2016, where it is stated that *the economic justification for the plants is threatened by the construction of a power line approximately 40km long*.¹⁸ Therefore, it seems that there had been no separate assessment of the impact of power lines on species, nor was it part of any assessment with the hydropower plants¹⁹.

⁸ [Decision on approval of environmental impact assessment study](#), no. 15.04-96-39/13 from 07.08.2018.

⁹ Report on the work of the Commission for Concessions of Republika Srpska for the year 2018, available at <https://koncesije-rs.org/wp-content/uploads/2019/10/2018-izvjestaj-lat.pdf>

¹⁰ EIA report for HES “Gornja Neretva” Phase 1, available at <https://drive.google.com/file/d/1UtAgBQHq6Pwg4jurHc3takf0ni8o4nM/view> pp 58-62; EIA report for HES “Gornja Neretva” Phase 2, November 2016, available at https://drive.google.com/file/d/16PVnupdTQ2XKm3fXQa_MwstYGHsWIGez/view pp 56-59.

¹¹ *Ibid*, EIA Phase 1, pp 14 and 108

¹² Under the Law on Spatial Planning and Construction of Republika Srpska (Official Gazette of RS no. 40/2013, 2/2015, 106/2015, 3/2016, 104/2018 and 84/2019) article 63, urban-technical conditions are professional documents that define conditions for construction and use of facility and land.

¹³ EIA Phase 1, (n 9), p 9 and p 29

¹⁴ EIA phase 2, (n 9), pp 11-12

¹⁵ *Ibid*, p 19

¹⁶ *Ibid*, p 35

¹⁷ In the Reports of the Commission for Concessions of Republika Srpska for the years 2014 – 2019, it is stated that the main difficulty for realisation of the concession agreement was the absence of power lines, and that in 2019 certain activities were conducted for fulfilment of the conditions of construction of the power line, including a report on deforestation. Report for 2019 available at <https://www.narodnaskupstinar.net/?q=la/narodna-skup%C5%A1tina/sjednice/materijali-za-sjednice/materijali-za-desetu-redovnu-sjednicu-drugi-dio>; Report for 2018, available at <https://koncesije-rs.org/wp-content/uploads/2019/10/2018-izvjestaj-lat.pdf>; Report for 2017, available at https://koncesije-rs.org/wp-content/uploads/2019/10/Izvjestaj_tabele_2017_latinica.pdf; Report for 2016, available at <https://koncesije-rs.org/bs/2016-izvjestaj/>

¹⁸ Report for 2016, available at <https://koncesije-rs.org/bs/2016-izvjestaj/>

¹⁹ A request for information was sent to the authorities for clarification.

Since the environmental permit for Phase 1 plants expired, in December 2019, Marvel d.o.o. made a new request to the Ministry for a Decision on whether an EIA would be needed for the project. On 13.04.2020, the Ministry issued a Decision²⁰ that no EIA would be needed, even though in 2012 it had taken the opposite decision for all 7 HES Gornja Neretva plants.

As part of the screening process, the Ministry of Health and Social Protection shared its opinion no. 11/08-012-1/20 from 12/02/2020, in which it stated that the contested watercourse falls into the category of surface waters of first class in Republika Srpska, and that the information provided by the investor are outdated (deriving from 1980s), and that they do not show the real ecological risks and adverse impacts of the proposed projects. Moreover, the Ministry stressed that fresh data from the past 20 years of this century is needed, which would include, *inter alia*, further assessment of the indigenous and protected species primarily fish and other rare and specific animal species of this area that are under protection, as well as an expert biology and hydrobiology assessment that would explain processes in artificial water reservoirs with ageing and accumulation of sludge and dirt in the bottom of the reservoir due to stagnant waters, photosynthesis and process of eutrophication.²¹

The Republika Srpska Institute for the Protection of Cultural-Historical and Natural Heritage (“*Institute*”) also issued an expert opinion²² where it expressed its objection to the planned project. Firstly, it referred to the amendments of the Spatial Plan of Republika Srpska until 2025 where it was stated that the upper area of Neretva is planned for protection in category IV - Areas of management of habitats, as well as the area of the Ecological network of Republika Srpska - “Maglic-Volujak-Zelengora”. Accordingly, under the Law on Nature Protection (“Official Gazette of Republika Srpska” no. 21/14), in the area of protected habitat **all works and activities that would affect or damage one or more types of habitats is forbidden**.

Regarding species, the Institute stressed that the upper Neretva site includes rare, endemic and relict flora and fauna species, and pointed to the fact that the area is listed as a candidate Emerald site with the registered no. BA0000002 based on the information from the European Environmental Agency, due to species and habitats of interest to the Union.

Therefore, the Institute concluded:

*That the area in question (...) is among the best preserved mountain watercourse ecosystems in Republika Srpska, with exceptional natural characteristics, which is such planned for protection by the Amendments and Additions to the Spatial Plan for Republika Srpska until 2025, and that the planned construction of the hydroenergetic facilities of the Gornja Neretva Phase 1 hydropower system is contrary to the principles of preserving and protecting nature.*²³

However, the Ministry only briefly concluded that the environmental impact assessment was not needed, without explaining the reasons for its own assessment. On May 2020, the Centre for Environment submitted a lawsuit to the Banja Luka District Court challenging the Gornja Neretva Phase 1 screening decision. This procedure is ongoing.

For the Phase 2 project, on 27.01.2017, the Ministry issued an EIA approval Decision, which was followed on 02.11.2018 by Decision issuing an environmental permit. On 23.02.2017, Centre for Environment submitted a lawsuit to the Banja Luka District Court, requesting the cancellation of the EIA approval, on the grounds that the project is in conflict with the RS Spatial Plan; lack of examination of real impact on Emerald Site and species (e.g. *austropotamobius torrentium*) and mitigation measures; old hydrological data and insufficient knowledge about ichthyofauna. In March 2018, the court rejected the lawsuit as unfounded.

1.2 Lack of proper assessment of cumulative impact of all planned projects on protected species and candidate Emerald site

Particularly important in this case is the lack of assessment of cumulative impacts of all the planned hydropower plants on the upper Neretva in all three EIAs, and in the new screening procedure. As explained in the EIAs, the plants

²⁰ Decision no. 15.04-96-165/19 from 15.04-96-165/19 from 13/04/2020, Ministry of Spatial Planning, Construction and Ecology of Republika Srpska, available at <https://drive.google.com/file/d/1LCQDR1IGWtvdDKmpSsLvPbh-X0KMMcK/view> .

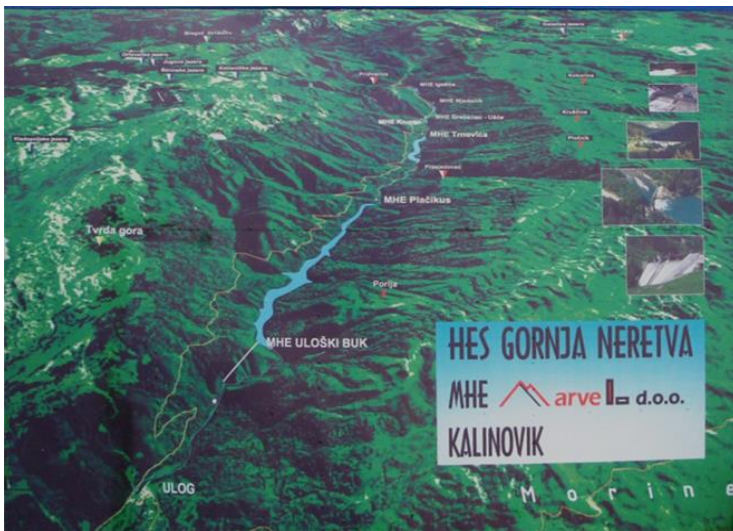
²¹ *Ibid*, p 4 of the Decision.

²² *Ibid* pp 9-11

²³ *Ibid*

practically “lean” onto one another²⁴ and that the largest difference between them is 240 m. In fact, information from page 35 of the EIA for Gornja Neretva Phase 2 suggests that the space between these plants is even smaller, as all the plants begin at the same altitude as the previous ones end, except for one gap of 3 m altitude.²⁵

According to our calculations, the reservoir of the Ulog plant will also end just two kilometres downstream from the Uloški Buk powerhouse, so its impact should have also been assessed together with the Gornja Neretva plants. The dam of Uloški buk, the lowest of the Gornja Neretva hydropower plants, would be 27.5 km from the source of the Neretva.²⁶ Then 770 m of tunnel and 100 m of pipeline brings the water to the powerhouse downstream. Therefore, the lowest point of the seven Gornja Neretva plants would be about **28.4 km** downstream from the source.



From the Ulog EIA we can see that the Ulog dam would be 35.3 km from the source of the Neretva²⁷, whilst the length of the reservoir leading upstream would be 4.888 km.²⁸ Therefore, the highest point of impact of Ulog is around **30.4 km** from the source of the Neretva. Thus, the distance between the lowest point of Gornja Neretva and the highest point of Ulog is **about 2 km**.²⁹ Ulog alone, taking into account the reservoir and derivation tunnel and pipeline, will change 7.6 km of the river.

Figure 1 Rough map of the plants in question, looking upstream.

All this means that there will be plants stretching continuously from around 8 km from the source³⁰ to 38 km from the source (30 km) with only one gap of 2 km between Ulog and Uloški Buk. Bearing in mind that the Ulog plant practically reaches the entity boundary with FBiH, this means that **hydropower plants would directly impact three quarters of the river down to the entity border.** If these plans go ahead, the upper Neretva will be completely changed from a river into a series of reservoirs and pipelines.

Furthermore, the baseline biodiversity data provided in the EIAs does not fully depict the actual importance of the area and its biodiversity value. Based on the list of species that complainants attach to this complaint, it can be seen that only a limited number of species are mentioned in the EIAs. The HES “Gornja Neretva” studies mention several species protected under the Bern Convention and the EU Habitats Directive, such as the stone crayfish (*Austropotamobius torrentium*), grey wolf (*Canis lupus*), brown bear (*Ursus arctor*) and otter (*Lutra lutra*), but do not specify where and when these have been found and how close this is to the project site. Nor do they include all Bern Convention species

²⁴ According to the EIA phase 2 study:

Technically and dispositionally, all the hydropower plants are designed so that the available vertical difference is used to the maximum, i.e. their installations virtually “lean” onto one another. This means that the altitude of the “lower waters” of the upstream and “higher waters” of the downstream hydropower plant are identical, i.e. all installations follow one another with no spacing in between them, except Mjedenik and Grebenac–Ušće”, where the spacing is about 240 m.

²⁵ Furthermore, the study further emphasised that apart from the technological connection between the plants, the elevation points of three out of seven plants that connect the Phase 1 and Phase 2 plants, are identical. Therefore, the elevation point of “upper water” for the Trnovica plant (768 m.a.s.l.) is also the elevation of “low water” for the Grebenac-Krupac plant, which is also the elevation point for the Grebenac-Ušće plant. The information on the distance between planned hydropower plants is compiled in the table in Annex 4. EIA, p 22 and p 94.

²⁶ EIA for Gornja Neretva Phase 2, (n 9), p 35 and 100.

²⁷ Environmental impact assessment report for “Ulog”, available at <https://drive.google.com/file/d/1JJSpl-1cI26TmSzHLVhG02ITZkMT7r3w/view> p 36.

²⁸ *Ibid*, p 86

²⁹ This may differ somewhat due to the dam at Ulog being moved 60 m downstream after the EIA was done, but in our opinion such changes would not make any difference to the fact that the cumulative impacts of both the Ulog and Gornja Neretva plants should have been studied together.

³⁰ Igašćica would dam a tributary but its powerhouse would be on the Neretva at the same point where the Mjedenik intake would be.

that are mentioned elsewhere in the EIAs. Although there is enough biodiversity data that shows that the area is extremely important for protection, the developer and the authorities have not gathered enough data to prove that they can be sure there will be no adverse impacts. For instance, it is not clear what is the real number of endemic flora species in the area of the location of the plants³¹, whilst the insufficient information on fauna was even acknowledged in the study³². Finally, the EIAs explicitly state that the habitat type code 3220 (Alpine rivers and the herbaceous vegetation along their banks - C3.55 Sparsely vegetated river gravel banks) is found in the upper Neretva³³, and that for their protection, any regulation of the water regime is forbidden and that construction of small or bigger reservoirs and any other regulation of the waterbed are the biggest threat to their disappearance.

Given the lack of precise and updated baseline data, it is clear that the studies could not predict with any degree of certainty the project's impacts on the environment. Even for those species named in the study, it does not assess the impacts of the project adequately (ichthyofauna) or in some cases at all (other species, including Bern Convention species). In addition, despite the fact that the Gornja Neretva was nominated as a candidate Emerald site already in 2011, and the study explicitly mentions this, it fails to assess at all the impact on these species and the site itself. These shortcomings have even been explicitly criticised in the new screening procedure.

The baseline data in the Ulog EIA for fauna mentions only a few birds and larger animals, however it is not clear where this information came from, or when they were detected. There is no data about any other birds, mammals, insects or crustaceans like crayfish or otters, even though the EIAs for Gornja Neretva Phases 1 and 2 mentioned them, whilst the candidate Emerald site, nominated later in 2011 was not even mentioned.

1.3 Noncompliance with the obligations from the Bern Convention

The obligations to protect the habitats of species and endangered natural habitats are not 'soft law' but rather strict obligations clearly marked in the Convention and forming part of the international law.³⁴

Therefore, having regard to the objectives of the Convention to conserve wild flora and fauna and their natural habitats, requirements from Article 3 of the Convention that requires from each Contracting Party to take steps to promote national policies for the conservation of the habitats of wild flora, wild fauna and natural habitats, with particular attention to endangered and vulnerable species, especially endemic ones, and endangered habitats, as well as Article 4(1) of the Convention that provides that each Contracting party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild fauna species, especially those listed in Appendices I and II to the Convention, it is clear from the recent developments explained above that these requirements have not been met.

Moreover, the *Gornji tok Neretve* was officially nominated as a candidate Emerald site in 2011, and - as such - it is subject to Recommendation No. 157 (2011) on the status of candidate Emerald sites and guidelines on the criteria for their nomination, requiring national authorities to "take the necessary protection and conservation measures in order to maintain the ecological characteristics of the candidate Emerald sites" until their full inclusion in the Emerald Network, since the ecological quality of proposed Emerald Network sites should be preserved as soon as they are officially nominated as 'candidate Emerald Network sites' by the Standing Committee to the Bern Convention.³⁵

³¹ For example, on page 46 it states that the region represents more than half (around 150) of the total number of flora taxons in Bosnia and Herzegovina, including around 20 endemic species, but then further states that there are 170 endemic and relict species in the wider Neretva river basin with most endemic species in the middle and upper parts of the basin.

³² For example on page 52: "*The literary data on fauna in this area is very scarce. The exception is the ichthyological study (Vegara et al. 2009)... To consider amphibians, reptiles, birds and mammals, experience, data from research in similar habitats, and the hunting conditions for the Zagorje hunting area were used.*"

³³ Presence of these habitat types confirmed in the Reply to the Access to Information request, no. 07/1.30-625-628/20 from 21/09/2020 by the Ministry of Education and Culture of Republika Srpska, Institute for protection of cultural-historical and natural heritage, available at <https://drive.google.com/file/d/1FKSe5NCFeBmvgoyqQ2kIbTdujGWEWggW/view> .

³⁴ CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE AND NATURAL HABITATS, Group of Experts on Protected Areas and Ecological Networks The Emerald Network: A Network of Areas of Special Conservation Interest for Europe, Explanatory document and compilation of relevant texts, T-PVS/PA (2016) 4, Strasbourg, 10 June 2016, p 5.

³⁵ Recommendation No. 157 (2011) of the Standing Committee, adopted on 2 December 2011 and revised on 6 December 2019, on the status of candidate Emerald sites and guidelines on the criteria for their nomination, available at <https://rm.coe.int/2011-rec-157e-revised-in-2019-on-emerald-network-criteria/1680993e41> , p 2.

Annex III

Endemic and relict species of flora

The EIAs highlight a large number of **endemic and relict species of flora** present in the Neretva basin, without specifying which of them occur at and near the project site. On page 49 of the Gornja Neretva phase 1 EIA it is stated that the wider Neretva basin has around 170 endemic and relict species, with 22 endemic species in the mountains. These include:

- *Campanula hercegovina* Degen & Fiala
- *Euphorbia barrelieri* Savi subsp. *hercegovina* (Beck) Kuzmanov
- *Petteria ramentaceae* (Sieber) C. Presel
- *Moltkia petraea* (Trrat.) Griseb.
- *Edraianthus tenuifolius* (Waldst. & Kit) A. DC.
- *Peucedanum arenarium* Waldst. & Kit. Subsp. *neumayeri* Stoj. & Stef.
- *Potentilla speciosa* subsp. *illyrica* Sojak
- *Tanacetum cinerariifolium* (Trevir) Sch. Bip.
- *Reichardia macrophylla* Vis. & Pančić
- *Crepis pantocsekii* (Vis.) Latzel
- *Onosma stellulata* Waldst. & Kit
- *Micromeria croatica* (Perss) Schott.

It also lists several species of vascular flora on the Bosnia and Herzegovina and Republika Srpska red lists:

- *Cephalanthera rubra* (L.) Rich.
- *Dianthus petreus* Waldst. et Kit
- *Edraianthus graminifolius* (L.) A.DC
- *Iris reichebanchii* Heuff.
- *Micromeria thymifolia* (Scop.) Fritsch
- *Moehringia bavarica* (L.) Gren
- *Onosma stellulata* Waldst. & Kit.

The EIA for Ulog (p.46-47) also names several endemic plants present in the project area, which are not listed in the Bern Convention Annex I but signal the area's value:

- *Cerastium dinaricum* G.Beck & Szysz.
- *Thlaspeion rotundifolii* Br.Bl.
- *Cerastium grandiflorum* Waldst. & Kit.
- *Dianthus liburnicus* Bartl.
- *Silene retzdorffiana* (K.Maly) Walters
- *Helleborus multifidus* Vis.
- *Corydalis ochroleuca* ssp *leiosperma* Koch
- *Alyssum moellendorffianum* Ascherson ex G.Beck
- *Vincetoxicum huteri* Vis. & Ascherson
- *Onosma stellulata* Waldst. & Kit
- *Micromeria thymifolia* (Scop.) Fritsch
- *Euphrasia dinarica* (G.Beck) Murb.
- *Melanpyrum trichocalycinum* Vandas
- *Micromeria croatica* (Perss.) Schott
- *Campanula hercegovina* Degen & Fiala
- *Petteria ramentacea* (Sieber) Presl.