



**A case study on the Beli Kamen  
and Komalj hydropower plants  
on the Crni Rzav and Ribnica  
Rivers in Serbia**

## A Case study on the Beli Kamen and Komalj hydropower plants on the Crni Rzav and Ribnica Rivers in Serbia

The small hydropower plants Beli Kamen and Komalj are built on the Crni Rzav and Ribnica Rivers of the Drina basin in western Serbia. Both plants are interconnected, as they use water from the same intakes and were financed by the European Investment Bank (EIB) via a loan for small and medium enterprises (SMEs) and priority projects made to the financial intermediary Crédit Agricole Srbija AD Novi Sad.<sup>1</sup> The investor in Beli Kamen and Komalj is Zlatiborske elektrane Ltd., registered in Čačak, which has plans to build a third plant, Peta, just below Komalj.

For more information

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Cover Photo: Crni Rzav River,  
Photo: Nataša Milivojević

### ПОДАЦИ О ПОТРАЖИВАЊУ КОЈЕ СЕ ОБЕЗБЕЂУЈЕ ЗАЛОЖНИМ ПРАВОМ

Основни износ обезбеђеног потраживања: **1.755.000,00 EUR.**

Максимални износ обезбеђеног потраживања: **5.265.000,00 EUR.**

Дospelост у складу са уговором број 00-471-0700898.1 о дугорочном инвестиционом **кредиту тип ЕИВ од 24.11.2017. године.** Анексом број 1. тог уговора од 25.12.2017. године, Анексом број 2. тог уговора од 21.02.2018. године, Анексом број 3. тог уговора од 12.10.2018. године, Анексом број 4. тог уговора од 17.07.2019. године и Анексом број 5. тог уговора од 17.07.2019. године,

### ПОДАЦИ О ПРЕДМЕТУ ЗАЛОГЕ

Предмет број: 1

Покретна ствар која нема регистрациони број - Збир покретних ствари

Основна средства - опрема, у свему према Картица основних средстава на дан 01.06.2019. године, на локацији **МХЕ Комаљ,** село Семегево, Златибор, дел.бр. 14/19 од 28.06.2019. године, коју је издао и оверно њихов власник **Zlatiborske elektrane d.o.o.**  
Детаљан опис **Čаčак,** Булевар ослободилаца Чачка број: 117, Чачак, матични број 20939184. укупне набавне вредности 73.396.455.15 РСД.

*Pledge information on the Komalj small hydropower plant showing long-term 'EIB-type' investment loan by Crédit Agricole Srbija AD from 24 November 2017. Source: Serbian Business Registers Agency, Register of Pledges on Movable Property and Rights<sup>2</sup>*

<sup>1</sup> EIB, [Credit Agricole Loan for SMEs and priority projects](#), last accessed 16 March 2021.

<sup>2</sup> Agencija za privredne registre, [Založno pravo](#), last accessed 16 March 2021.

региструју подаци следеће садржине:

ПОДАЦИ О ПОТРАЖИВАЊУ КОЈЕ СЕ ОБЕЗБЕЂУЈЕ ЗАЛОЖНИМ ПРАВОМ

Основни износ обезбеђеног потраживања: **3.625.000,00 EUR; 1.650.000,00 EUR.**

Максимални износ обезбеђеног потраживања: **5.437.500,00 EUR; 2.475.000,00 EUR.**

Напомене за прво потраживање: Дospelост у складу са Уговором No 00-421-0103810.0 о дугорочном инвестиционом кредиту од 17.08.2017.године. Напомене за друго потраживање: Дospelост у складу са Уговором број: 00-471-0700898.1 о дугорочном инвестиционом кредиту **тип ЕИВ од 23.10.2017.** године.

*Amendment to pledge information on the Beli Kamen small hydropower plant showing long-term 'EIB type' investment loan by Crédit Agricole Srbija AD from 23 October 2017. Source: Serbian Business Registers Agency, Register of Pledges on Movable Property and Rights<sup>3</sup>*

The impacted river stretches are in the Zlatibor candidate Emerald site (site code: RS0000034)<sup>4</sup>, first proposed in 2006 according to the Bern Convention on the Conservation of European Wildlife and Natural Habitats, and in Zlatibor Nature Park, established as a protected area in 2017<sup>5</sup>.

Beli Kamen HPP (1.68 MW) was put into operation in 2016 and Komalj HPP (0.6 MW) in late 2018<sup>6</sup>. The powerhouses of both plants are constructed on the right bank of the Crni Rzav River. Beli Kamen has two intakes and two pipelines – one on Crni Rzav (4.3 kilometres upstream from the powerhouse) and one on Ribnica (2.5 kilometres upstream from the river confluence). Komalj has no separate intakes, but water used by Beli Kamen goes directly into Komalj's pipelines, bypassing the Crni Rzav River for an additional 2.4 kilometres. A total of 9.2 kilometres of river between the intakes and Komalj powerhouse are seriously impacted. Results from hydrobiological studies carried out by WWF-Adria in 2020 show serious additional impacts downstream from Komalj.



*Komalj small hydropower plant, Photo: Nataša Milivojević*

<sup>3</sup> Agencija za privredne registre, [Založno pravo](#), last accessed 16 March 2021.

<sup>4</sup> [Emerald site](#), last accessed 16 March 2021.

<sup>5</sup> [УРЕДБУ о проглашењу Парка природе „Златибор“](#), last accessed 16 March 2021.

<sup>6</sup> EPS Snabdevanje: [ПРЕГЛЕД УГОВОРА СА ПОВЛАШЋЕНИМ/ПРИВРЕМЕНО ПОВЛАШЋЕНИМ ПРОИЗВОЂАЧИМА ЕЛЕКТРИЧНЕ ЕНЕРГИЈЕ](#), last updated 11 February 2021.

## Assessment and monitoring process

On 18 January 2018, an inspection was carried out by the Environmental Protection Inspectorate and representatives of Zlatibor Nature Park. At the time, Beli Kamen's construction was finalised, Komalj was under construction and Peta was in the preparatory works phase.

The inspectorate discovered that all three plants are in zone 2 of the Zlatibor Nature Park, where 'water diversion and changes in hydrodynamic characteristics and regimes of streams and rivers, as well as all other works and interventions that may affect changes in the hydrological regime of groundwater and surface waters' and 'construction of hydro-technical facilities (dam-reservoir), barriers and regulation of watercourses, as well as construction of hydroelectric power plants, reservoirs or parts of these on watercourses that are gorge or canyon type' are both forbidden.<sup>7</sup> However, as all permits were obtained by 2012 and the nature park declaration decree was passed in 2017, no infringements were found.

The investor Zlatiborske elektrane Ltd. submitted three requests to the municipality of Čajetina, where the plants are located, on the need to prepare Environmental Impact Assessment (EIA) studies for the hydropower plants Beli Kamen, Komalj and Peta. For each, the Department of Urbanism and Spatial Planning of the Municipality of Čajetina issued a construction permit and decided that it was not necessary to carry out EIAs, but also did not instruct the investor to comply with any of the nature protection conditions set by the Institute for Nature Conservation of Serbia. These conditions for the construction and operation phases are a preventive measure in the Law of Nature Protection and should have been issued before the construction permit, because the plants were located within a nature park and proposed Emerald site.

Zlatiborske elektrane Ltd. obtained permits for the three plants on the following dates:

Plant	Construction permit from Čajetina municipality	Water permit from the Ministry of Agriculture, Forestry and Water Management
Beli Kamen	14.10.2011	04.10.2011
Komalj	20.09.2012	24.09.2012
Peta	20.09.2012	25.09.2012

Nowhere in the permit granting procedures is the Zlatibor Emerald site (proposed in 2006) mentioned, and there is no assessment on the impacts of the three plants on the ecological characteristics of the site. This jeopardises Serbia's opportunity to achieve the aims and provisions of the Bern Convention and to ensure the conservation of the habitats of wild flora and fauna species and endangered natural habitats under protection in the Emerald site by taking appropriate and necessary administrative measures.

<sup>7</sup> Ministry of Environmental Protection of the Republic of Serbia, [Minutes from inspection 18-01-2018](#), 18 January 2018.

### Hydrobiological studies carried out by WWF-Adria

In July and August 2020, WWF-Adria organised hydrobiological studies of six rivers in western Serbia (15 localities) and two in eastern Serbia (five localities) with the goal of assessing the environmental impacts of planned or constructed hydropower plants. Results were compared to studies from previous years. Three of the localities were on the Crni Rzav River:

- Locality CR1 (951 metres above sea level (masl)), in a stretch not impacted by hydropower, higher than the intakes
- Locality CR2 (811 masl), just above Komalj powerhouse
- Locality CR3 (809 masl), just below Komalj powerhouse

The studies were carried out in line with the EU's Water Framework Directive, according to which phytoplankton, phytobenthos, macrophytes, macrozoobenthos and fish are used as biological quality elements to assess water status and quality.

#### *Analysis of physical-chemical parameters of water:*

Very different results were measured in the three localities on the Crni Rzav. CR2 had much higher temperature than CR1 and CR3 and higher values of oxygen concentration and saturation, which is a consequence of an increase in the decomposition of organic matter (in this case, algae).

Locality	Temp. (°C)	pH	Electrical conductivity ( $\mu\text{S}/\text{cm}^3$ )	Water hardness (mg/l)	Oxygen concentration (mg/l)	Oxygen saturation (%)
CR1	17.8	7.9	260	130	9.74	114.8
CR2	<b>23.8</b>	8.65	350	170	<b>12.03</b>	<b>151.3</b>
CR3	18.3	8.61	370	180	9.78	111

#### *Analysis of benthic algae communities (qualitative-quantitative composition), with special emphasis on strictly protected species at the national level:*

Algae communities play a very important ecological role in the processes of matter circulation and energy transfer of the ecosystems in which they develop, since they are at the base of the nutrition chain. Algae in aquatic ecosystems are the main, and often the only, primary producers of organic matter, but also a convenient shelter for the development of many animal organisms. Many aquatic fauna use algae in their diet. The growth and development of benthic algae is influenced by the speed of water flow, the stability of the substrate on which they develop, light intensity, temperature, pH, concentration of oxygen and carbon dioxide, and the content and amount of biogenic salts.

Algae are particularly suitable for assessing water quality, due to their nutritional needs, fast reproduction rates, rapid colonisation of aquatic ecosystems and very short life cycle, which makes them good bioindicators of short-term effects. Algae react quickly to changes in the environment, both in terms of species composition and population density.

Wu et al. (2010)<sup>8</sup> showed that small hydropower plants significantly affect a river's physical and chemical environmental conditions, as well as the composition of the benthic algae community (decreased algal diversity, but increased algal biomass), as well as increased chlorophyll (algae overgrowth in stagnant water). In changed environmental conditions, stenovalent species (restricted to a few types of environmental conditions) often cannot adapt, so they very often disappear from such habitats. Only a small number of species can recolonise the river bed when water flow continues<sup>9</sup>.

The algae communities of the Crni Rzav River were studied on 21 July 2020. At CR3, no algae was detected in the collected samples. At CR1, 30 taxons of algae were detected, and at CR2, 34. At CR2, segments of the river with a dried-up bed, segments with a slightly lower water level and segments with stagnant water were observed. In places with stagnant water, the level of primary algae production was very high. The entire bottom was covered with macroscopic aggregations of silicate algae, dominated by representatives of the genera *Achnanthydium*, *Cymbella* and *Nitzschia*.

The value of the Sorensen index, obtained by comparing the qualitative composition of the benthic algae community at sites CR1 and CR2, was 31 per cent, which indicates a very small overlap of the recorded taxa.

**Conclusion: The hydropower cascade very seriously altered the river habitats, as proven by the changes in the algae communities compared to the river stretch not impacted by hydropower (CR1). The lack of any algae at CR3 means lack of food and shelter for many aquatic animals. The overgrowth of algae at CR2 and the change in species composition indicate a totally modified river stretch with stagnant water.**

***Analysis of aquatic macroinvertebrate communities (qualitative-quantitative composition and biomass in g/m<sup>2</sup> of river bottom):***

The aquatic macroinvertebrate community is a group of organisms of various forms that spend part or all of their life cycle in aquatic ecosystems. In addition to diversity, aquatic macroinvertebrates are characterised by a significant biomass of populations, which is an important element of the trophic dynamics and energy flow in the lakes, rivers and streams in which they are present. The aquatic macroinvertebrate community is an important link in the food chain, because it is located between producers (leaves, algae) and larger consumers, such as fish, and is a key indicator of biological integrity in aquatic ecosystems<sup>10 11</sup>.

The influence of small hydropower plants on the spatial distribution of macroinvertebrates has been investigated by numerous authors. Numerous studies have shown that small hydropower plants significantly reduce the taxonomic richness, total density and biomass of macroinvertebrates. The reduction of living space during the period with low water flow and sludge deposition during its

<sup>8</sup> Wu N.C., Jiang W.X., Fu X.C., Zhou S.C., Li F.Q., Cai Q.H., Fohrer N. (2010): Temporal impacts of a small hydropower plant on benthic algal community. *Fundam. Appl. Limnol.* 177(4): 257-66.

<sup>9</sup> Sabater S., Timoner X., Bornette G., De Wilde M., Stromberg J.C., Stella J.C. (2017): The biota of intermittent rivers and ephemeral streams: algae and vascular plants. In: Datry T., Bonada N., Boulton A.J. (eds.): *Intermittent Rivers and Ephemeral Streams: Ecology and Management*. Elsevier, Amsterdam, the Netherlands: 189-216.

<sup>10</sup> Petrović A. (2012): *Mogućnost korišćenja baze podataka u strategiji konzervacije biodiverziteta makrobeskičmenjaka kopnenih voda na nacionalnom nivou*. Doktorska disertacija. Univerzitet u Kragujevcu, Kragujevac, Srbija.

<sup>11</sup> Tubić B. (2016): *Testiranje različitih metoda uzorkovanja makrobeskičmenjaka u vodenim ekosistemima i mogućnost standardizacije*. Doktorska disertacija. Univerzitet u Kragujevcu, Kragujevac, Srbija.

withdrawal changes the composition of the substrate and the heterogeneity of the river bottom, which results in a decrease in diversity.

Also, the complete diversion of water current has proven to be very detrimental to the protection of macroinvertebrate diversity. In a large number of cases in Serbia and the Balkans in general, the legally prescribed biological minimum of water is not respected during the operation of small hydropower plants, which leads to drought under dams, disrupting the survival and reproduction of numerous species of macroinvertebrates (especially strictly protected species<sup>12</sup>). In altered environmental conditions, stenovalent species react quickly to changes caused by anthropogenic activity, often disappear and new ones appear, adapted to the altered conditions<sup>13 14</sup>.

The macroinvertebrate communities of the Crni Rzav River were studied on 21 July 2020. The largest number of identified taxa of aquatic macroinvertebrates (20) was recorded at CR1, and the smallest (6) at CR3. Also, the highest biomass was recorded at CR1 (19.45 g/m<sup>2</sup>), and the lowest at CR3 (3.22 g/m<sup>2</sup>).

At CR2, low water level and a very high degree of primary production were observed (as described in the algae analysis), which led to the reduction of biomass and the number of invertebrates when compared with CR1. Based on the current situation, the observed drastic decline in diversity at CR3 may be a consequence of fluctuations in water levels in the investigated part of the stream (caused by the discharge or non-discharge of water from the plant's machine building).

During the 2018 research conducted at sites CR2 and CR3, the presence of stone crayfish (*Austropotamobius torrentium*) was recorded, a priority species under the Habitats Directive and the Bern Convention and strictly protected in Serbia. During the 2020 field research, crayfish was not found at the investigated localities. The construction of small hydropower plants threatens to destroy the habitat of the crayfish.

The ecological status of rivers in Europe is classified from I (high) to V (bad). Based on the analysis of macroinvertebrate communities, individual parameters for water quality assessment and ecological status assessment at all three localities gave the following results:

<sup>12</sup> Ordinance on the proclamation and protection of strictly protected wild species of plants, animals and fungi ("Official Gazette of RS", No. 5/2010, 47/2011).

<sup>13</sup> Curtean-Banaduc A., Pauli S., Didenko A., Sender J., Marić S., Del Monte P., Khoshnood Z. and Zakeyuddin S. (2015): Environmental aspects of implementation of micro hydro power plants – a short review. *Transylv. Rev. Syst. Ecol. Res.* 17 (2): 179-189.

<sup>14</sup> Wangchuk J., Yoezer D., Wangdi N., Wangdi K., Singye R. and Dorji T. (2017): Macroinvertebrate and fish diversity in Mangdechhu Hydropower Plant, Trongsa Bhutan. *Int. J. Envir. Biodivers.* 8 (4): 335-342.

Table 1. Ecological status class of the Crni Rzav River based on the analysis of the macroinvertebrate community

	CR1	CR2	CR3
BMWB score <sup>15</sup>	I (106)	III (68)	V (18)
Diversity (Shannon-Wiener- Index)	I (2.686)	I (2.203)	II (1.635)
EPT-Taxa [%] <sup>16</sup>	II (14)	IV (8)	V (1)
BNBI index <sup>17</sup>	III (3.75)	III (3)	IV (2.75)
<b>Ecological status class</b>	<b>II</b>	<b>III</b>	<b>IV</b>
<b>Ecological status assessment</b>	<b>Good</b>	<b>Moderate</b>	<b>Poor</b>

**Conclusions:** Below the two hydropower plants (CR3), the status based on macroinvertebrate communities was poor, and according to some indexes even bad. Between the two plants (CR2), it was moderate. The river stretch not impacted by hydropower (CR1) had good status, and according to some indexes, even high. A very important indicator of the impact of hydropower was the disappearance of stone crayfish (*Austropotamobius torrentium*) between 2018 and 2020 when the Komalj HPP started operation.

**Analysis of the fish community (qualitative-quantitative composition, biomass, real and potential production), with special reference to protected and strictly protected species at the national and/or international level:**

The advantages of using fish as a bioindicator primarily relate to simple identification and well-known taxonomy, as well as the fact that they significantly and predictably respond to changes in environmental conditions caused by anthropogenic pressures, such as eutrophication, acidification, chemical pollution, riverbed regulation, fragmentation, exploitation and introduction<sup>18 19</sup>. Fish, in relation to other bioindicators of aquatic ecosystems, have a long life cycle, which makes them good indicators of long-term effects in different habitat types.

The species recorded at the three localities on the Crni Rzav are Danube barbel (*Barbus balcanicus*), bleak (*Alburnoides bipunctatus*), Eurasian minnow (*Phoxinus phoxinus*) and European chub (*Squalius cephalus*). The Danube barbel is protected by the Habitats Directive and the Bern Convention within the

<sup>15</sup> Biological Monitoring Working Party score, method based on the principle that different aquatic invertebrates have different tolerances to pollutants.

<sup>16</sup> Index based on the number and biomass of macroinvertebrates, primarily larvae from the groups *Ephemeroptera*, *Plecoptera* and *Trichoptera*.

<sup>17</sup> Balkan Biotic Index (BNBI) according to the Rulebook ("Official Gazette of RS", No. 74/2011).

<sup>18</sup> Simić V., Simić S. (2012): Ekologija kopnenih voda (Hidrobiologija I). Biološki fakultet, Beograd i Prirodno-matematički fakultet, Kragujevac. 26-27, 114-115, 108-130, 248-249, 263-264.

<sup>19</sup> Denić L.J., Čađo S., Đurković A., Novaković B., Dopuđa-Glišić T., Veljković N., Stojanović Z., Milovanović J., Domanović M. (2015): Status površinskih voda Srbije. Ministarstvo poljoprivrede i zaštite životne sredine. Agencija za zaštitu životne sredine.

*Barbus meridionalis* complex. It is also a target species for protection in the Emerald site. Bleak is protected in Annex III of the Bern Convention and strictly protected in Serbia.

At CR1, 64 individuals from the four species were caught, totalling 882 grams/sample, with the dominant species being bleak and chub. At CR2, 68 individuals from the four species were caught, totalling 828 grams/sample, with barbel and bleak dominant. At CR3, only 18 individuals were caught: 9 minnows, 5 bleaks and 4 barbels. The total biomass caught at this locality was 52.5 grams/sample – less than six per cent of the biomass caught in CR1, where the river is supposed to be much smaller than it is at CR3.

**Conclusions: The drastic decline in biomass and ichthyoproduction recorded at CR3 is a direct consequence of habitat fragmentation, changes in the hydromorphological characteristics of the river flow, construction of inadequate fish passes that prevent spawning upstream and variable water levels. Additional research is needed in the stretch between the two powerhouses and between Beli Kamen SHHP and the intakes to understand the impacts on fish in these 9.2 kilometres. The impacts on fish will have serious consequences on other species that prey on them and that are protected in the Emerald site – the otter (*Lutra lutra*), black stork (*Ciconia nigra*) and kingfisher (*Alcedo atthis*).**

### EIB environmental standards

When the loan for Crédit Agricole SMEs & Priority Projects was signed in mid-2013, the EIB's 2010 Environmental and Social Handbook was the document that stipulated how the EIB would assess compliance with the EIB Statement of Environmental and Social Principles and Standards. The overarching requirement is that all projects, including financial intermediary sub-projects, need to comply with national and EU law. According to the Project Data Sheet regarding the environmental aspect: *'Final beneficiaries will be requested to comply with applicable national and EU legislation, as appropriate.'*<sup>20</sup>

Moreover, projects financed within Serbia, as an EU candidate country which formally applied for candidate status in 2009, should follow the same rules as projects financed within the EU.

Page 16:

22. The EIB applies a number of core environmental and social safeguard measures that reflect international good practice to all its lending activities. It requires that all its projects:

- Apply the European Principles for the Environment, i.e. comply with EU environmental principles, standards and practices, if practical and feasible in some regions (...);
- Comply with the EU environmental Acquis on environmental assessment as defined in the EIB Sourcebook on EU Environmental Law;
- Comply with international conventions and agreements ratified by the EU;
- (...)
- Apply good environmental management practices during project implementation and operation; and,
- Adhere to other specific international good environmental and social practices.

<sup>20</sup> EIB, [CREDIT AGRICOLE SMES PRIORITY PROJECTS](#), 13 March 2013.

Page 17:

*23. According to its own policy requirements, the Bank shall satisfy itself that projects to be financed comply with its environmental and social standards and requirements, in particular that:*

- *Projects to be financed within the EU, Candidate and potential Candidate countries comply with EU policy, principles, standards and practices, especially the requirements of EU legislation, for the protection of the environment; (...)*

Page 30:

*B.2.5. Summary of Legislative Compliance*

*(...) 52. The EIB requires that all projects in the EU, Candidate and potential Candidate countries, likely to have a significant effect on the environment be subject to an EIA (...)*

*56. In the EU, as well as in the Candidate and potential Candidate countries, all projects financed by the EIB should comply with both national and EU environmental law. (...)*

However, the problem arises in the EIB's abdication of responsibility for due diligence and monitoring of Global Loans, such as the Crédit Agricole Srbija loan that financed the plants on the Crni Rzav River. Under the 2010 Handbook, the Bank did not commit to carry out in-depth due diligence on intermediaries' sub-projects, only leaving it open as an option:

Page 44:

*Global Loans*

*120. Generally, the schemes to be financed under Global Loans are not known at the time of submission to the Board, and GLs are not normally appraised by PJ. The Board of Directors approves the GLs and/or global authorisations on the basis of the objectives sought (e.g. financing of SMEs, infrastructure, the environment, etc.) and the project selection criteria (e.g. regions concerned, sectors excluded, etc.), which are then reflected in the contract(s) signed.*

*121. On the request of Ops, PJ may carry out an environmental and social assessment of a particular GL operation, including an assessment of the environmental risk management capacity of the promoter; it may also carry out an environmental and social assessment of a particular sub-project (allocation) when requested by Ops. All projects financed through financial intermediaries are covenanted to comply with appropriate environmental legislation; within the EU, EU legislation, outside the EU, national legislation, with reference where appropriate to EU legislation.*

*122. The appraisal and approval of GL allocations is generally the responsibility of the intermediary institution. If PJ carries out an assessment of a particular sub-project then D1, D2 and D3 should be completed. A special purpose form has been established for this purpose outside the EU (Annex 10).*

Some screening of sub-projects regarding impacts on biodiversity was in fact required under section C.5.1. but this provision also left some loopholes.

Page 50:

*The requirements detailed in C.5.1. apply to all types of investments, including Framework and Global Loans (...)*

However:

157. A biodiversity assessment is also, in general, not required for: (...)

- Small and medium investments, where the promoter/intermediary confirms that through the application of the planning/consent process, the Competent Authority has taken nature conservation issues into account; and,
- Small and medium investments financed through a Global Loan, when the intermediary is judged by the EIB to follow an acceptable approach to nature conservation issues.

It is not clear whether the EIB judged that the intermediary, Crédit Agricole Srbija, followed an acceptable approach to nature conservation issues, or how the EIB would have carried out its assessment on the intermediary's capacity, as the Handbook gives no guidance on this. Information on the borrowers' track record on environmental management was supposed to be posted on the EIB's website as part of the project information (page 36, 2010 Handbook); however, this was not done.<sup>21</sup>

Regarding the permitting processes led by the competent Serbian authorities, it is clear that the Municipality of Čajetina should have requested EIAs to be carried out because of the location of the plants within a proposed Emerald site and a potential nature park. As written on page 68 of the Local Environmental Action Plan of Čajetina municipality 2013-2017<sup>22</sup>, by 2012 the municipality already knew that a well conserved area of 32,130 hectares had been proposed as a nature park.

The division of the project into three pieces for the purpose of EIA screening should also have been a clear red flag, indicating an attempt to play down the impacts. In the case of directly-financed EIB projects, the 2010 Handbook (page 39) specifies that for projects under Annex II of the EIA Directive which are screened out, the Bank must determine whether it agrees with the decision not to require an EIA. If not, the Bank must require an EIA to be carried out. However, in the case of intermediated financing, this requirement is not explicit and it is not clear whether the EIB undertook any such assessment.

Now that the negative impacts of the two built plants have been scientifically proven and the environmental status of the Crni Rzav River has been assessed as poor below the plants and moderate between the plants, appropriate mitigation measures and a monitoring plan should be set up, as laid out on page 48 of the 2010 Handbook:

*146. Where a significant impact is likely, the project should be monitored during implementation and operation, as appropriate. This monitoring plan should include a remediation plan for long term biodiversity stabilisation and promotion on the project site and importantly in the secondarily affected adjacent areas.*

Section C.5.2. on the appraisal of projects within the EU, Candidate and Potential Candidate Countries (page 48) of the 2010 Handbook is unclear about whether it applies to financial intermediary sub-projects, but it contains several provisions on the need to apply the Birds and Habitats Directives and

<sup>21</sup> EIB, [Credit Agricole Loan for SMEs and priority projects](#), last accessed 16 March 2021.

<sup>22</sup> [ЛОКАЛНИ ЕКОЛОШКИ АКЦИОНИ ПЛАН ОПШТИНЕ ЧАЈЕТИНА](#), October 2012.

to undertake Appropriate Assessments. Again, it is unclear whether the EIB checked the Crni Rzav plants and if so, whether it questioned the lack of Appropriate Assessment.

Similarly it is not clear whether section D.1. of the Handbook on ‘Follow-up during implementation and during operation’ (page 68 ff) applies to financial intermediary sub-projects. Yet without detailed monitoring, it is impossible to assess whether the permitting conditions and national and EU law have really been complied with.

### **Improvements in the EIB’s policies since the project implementation**

In 2019, the EIB published new Environmental, Climate and Social Guidelines on Hydropower Development<sup>23</sup> which include requirements for all hydropower plants financed through intermediaries to be referred to the EIB for due diligence, and also for the financial intermediary to publish information about any hydropower plants it finances. The guidelines also require regular reporting on the performance of the project to be sent to the EIB, including, among other things, periodic reporting to the regulatory authorities, self-monitoring reports prepared for submission to the EIB by the promoter and/or intermediary, and summaries of stakeholder engagement.

This is a very welcome step forward, but the status of this document is unclear, as it is not formally part of the EIB’s Environmental and Social Statement or Standards. A formal reference to these provisions needs to be included in the EIB’s safeguard policies in the upcoming revisions that will take place during 2021.

Another issue that is not clear is whether these provisions are included in the finance contracts of financial intermediaries that might use the funds for hydropower. This needs to happen in order for the provisions to be enforceable.

### **Questions for the EIB**

- How did the EIB assess Crédit Agricole Srbija’s track record on environmental and social management?
- Did the EIB carry out any environmental due diligence on the Crni Rzav plants, including biodiversity screening?
- Did the EIB assess the justification for slicing the project into three pieces for the purpose of the EIA process? Did the EIB assess the decision not to require an EIA and Appropriate Assessment? If so, what were the findings?
- What monitoring activities has Crédit Agricole Srbija and/or the EIB carried out? Have any field visits to the project site been carried out? If so, what were the findings?

<sup>23</sup> [Environmental, Climate and Social Guidelines on Hydropower Development](#), European Investment Bank, last accessed 16 March 2021.

## **Recommendations on what still needs to be done**

### ***EIB policy improvements***

- The EIB needs to make its lending through financial intermediaries fully transparent, at least for projects which may have significant negative impacts on the environment, such as hydropower plants.
- For higher-risk projects, such as those from Annex I or II of the EIA Directive, or any projects situated in sensitive areas, such as Emerald sites, the EIB needs to require that the projects be referred to the EIB for environmental and social appraisal, and the Bank needs to be included in project monitoring. Based on data from hydrobiological studies, it can be clearly concluded that the negative impacts of small hydropower plants on river biodiversity are extremely high, compared to the very small amount of electricity produced (in this case study – 10 kilometres of rivers were destroyed for around 2 MW capacity). The EIB should stop financing such projects.
- The EIB needs to make clearer the relationship between its Environmental and Social Standards and its Hydropower Guidelines and ensure that the provisions for financial intermediaries set in the Guidelines are included in loan contracts.

### ***Project-level remediation of damage***

- In this case, the EIB must engage with all stakeholders to investigate the reasons for the poor to moderate environmental status of the river impacted by the plants and carry out additional assessments in more locations where plants financed by the Bank are situated using the same methodology as in the WWF-Adria study.
- The EIB must engage with the final beneficiary of the loan to remedy the situation accordingly and with the Institute of Nature Protection of Serbia to set the necessary nature conditions in order to improve the ecological status of the Crni Rzav and Ribnica Rivers (leave more water in the river, modify the energy production regime, etc.).
- The EIB needs to investigate how its client Crédit Agricole Srbija performed its due-diligence duties and publish its findings.
- The EIB must oblige its client to engage with the final beneficiary, the relevant authorities and interested stakeholders to reach an agreement not to build the third plant, SHHP Peta, because of the negative impact of the other two plants on the river ecosystem.