PHOTO REPORT

Small hydropower plant ref. no. 45 – Krapska reka, Makedonski brod municipality, Macedonia

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Introduction

This photo report presents the findings from a second field visit to the location of the Krapska River small hydropower plant that took place on 20 April 2019. The purpose of the visit was to follow up on the findings presented in the first photo report,[1] but also to compare the situation on the construction site with the mitigation strategy outlined in the Report on the aquatic biodiversity assessment of Krapska River,[2] commissioned by the EBRD and disclosed after an Appeal to the bank's Secretary General.

After we informed the EBRD of the investor's complete disregard for mitigation measures and good construction practices, but also due to the response we received from the EBRD "that the main construction works of SHPP Krapa are finished and testing is underway" and "remediation of the housekeeping issues is completed and post construction land rehabilitation is underway", we expected that the investor had been instructed to comply with the obligations under the environmental study, the above-mentioned biodiversity study and with the EBRD's performance requirements. Some of these are legally binding through the national legislation, and some through the financing agreements between Aktuel Energy Group and EBRD.

On the contrary, on this second field visit we witnessed that the situation had worsened: the riverbed and river bank had been completely destroyed, there were clear signs of erosion all along the access road, the intake and the fish pass had not been built according to the design specifications in the environmental study and the fish pass was blocked to divert more water into the pipeline, even though the plant was only in trial operation. Below we present pictures of the visit with a brief explanation of these violations.

[1] https://bankwatch.org/wp-content/uploads/2019/04/SHPP-Krapska-Photo-report-July-2018.pdf

[2] https://drive.google.com/file/d/0B1JWTJTVJRcNWnFDUm5BWlNSTXRXUFBCaDNaa3ZJMUR2WWxJ/view

Significance of biodiversity and habitats

As we previously outlined in the first photo report, to the best of our knowledge the Krapska river hydropower plant is, and always was, located in the Jakupica Emerald area. This was also confirmed by a request for information to the Bern Convention Secretariat, to which we received a response that no changes have ever been made (or they are not aware of any) in the proposed borders since 2008.

As a result of our investigation and consultations with experts we claimed that “the southern slopes of the Jakupica mountain range where Krapa is located are the only remaining migratory route for large mammals [lynx, bears, wolves] from NP Mavrovo and the surrounding protected areas to Jakupica and back”. Visiting the location in mid-Spring puts this into perspective - all along the access road there were tracks of mammals: bears, wolves, foxes, boars, to name a few.

It was really sad to see how some of the smaller ones were obviously struggling to move from the forest to the river and back on the eroded sides of the access road.

In addition to our research, the EBRD biodiversity study concluded that the river “has very high ecological status as clean water ecosystem” and identified several key aquatic and semi-aquatic species for conservation. The river is home to the national endemic Macedonian Trout (*Salmo macedonicus*), limited to the upper Vardar basin and protected by national legislation. The river valley is also home to four Balkan endemic amphibians and reptiles, out of which the Hermann’s tortoise (*Eurotestudo hermanni boettgeri*) is the most notable one. The tortoise is listed as near threatened on the IUCN red list and is under increased pressure from infrastructure projects near water bodies.

To mitigate some of some of the identified risks to this species, the biodiversity study also offers a mitigation strategy with specific measures for the construction and operational phase. The purpose of this strategy is to maintain the clean water ecosystem and to provide easy access to the river for the semi-aquatic species. Pictured below is the difference between the ecosystem of the unspoiled stretch of Krapska and the parts were construction works have been done.

Violations of environmental measures

At the very entrance to the location of the power plant, a dozen meters from the powerhouse, there was a pile of burned waste which indicates further violation of the waste management practices that are outlined in the environmental study. The workers should have been trained in proper waste disposal procedures that would mitigate soil and air pollution. Additionally, open fires in forested areas are strictly forbidden by national legislation.

Cement spills on the side of the access road contribute to additional pollution of the area and unnecessary destruction of habitats.

One side of the river bank is completely covered by excess material pushed during the digging of the access road. The river bed is narrowed by this material and access to the river is blocked for amphibians, contrary to the biodiversity study where safety road crossing structures in the form of tunnels are recommended.

Leftover waste from maintenance works on the construction machinery can be found

along the access road. This specific filter pictured here, aside from the obvious solid waste pollution, contributes to chemical pollution of the soil.

A picture of a location included in the previous photo report showing that digging was done in the riverbed. As can be seen from this update, the riverbed has not undergone any rehabilitation and it remains inaccessible to wildlife.

There are clear signs of erosion along the access road and no measures are taken to mitigate this. Entire patches of forest are sliding down.

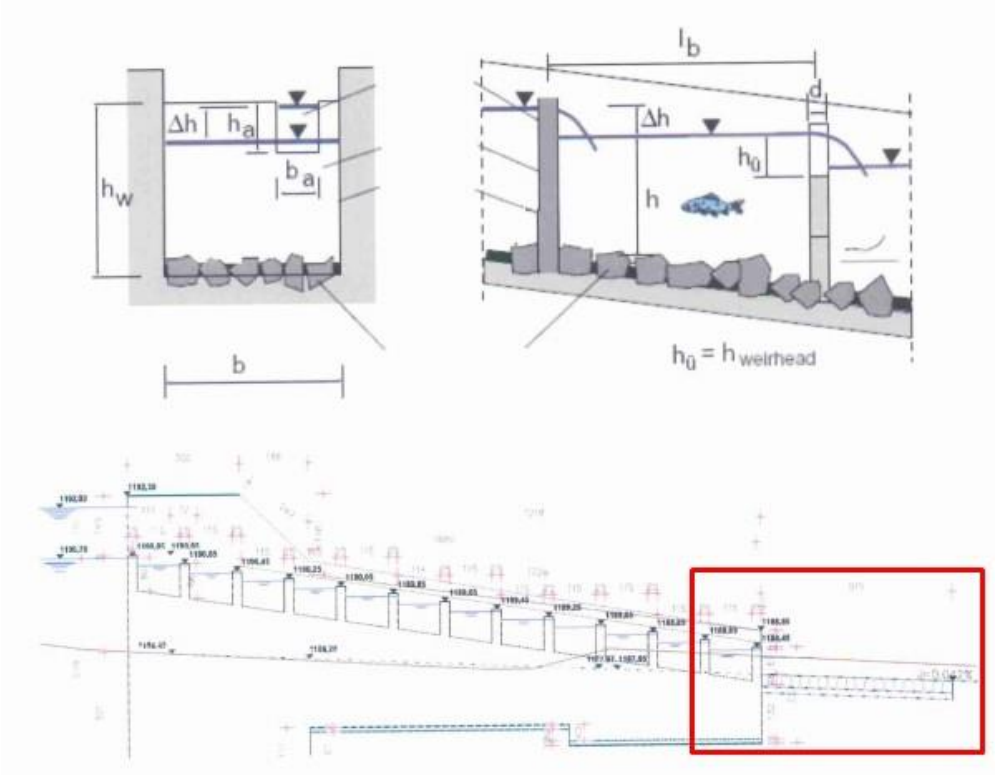
At several locations the river was diverted into an “artificial” riverbed, probably to lay the pipes in a straighter line and to increase the kinetic energy of the water. Digging in the river bed and diverting rivers is forbidden by national legislation and goes against the recommendation for proper riverbed maintenance that would ensure the conservation of the fish habitat.

Construction work in and around the riverbed have caused significant sedimentation which in turn reduces water quality and makes the habitat inappropriate for the endemic Macedonian trout identified in the aquatic biodiversity study. Debris from soil and vegetation pushed into the river is still present and contributes to further deterioration of the river and the riverbed.

Below the intake the river is almost completely dry. As can be seen from the next set of pictures, this is because the fish pass is intentionally blocked by a wooden contraption and the environmental minimum flow is not released into the river. We have witnessed this on several occasions at different small hydropower plants operated by different investors and it can be considered common practice, rather than an exception.

There are also two tributaries diverted into the intake so it remains to be checked whether they were taken into account when the minimum flow was calculated.

The fish pass is not built according to the design specifications provided in the environmental study. The lowest point is 50 cm above the ground which makes it practically useless.



In addition, the tiny amount of water flowing from the fish pass sinks into the constructed stone floor and flows underneath it for several meters before reaching the river.

A better representation of all the issues with the intake can be seen on the video on the following link: https://photos.app.goo.gl/rJwognorA8qe2XEp9

The photo album with all the pictures and videos from the field visit can be seen here: https://photos.app.goo.gl/TfRn7o8zBYDi6oJx8

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