

Bosnian Landscapes - Truth or Illusion

This interactive document will provide you with basic information about Bosnian places on landscapes, that you will see in the next step, and their environmental problems. Chose the desired landscape and click on it, in order to information appear.

HUTOVO BLATO

Hutovo blato je park prirode i ptičiji rezervat u Bosni i Hercegovini. Smješteno je na pet kilometara od Čapljine, a prostire se na skoro 8.000 hektara prostora u neretvanskoj dolini. Zaslužni za velike količine mulja i česte poplave u Parku prirode Hutovo blato su hidroelektrane Čapljina i Dubrovnik. Ovom prirodnom rezervatu u Hercegovini hidroelektrane oduzimaju vodu rijeke Trebišnjice i zbog toga se ovo močvarno stanište više od 160 vrsta ptica i drugih životinja i biljaka isušuje i zarasta u mulj i trsku. Endemskim vrstama u Hutovom blatu prijete izumiranje.

U Hutovom Blatu ugrožena je izuzetna biološka raznovrsnost, a negativnim uticajima jednako doprinose kako porast krivolova, tako i smanjenje faune kojoj je ovaj jedinstveni eko-sistem stalno stanište i jedna od stanica u vreme migracija. Ako se nastavi nedomaćinski odnos prema Hutovu blatu, ova močvara potpuno će nestati u narednih 30 godina. Uništavanje prirodnog rezervata, u okviru kojeg je šest jezera i više od stotinu izvora, zbog čega ga je Unesco, pre 12 godina, uvrstio na svoju listu prirodnih dobara, počelo pre 50 godina, kada je veliki dio autentične prirode melioracijom pretvoren u poljoprivredno zemljište. Devastacija je, potom, nastavljena izgradnjom puta od Prebilovaca do Koščele rezervat je postao sasvim otvoren za lovokradice i nesavesne eksploatatore treseta sa njegovih oboda. Na kraju, zbog najnovijeg iskopavanja kanala - od Karaotoka do jezera Šrkra, što je zatvorilo prirodno, a otvorilo veštačko oticanje - nivo vode u šest jezera opao je za gotovo dva metra.

HUTOVO BLATO

Hutovo blato is a nature park and bird reserve in Bosnia and Herzegovina. It is located five kilometers from Capljina, and spreads over almost 8,000 hectares in the Neretva Valley. The hydroelectric power plants "Čapljina" and "Dubrovnik" are responsible for the large amounts of mud and frequent floods in the Nature Park Hutovo blato. Hydroelectric power plants take away the water of the river Trebišnjica from this nature reserve in Herzegovina, and because of that, this wetland habitat of more than 160 species of birds and other animals and plants dries up and grows into mud and reeds. Endemic species in Hut mud are threatened with extinction. Exceptional

biological diversity is endangered in Hutovo Blato, and the negative impacts are equally contributed by the increase in poaching, as well as the reduction of fauna, for which this unique ecosystem is a permanent habitat and one of the stations during migrations. If the non-domestic attitude towards Hutov blato continues, this swamp will completely disappear in the next 30 years. The destruction of the nature reserve, which includes six lakes and more than a hundred springs, which is why UNESCO included it on its list of natural resources 12 years ago, began 50 years ago, when a large part of authentic nature was turned into agricultural land by land reclamation. The devastation then continued with the construction of the road from Prebilovac to Koščela, and the reserve became completely open to poachers and unscrupulous exploiters of peat from its edges. In the end, due to the latest excavation of the canal - from Karaotok to Lake Šrkra, which closed the natural and opened the artificial runoff - the water level in the six lakes dropped by almost two meters.



RIJEKA UNA

Una je rijeka u sjeverozapadnom dijelu Bosne i Hercegovine. Izvire ispod padina planina Plješevica i Stražbenice u Hrvatskoj i jednim dijelom predstavlja prirodnu granicu između Bosne i Hercegovine i Hrvatske. Dužina njenog toka je oko 212 kilometara. Njene glavne pritoke su Sana, Unac, Krušnica i Klokot. U Uni raste više od 170 vrsta ljekovitih biljaka i živi 28

vrsta riba, koje mogu doseći više od 30 kilograma težine. Mogu se naći i zaštićene vrste riba: mladica, lipljen, dvoprugasta uklija, potočna mrena, plotica i peš. Na području uz samu rijeku razvijene su higrofilne zajednice šuma i šibljaka vrba, joha, rakite i ive. Zbog očuvanosti sedrenih tvorevina, kvaliteta vode, raznolikosti rijetke flore i faune, bogatstva mnogih spomenika prirode i prirodnih ljepota, rijeka Una spada među najljepše i najzanimljivije rijeke u Evropi. Maksimalna dubina joj je 24 metara. Gornji tok je potpuno pitak, te je proglašen Nacionalnim parkom. Una nosi obilježja prave planinske rijeke i njeni sedronosni slapovi, bukovi i vodopadi predstavljaju prave bisere ljepote kao što su: veliki vodopad u Martin Brodu, Štrbački buk, Troslap, Dvoslap i Ripački slap. Na dijelu Štrbačkog buka Una se stropoštava sa visine od 24 metra. Ekološka svijest stanovništva koje živi na obalama Une veoma je razvijena. Uprkos tome, rijeka nije potpuno zaštićena od zagađenja. Posebnu opasnost predstavlja namjera vlasti Republike Hrvatske o gradnji odlagališta nuklearnog i radioaktivnog otpada na području Trgovske gore, svega nekoliko stotina metara od rijeke Une i od područja gdje se crpi voda za vodosnabdijevanje stanovništva u BiH. No, osim ljudskih života, pitanje je i kako bi radioaktivni otpad uticao na kompletnu floru i faunu Une. Područje Trgovske gore i okolna područja su sklona zemljotresima. 2020. se desio zadnji u nizu razornih zemljotresa koji je bez doma ostavio hiljade stanovnika, te gotovo sa sigurnoscu mozemo tvrditi da ovo područje nije bezbjedno za nuklearno odlagalište.

RIVER UNA

Una is a river in the northwestern part of Bosnia and Herzegovina. It springs below the slopes of the Plješevica and Stražbenica mountains in Croatia and partly represents the natural border between Bosnia and Herzegovina and Croatia. The length of its course is about 212 kilometers. Its main tributaries are the Sana, Unac, Krušnica and Klokot. There are 28 species of fish living in river Una, and more than 170 species of medicinal plants growing in and around the river. Some of the fish species can reach more than 30 kilograms in weight. Protected fish species can also be found in the river: juvenile, grayling, two-striped bleak, brook trout, roach and foot. In the area along the river, there are hygrophilous areas of forests of shrubs, willow, alder, wicker and ive. Due to the preservation of travertine formations, water quality, river Una has a very diverse and rare flora and fauna, also the river is very rich with natural monuments and natural beauties. The river Una is one of the most beautiful and interesting rivers in Europe. The upper course is completely drinkable, and has been declared a National Park, and this is sufficient proof of the exceptional beauty and purity that this river possesses. River Una bears the characteristics of a real mountain river and its travertine waterfalls, beeches and waterfalls represent real pearls of beauty, some of them are: the large waterfall in Martin Brod, Štrbački buk, Troslap, Dvoslap and Ripački slap. In the part of Štrbački buk, the Una has a waterfall with the height of 24 meters. The ecological awareness of the population living near Una is highly developed. Despite this, the river is not completely protected from pollution. A special danger is the intention of the Croatian authorities to build a nuclear and radioactive waste dump in the area of Trgovska gora, just a few hundred meters from the Una River and from the area where water is pumped to supply drinking water to the population in Bosnia and Herzegovina. But, apart from human lives, the question is also how radioactive waste would affect the entire flora and fauna of the river Una. The area of Trgovska gora and the surrounding areas are prone to earthquakes. In 2020, the last in a series of devastating earthquakes occurred, leaving thousands homeless, and we can say with certainty that this area is not safe for a nuclear landfill.



Photo: srpska-danas.com



Photo: Bljesak.info



Photo: cozin.net



Photo: Bljesak.info

RIJEKA NERETVA

Neretva je rijeka duga 230 km, koja najvećim dijelom protiče kroz Bosnu i Hercegovinu (208 km), a manjim dijelom, prije ušća u Jadransko more, kroz Hrvatsku (22 km). Najduža je pritoka Jadranskog mora s istočne obale. Izvire u planinskim predjelima visoke Hercegovine, ispod planine Jabuka.

U većem dijelu toka Neretva ima karakteristike planinske rijeke s velikim hidroenergetskim potencijalom. Zbog toga je na njoj izgrađeno više hidroelektrana: Jablanica, Grabovica, Salakovac, Mostar. Poznata je po smaragdnozelenoj boji, čistoj i u gornjem toku potpuno pitkoj vodi. S pritokama čini zasebnu prirodnu cjelinu i jedinstven ekosistem u ovom dijelu svijeta. U donjem toku Neretve postoje dvije struje: jedna teče k moru i slatkovodna je, a druga teče u suprotnom pravcu i pod utjecajem je mora i plime. Prodor mora u Neretvu je toliko jak da se u Metkoviću prilikom ribolova u površinskom dijelu rijeke lovi riječna, a pri dnu morska riba. Iznimno je bogata i jeguljom, te vodozemcima, među kojima se izdvaja velika zelena žaba. Područje uz Neretvu nastanjuju bjelouška, ribarica, blavor, krška gušterica... Rijeka Neretva, nažalost, nije pošteđena od štetnog ljudskog utjecaja.

Većina naselja i industrijskih kapaciteta nema postrojenja za prečišćavanje otpadnih voda, te se one ispuštaju direktno u rijeku, a često se u blizini nalaze deponije za otpad. Mnoga ekološka udruženja iz Hercegovine i lokalno stanovništvo vode bitku za očuvanje Neretve, protiveći se najavljenj izgradnji osam hidroenergetskih objekata. Eko aktivisti upozoravaju da će hidroelektrane imati ogroman uticaj na rijetke, endemske biljne i životinjske vrste koje su preživjele čak i posljednje ledeno doba, te tridesetak kilometara gornjeg dijela rijeke pretvoriti u niz brana, cijevi i rezervoara koji se nastavljaju jedan na drugi.

RIVER NERETVA

Neretva river is 230 km long. For the most part it flows through Bosnia and Herzegovina (208 km), and the rest is through Republic of Croatia (22 km) including and finally it flows into the Adriatic Sea. It springs in the mountainous areas of high Herzegovina, below the mountain Jabuka. For the longest part Neretva has characteristics of mountainous river with huge hydro-energetic potential. That is why several hydroelectric dams were constructed in Jablanica, Grabovica, Salakovac, Mostar. River Neretva is well known for its emerald-green color, clear water, in the upper parts, before the dam, the water is safe for drinking. With its tributaries it forms a separate ecosystem, unique for this part of the world. In the lower course of the river Neretva there are two currents: one is fresh water current that flows towards the sea, and the other flows in the opposite direction and is influenced by the sea and the tide. The penetration of the sea into the Neretva is so strong that in Metković, when fishing in the surface part of the river, river fish are caught, and in the deep you can catch sea fish. It is extremely rich in eels and amphibians, among which the Large Green Frog stands out. The area along the river Neretva is inhabited by lizards and snakes, some of them are: Bjelouška (*Natrix natrix*), Ribarica (*Natrix tessellata*), Blavor (*Pseudopus apodus*), Krška gušterica (*Podarcis melisellensis*) and others. Unfortunately, the Neretva River has not been spared from harmful human influence. Most settlements and industrial facilities do not have wastewater treatment plants, so they are discharged directly into the river, and there are often landfills nearby. Many environmental associations from Herzegovina and the local population are fighting for the preservation of the Neretva and currently they are opposing the announced construction of eight hydroelectric dam. Environmental activists warn that hydroelectric dams will have a huge impact on rare, endemic plant and animal species that have survived even through the last ice age.

Photos: Bljesak.info



RIJEKA VRBAS

Vrbas je rijeka u zapadnom dijelu Bosne i Hercegovine, dugačka oko 235 km, sa površinom sliva oko 6386 km². Nastaje od dva vrela na južnoj padini planine Vranice (Zec-Planini). Kod Srpcia se ulijeva u rijeku Savu. Ima 36 direktnih pritoka dužih od 10 kilometara, a najznačajnije su Ugar, Crna Rijeka, Pliva i Vrbanja. Na cjelokupnom svom toku, Vrbas je stvorio idealne uslove za razvoj biodiverziteta. Litice kanjona Vrbasa su dom orlovima, sokolovima i jastrebovima. U Vrbasu prema dostupnim informacijama postoji pedeset vrsta riba, pa je veoma interesantan ribolovcima. Najdominantnije su klen, škobalj, mrena, pastrmka... Jedna od najugroženijih vrsta je mladica, inače endemska vrsta dunavskog sliva, kojoj prijetnju predstavlja zagađenje vode, nelegalan ribolov kao i hidrocentrale. Najveći izvori zagađenja rijeke Vrbas nekada su bila industrijska postrojenja, a sada su nekontrolisano ispuštanje štetnih materija i otpadnih voda iz domaćinstava, industrije, stočnih farmi i sa poljoprivrednih površina. Osim toga, na obalama pritoka i Vrbasa, kao i u sami vodotok, nedozvoljeno se odlaže čvrsti otpad različitog sastava. Širenje stambenih naselja takođe je imalo negativan uticaj na čistoću rijeke, jer kanalizacioni sistem nije pratio taj razvoj. Pored svega navedenog, Vrbasu prijeti i opasnost od izgradnje hidroelektrana, što bi načinilo ogromnu štetu sportko-turističkim potencijalima. Na Vrbasu je, kod hidroakumulacionog jezera Bočac, 2003. godine postavljena mreža za zaustavljanje plutajućeg otpada, ali je ona nekoliko puta pucala pod pritiskom. Godišnje se na mreži zaustavljalo oko 10.000 kubika otpada - drveta, plastike, autoguma, kućanskih aparata, aluminija i uginulih životinja. U dokumentu "Plan upravljanja otpadom 2019-2029. godina", koji je usvojila Vlada RS-a, navedeno da čak 35 posto zaustavljenog otpada čini plastična ambalaža. Pored svega navedenog, Vrbasu prijeti i opasnost od izgradnje hidroelektrana, što bi načinilo ogromnu štetu sportko-turističkim potencijalima.

RIVER VRBAS

Vrbas is a river in the western part of Bosnia and Herzegovina, about 235 km long, with a catchment area of about 6386 km². It is formed from two springs on the southern slope of the mountain Vranica (Zec-Planina). At Srpcia it flows into the Sava River. It has 36 direct tributaries longer than 10 kilometers, the most important are Ugar, Crna Rijeka, Pliva and Vrbanja. Throughout its course Vrbas has created ideal conditions for the development of biodiversity. The cliffs of the Vrbas canyon are home to eagles, falcons and hawks. According to available information, there are fifty species of fish in Vrbas, so the river is very interesting for fishermen. The most dominant species are European chub (*Squalius cephalus*), common nase (*Chondrostoma nasus*), common barbel (*Barbus barbus*), trout... One of the most endangered species is the huchen / Danube Salmon (*Hucho hucho*), otherwise an endemic species of the Danube basin, which is threatened by water pollution, illegal fishing and hydroelectric dams. The biggest sources of pollution of the Vrbas river used to be industrial plants, and now, after almost all factories have failed, the biggest danger comes from uncontrolled discharge of harmful substances and waste-water from households, livestock farms and agricultural land. In addition, on the banks of tributaries and Vrbas river, as well as in the watercourse itself, solid waste of different composition is illegally disposed. The expansion of residential areas also had a negative impact on the cleanliness of the river, as the sewage system did not follow this development. Vrbas river is also in endangered with building of hydroelectric dams, which would cause enormous damage to sports and tourism potentials. On the Vrbas, near the hydroaccumulation lake Bočac, a net was set up in 2003 to stop floating waste, but it broke several times under immense pressure and amount of collected waste. Annually, about 10,000 m³ of waste were stopped thanks to the net. Following materials were collected: wood, plastic, tires, household appliances, aluminum and dead animals. In the document "Waste Management Plan 2019-2029. year, which was adopted by the RS entity of Bosnia and Herzegovina government, stated that as much as 35% of the stopped waste is plastic packaging. In addition to the mentioned problems, Vrbas is also in endangered with building of hydroelectric dams, which would cause enormous damage to sports and tourism potentials.



Photo: blmojgrad.com



Photo: Srpskainfo.com



Photo: banjaluka24h.com



Photo: Dalibor Josipovic

MOČVARA BARDAČA

Bardača, močvarno područje prostire se na oko 670 hektara nalazi se između desne obale rijeke Save i lijeve obale rijeke Vrbas u blizini grada Srbac. Zaštićenim područjem Bardača je prvobitno proglašena 1969. godine, a kasnije Ramsarskom konvencijom 2007. godine. Još 1969. godine pod zaštitu su stavljene sve kolonije močvarnih ptica na području Bardače, a dr. Svetoslav Obratil, proučavajući područje Bardače 1973. godine, ustanovio je da se radi o posebnom staništu ptica močvarica. Devastacijom tih prostora u ratnom, a posebno poslijeratnom periodu, došlo je do gotovo potpunog uništenja prirodnih staništa ptica močvarica, koje naseljavaju to područje, a koje bi trebale da budu glavni predmet zaštite. Iz tog razloga, nakon što su tokom novih istraživanja 2001. godine, utvrdili prisustvo 185 vrsta ptica, „Mladi istraživači“ pokreću aktivnosti za proglašenje ovog područja zaštićenim. Prema Ramsarskoj konvenciji, močvarnim područjem od svjetskog značaja, Bardača je proglašena u februaru 2007. godine. Sljedeći cilj je bio staviti ovo područje pod zaštitu i u okviru zakonskih propisa Republike Srpske. Međutim, umjesto zaštite, u periodu od 2010. do 2012. godine na močvarnom području Bardača desila se velika devastacija, djelimično nastala izuzetno sušnim ljetom 2011. godine, a najviše odlukom vlasnika Agroimpeksa da ribnjačke površine pretvori u oranice. Od ukupno 11 jezera samo u tri jezera (Rakitovac, Sinjak i Mali Dajkovac) se zadržala voda, dok su ostala jezera isušena ili pretvorena u oranice. Na jezeru Dugo Polje I, Dugo Polje II i Lug posječeno je drveće i izvađeni su panjevi, što predstavlja neprocjenjivu štetu, jer su ta stabla predstavljala gnijezdilišta za mnoge vrste ptica. Posljednjim posmatranjima, utvrđen je mali broj vrsta ptica, kao i mali broj jedinki. Zbog svega toga, područje Bardača izgubilo je osnovne karakteristike zbog kojih je od 1969. godine uživalo status posebnog rezervata prirode.

SWAMP BARDAČA

Bardača, a wetland area of about 670 hectares is located between the right bank of the Sava River and the left bank of the Vrbas River near the town of Srbac. It was originally declared a protected area of Bardača in 1969, and later by the Ramsar Convention in 2007. As early as 1969, all colonies of wetland birds in the area of Bardača were placed under protection. Svetoslav Obratil, studying the area of Bardača in 1973, established that it is a special habitat of wetland birds. The devastation of these areas in the war, and especially in the post-war period, led to the almost complete destruction of the natural habitats of wetland birds, which inhabit the area. "Young researchers" initiated undertook many activities to better the protection of the area, it was determined that 185 species of birds are present in the area of Bardača. According to the Ramsar Convention, Bardača was declared a wetland of world importance in February 2007. The next goal was to put this area under protection within the legal regulations of the Republika Srpska entity of Bosnia and Herzegovina. However, instead of protection, in the period from 2010 to 2012 in the wetland area of Bardača there was a large devastation, partly caused by the extremely dry summer of 2011, mostly by the decision of the owner of Agroimpeks to turn fishponds into arable land. Out of a total of 11 lakes, only three lakes (Rakitovac, Sinjak and Mali Dajkovac) retained water, while other lakes were drained or turned into arable land. On Lake Dugo Polje I, Dugo Polje II and Lug, trees were cut down and stumps were removed, which caused immense damage, because these trees were nesting grounds for many species of birds. Recent observations have identified a small number of bird species still inhabiting the area, but the number of units per species is alarmingly low. Due to the reasons mentioned above, the area of Bardača has lost the basic characteristics that were the reason for the status of a special nature reserve since 1969.



MOČVARA TIŠINA

Močvara Tišina se nalazi u srcu Posavine kod Šamca. Usljed velikih oscilacija vodostaja tokom godine, močvara Tišina je periodično spojena sa Savom a dijelom funkcioniše kao samostalan sistem. Močvara Tišina je od 1985. godine zaštićena zakonom kao prirodni rezervat. Močvarno-barski kompleks "Tišina" čine močvare i bare Mala Tišina, Velika Tišina (po kojoj je cijeli kompleks nazvan), bara Odmut i povremeni vodotok Žandrak.

Odlikuje je veliko bogatstvo barske flore i faune. Od ribljeg fonda nastanjuju je sledeće vrste: barski som, šaran, štika, klen, crvenperka, deverika i druge. Stanište je brojnih vrsta ptica, kako onih sa stalnim boravkom tako i onih koje u toku migracija borave na ovom području. Tišina je stanište mnogim ugroženim vrstama ptica (oko 130 vrsta), vodenih biljaka (175 vrsta), riba (20 vrsta) itd. Ovakva područja su važna za ublažavanje klimatskih promjena, poplava i prečišćavanje vode, a istovremeno omogućavaju razvoj turizma. Ovo je jedina i zadnja preostala kontinentalna močvara na teritorije cijele BiH u poplavnom području rijeke Save. Vlada Republike Srpske donijela je 26. septembra 2019. godine odluku kojom se močvarno-barski kompleks "Tišina" na području opštine Šamac proglašava zaštićenim staništem četvrte kategorije. Invazivne strane vrste (IAS) su biljke, životinje i drugi organizmi koji nisu urođeni u ekosistem, ali su prvenstveno uneseni od strane čovjeka. IAS biljke se nekontrolirano šire u slivu rijeke Save, imajući negativan učinak ili čak potiskujući druge domaće vrste, smanjujući plodnost tla i obradive poljoprivredne površine, uzrokujući velike probleme u kontroli poplava, mijenjaju važna evropska prirodna staništa, uništavaju povezanost koridora i vrlo ih je teško iskorijeniti. Ovo nije samo problem zaštite prirode; oni također imaju negativan učinak na ljudsko zdravlje.

SWAMP TIŠINA

Tišina wetland is located in the heart of Posavina near Šamac. Due to large fluctuations in water levels during the year, the Tišina wetland is periodically connected to the Sava and partly functions as an independent system. The Tišina wetland has been protected by law as a nature reserve since 1985. The swamp-swamp complex "Tišina" consists of swamps and ponds Mala Tišina, Velika Tišina, Odmut pond and the occasional Žandrak watercourse. It is characterized by a great wealth of pond flora and fauna. The following species emerge from the fish stock: marsh catfish, carp, pike, mangle, redfin, bream and others. It is a habitat for many species of birds, both those with permanent residence and those that stay in this area during summer and spring seasons. Tišina is a habitat for many endangered species of birds (about 130 species), aquatic plants (175 species), fish (20 species), etc. Such areas are important for climate change mitigation, floods and water purification, while enabling tourism development. This is the only remaining continental wetland in the entire territory of BiH in the floodplain of the Sava River. On September 26, 2019, the Government of the Republika Srpska entity of Bosnia and Herzegovina passed a decision declaring the wetland-marsh complex "Tišina" in the area of the municipality of Šamac a protected habitat of the fourth category. Invasive alien species (IAS) are plants, animals, and other organisms that are not innate in the ecosystem but are primarily introduced by humans.

IAS plants spread uncontrollably in the Sava River Basin, having a negative effect or even suppressing other native species, reducing soil fertility and arable agricultural land, causing major problems in flood control, changing important European natural habitats, destroying corridor connections and making them very difficult to eradicate. This is not just a nature conservation problem; they also have a negative effect on human health.

Photos: Jovica Sjeničić



GATAČKO POLJE

Gatačko polje je prostrani geomorfološko-hidrografski kompleks kraškog polja, smješten u Dinaridima, u sjevernoj Hercegovini, Bosna i Hercegovina. Prostire se na površini od oko 60 km², dinarski je izduženo (24 km) i iznimno visoko (dno na 840 m nadmorske visine). Smješteno je između planina Bjelašnica i Lebršnik. Kroz polje teku ponornice Gračanica i Mušnica, koje polje povremeno i plave. Jedino veće naseljeno mjesto je Gacko. Pripada slivu rijeke Trebišnjice koja predstavlja veoma složen sistem nadzemnih i podzemnih voda. Od davnina stočarstvo je zastupljeno kao primarna ekonomska djelatnost ovog područja. U polju su registrovane: 2 vrste riba, 129 vrsta ptica, 20 vrsta vilinih konjića i 274 biljnih vrsta. Kraški fenomeni su: Gareva pećina i meandri temporarnih kraških Rijeka. Pronađene su velike zalihe uglja (niskokalorični lignit) i koriste se za Termoelektranu Gacko. Ova eksploatacija je i najveća opasnost za ekologiju polja. Rudnik i termoelektrana (RiTE) Gacko nalazi se u sjeveroistočnom dijelu Bosne i Hercegovine u blizini Gacka.

RiTE je sagrađena na gatačkom ugljenom basenu sa ukupnim rezervama od otprilike 400 miliona tona. Izgradnja RiTE Gacko započela je 1974. godine te je postrojenje od 300 MW završeno u februaru 1983. godine. Ugalj proizveden u ovom području ima manji procenat sumpora, nego onaj proizveden u Ugljeviku. Proizvodnja pepela tokom sagorijevanja veoma je visoka, te je zbog sadržaja atmosferskog pepela to područje jedno od najzagađenijih mjesta u Bosni i Hercegovini. Proizvodnja i vađenje uglja u gatačkom basenu odvija se u otvorenim kopovima. Veći broj studija je već potvrdilo negativan uticaj otvorenih kopova kao što je teška erozija zemljišta, acidifikacija zemljišta, što dovodi do acidifikacije vode i degradacije nizvodnih akvatičnih ekosistema.

Photo: czzs.org



GATAČKO FIELD

Gatačko polje is a vast geomorphological-hydrographic karst field complex, located in the Dinarides, in northern Herzegovina, Bosnia and Herzegovina. It covers an area of about 60 km², lowest point of is located at 840 m above sea level. It is located between the mountains Bjelašnica and Lebršnik. Gračanica and Mušnica sinkholes flow through the field, which occasionally turn the field blue. The only larger settlement is Gacko. It belongs to the Trebišnjica river basin, which is a very complex system of surface and groundwater. Since ancient times, livestock has been represented as the primary economic activity of this area. The following were registered in the field: 2 species of fish, 129 species of birds, 20 species of dragonflies and 274 plant species. Karst phenomena are: Gareva cave and meanders of temporal karst rivers. Large reserves of coal (low-calorie lignite) were found and used for the Gacko Thermal Power Plant. This exploitation is also the greatest danger to the ecology of the field. The Gacko Mine and Thermal Power Plant (RiTE) is located in the northeastern part of Bosnia and Herzegovina near Gacko. RiTE was built on a coal basin with total reserves of approximately 400 million tons. Construction of RiTE Gacko began in 1974 and the 300 MW plant was completed in February 1983. Coal produced in this area has a lower percentage of sulfur than that produced in Ugljevik. The production of ash during combustion is very high, and due to the content of atmospheric ash, this area is one of the most polluted places in Bosnia and Herzegovina. The production and extraction of coal in the fortune-telling basin takes place in open pits. A number of studies have already confirmed the negative impact of opencast mines such as severe soil erosion, soil acidification, leading to water acidification and degradation of downstream aquatic ecosystems.

Photo: czzs.org



Photo: eko.ba



JEZERO MODRAC

Jezero Modrac je akumulaciono jezero nastalo 1964. godine izgradnjom brane na rijeci Spreči u mjestu Modrac, općina Lukavac, kako bi se industrijska postrojenja Tuzle i Živinica snabdjevala vodom. Jedno je od najvećih akumulacija u bivšoj Jugoslaviji. U jezero Modrac ulijevaju se rijeke Spreča i Turija, prostire se na oko 17 kvadratnih kilometara, obala je dugačka gotovo 60 kilometara a maksimalna dubina mu je oko 20 metara. U vrijeme kada je podignuta brana nije bilo riječi da bi se voda iz jezera jednoga dana mogla koristiti za piće, međutim, zadnjih 20-ak godina, vodovodna mreža tri općine Lukavac, Živinice i Tuzla oslanja se na vodu iz Modračkog jezera. Problem vodosnabdijevanja je riješen priključivanjem na akumulaciju Modraca, ali time je otvoren novi problem, voda u jezeru je zagađena upravo industrijom zbog koje je brana i podignuta.

Industrijska postrojenja u noćnim satima ispuštaju ogromne količine zagađene vode u Modračko jezero. Utvrđeno je i da su olovo, nikl i kadmij prisutni u vodi jezera Modrac, što predstavlja ozbiljno zagađenje vode i može uzrokovati dugoročan negativan uticaj na ekosistem jezera.

Modrac, posebno u plićim dijelovima, ne zadovoljava ni II kategoriju kvaliteta vode posmatrajući parametre kao što su otopljeni kisik i otopljena organska zagađenja (utrošak KMnO₄), a utvrđene su prekoračene koncentracije azotnih i fosfornih jedinjenja, željeza, mangana, a i ostalih teških metala (Pb, Zn, Cr, Cu, Al). Hidroakumulacija Modrac, kao i obližnje bare i močvare, predstavljaju značajno stanište za populaciju ptica.

Da bi se zaštitilo ovo područje neophodno je staviti pod kontrolu ispuštanje otpadnih voda u jezero i riješiti problem odlaganja smeća u priobalnom dijelu, odnosno, spriječiti stanovništvo da baca smeće u Modrac.

MODRAC LAKE

Lake Modrac is an accumulation lake created in 1964 by building a dam on the river Spreča in Modrac, Lukavac municipality, in order to supply water to the industrial plants of Tuzla and Živinice. It is one of the largest reservoirs in the former Yugoslavia. The rivers Spreča and Turija flow into Lake Modrac, it covers about 17 square kilometers, the shore is almost 60 kilometers long and its maximum depth is about 20 meters. At the time when the dam was built, there was no word that the water from the lake could one day be used for drinking, however, for the last 20 years, the water supply network of the three municipalities of Lukavac, Živinice and Tuzla relies on water from Modračko Lake. The problem of water supply was solved by connecting to the reservoir Modrac, but this opened a new problem, the water in the lake is polluted by the industry for which the dam was built.

Industrial plants discharge huge amounts of polluted water into lake Modrac at night. It was also determined that lead, nickel and cadmium are present in the water of lake Modrac, which represents serious water pollution and can cause a long-term negative impact on the lake ecosystem.

Modrac, especially in shallower parts, does not meet even the II category of water quality by observing parameters such as dissolved oxygen and dissolved organic pollutants (consumption of KMnO₄), and exceeded concentrations of nitrogen and phosphorus compounds, iron, manganese and other heavy metals (Pb, Zn, Cr, Cu, Al). The Modrac hydro-accumulation, as well as the nearby ponds and swamps, represent a significant habitat for the bird population. In order to protect this area, it is necessary to control the discharge of wastewater into the lake and solve the problem of garbage disposal in the coastal part, that is, to prevent the population from throwing garbage into Modrac.



JEZERO BOČAC

Jezero Bočac je vještačko jezero u Bosni i Hercegovini, na rijeci Vrbas, na području opština Mrkonjić Grad, Kneževo i Banjaluka.

Jezero se napaja vodom iz rijeke Vrbas i nalazi se u kanjonu koji sačinjavaju obronci planina Čemernica i Manjača. Jezero Bočac se nalazi 50 kilometara od Banjaluke i 15 kilometara od Mrkonjić Grada.

Jezero je akumulaciono i nastalo je izgradnjom betonske lučne brane dvostruke zakrivljenosti, čija ukupna dužina iznosi 221 metar i visina 66 metara. Vode jezera služe za potrebe istoimene hidroelektrane, koja je puštena u rad 1981. godine. Krajem 2018. godine na toku rijeke Vrbas puštena je u rad nova hidroelektrana „Bočac dva“ koja se nalazi sedam kilometara nizvodno od hidroelektrane „Bočac jedan“. 2001. godine preduzeće Euro-Hem d.o.o. iz Banja Luke osnovalo je Eko centar na području jezera Bočac pod nazivom Eko centar Bočac jezero u okviru kojeg je pokrenut ekološki projekat: „Prikupljanje, korištenje i odlaganje plutajućeg otpada iz jezera Bočac“. 2003. na jezeru Bočac i ušću Crne rijeke u Vrbas postavljena je mreža za zaustavljanje plutajućeg otpada, ali je ona nekoliko puta pučala pod pritiskom. Godišnje se na mreži zaustavljalo oko 10.000 kubika otpada - drveta, plastike, autoguma, kućanskih aparata, aluminijskih i uginulih životinja. U dokumentu "Plan upravljanja otpadom 2019-2029. godina", koji je usvojila Vlada RS-a, navedeno da čak 35 posto zaustavljenog otpada čini plastična ambalaža. Na važnost izgradnje mreže ukazuje i podatak da se nizvodno nalazi vodozahvat Vodovoda Banja Luka koji vodom za piće snabdijeva oko 400 000 stanovnika.

BOČAC LAKE

Lake Bočac is an artificial lake in Bosnia and Herzegovina, on the Vrbas River, in the area of the municipalities of Mrkonjić Grad, Kneževo and Banja Luka. The lake is fed by water from the river Vrbas and is located in a canyon consisting of the slopes of the mountains Čemernica and Manjača. Lake Bočac is located 50 kilometers from Banja Luka and 15 kilometers from Mrkonjić Grad. The lake is an accumulation and was created by the construction of a concrete arch dam of double curvature, whose total length is 221 meters and height 66 meters. The waters of the lake are used for the needs of the hydroelectric power plant of the same name, which was put into operation in 1981. At the end of 2018, a new hydroelectric power plant "Bočac dva" was put into operation on the course of the river Vrbas, which is located seven kilometers downstream from the hydroelectric power plant "Bočac jedan". In 2001, Euro-Hem d.o.o. from Banja Luka founded the Eco Center in the area of Lake Bočac called Eco Center Bočac Lake, within which an environmental project was launched: "Collection, use and disposal of floating waste from Lake Bočac". In 2003, a net was set up on Lake Bočac and the confluence of the Crna River and Vrbas to stop floating debris, but it fired several times under pressure. Annually, about 10,000 cubic meters of waste were stopped on the network - wood, plastic, tires, household appliances, aluminum and dead animals. In the document "Waste Management Plan 2019-2029. year", which was adopted by the RS entity Government, stated that as much as 35 percent of the stopped waste is plastic packaging. The importance of building the network is also indicated by the fact that the water intake of the Banja Luka Waterworks is located downstream, which supplies drinking water to about 400,000 inhabitants.



Photo: czzs.org



Photo: profitiraj.ba



Photo: ekocentar-bocacjezero.com

LIVANJSKO POLJE

Livanjsko polje je kraško polje u jugozapadnom dijelu BiH. Obzirom da je polovina ovog polja redovno pod vodom, Livanjsko polje je ustvari kombinacija močvara te tresetišta i livada izvanredne vrijednosti, važnog staništa za ptice, u kojima su nastanjene endemske i rijetke vrste. Obronci planine Cincar koji se spuštaju u ravan polja su dom za oko 350 divljih konja. Tokom zimskih mjeseci mogu se vidjeti desetine, nekada i stotine konja koji ližu so pored puta. Livanjski divlji konji su zakonom zaštićeni. Livanjsko polje je istovremeno i tradicionalno područje za uzgoj krava i ovaca, iz čega rezultira i proizvodnja mlijeka, odnosno glasovitog livanjskog sira. Vegetacija ovog područja je posebna mješavina sjevernoevropske flore travnjaka i mediteranskih priobalnih biljaka, dok velike površine polja zauzima šuma hrasta koja je važna za očuvanje tla. Livanjsko polje je kao i sva kraška područja Bosne i Hercegovine među najočuvanijim u Evropi, ali je i dalje nezaštićeno i direktno ugroženo korištenjem voda i neodrživim korištenjem resursa. Nove planirane prijetnje uključuju isušivanje plavnih područja prikupljanjem i zadržavanjem voda u bazenima ili njihovim transferom putem umjetnih kanala i tunela, što može dovesti u opasnost tradicionalne privredne aktivnosti koje se većinom odnose na uzgoj stoke i proizvodnju sira od čega trenutno živi oko 600 porodica. Eksploatacija uglja i treseta iz otvorenih kopova, se u Livanjskom polju u ovom trenutku provode u jako maloj mjeri. Ako bi došlo do povećanja eksploatacije, iskopane jame bi se punile vodom, što bi smanjilo nivo podzemnih voda. Ukoliko bi se još voda odvodila kanalima, problem bi postao očigledniji. Požari predstavljaju veliku opasnost, iako su povremeni prirodni požari korisni, požari koje uzrokuje čovjek mijenjaju sastav vegetacije što dovodi do dezertifikacije u nekim dijelovima polja. Podzemni požari su pojava nasumičnog podzemnog sagorijevanja treseta i uglja. Kada je nivo vode nizak, požari se šire ispod površine tla, te ih je skoro nemoguće ugasiti, osim u slučaju prirodnog podizanja nivoa podzemnih voda, i/ili površinskog plavljenja. Na deponiji u Tablama, na sred Livanjskog polja događa se prava ekološka katastrofa. Smeće s područja cijelog grada odlaže se upravo na ovoj lokaciji.

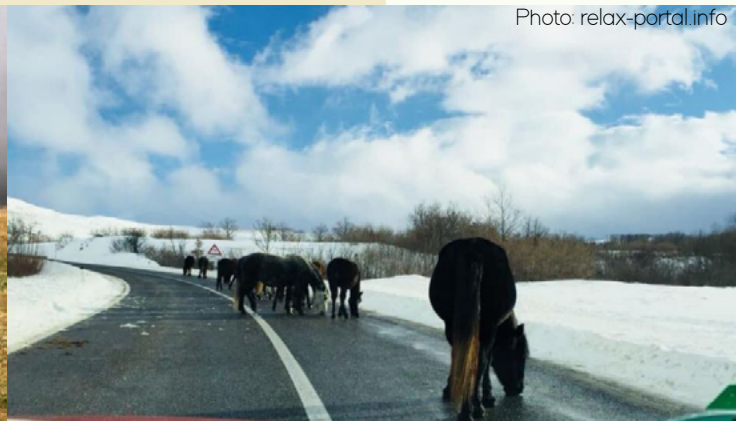
Photo: FENA



LIVANJSKO FIELD

Livanjsko polje is a karst field in the southwestern part of Bosnia and Herzegovina. Since half of this field is regularly under water, Livanjsko polje is actually a combination of wetlands and meadows of extraordinary value, an important habitat for birds, inhabited by endemic and rare species. The slopes of Mount Cincar that descend into the plain of the field are home to about 350 wild horses. During the winter months, you can see dozens, sometimes hundreds of wild horses along the road. They got their place in the wild during the 70s of the XX century when the inhabitants of Livno villages released them. Livno's wild horses are protected by law. Livanjsko polje is at the same time a traditional area for raising cows and sheep, which results in the production of milk, ie the famous Livno cheese. The vegetation of this area is a special mixture of northern European flora of grasslands and Mediterranean coastal plants, while large areas of the field are occupied by oak forest, which is important for soil conservation. Livanjsko polje, like all karst areas of Bosnia and Herzegovina, is among the best preserved in Europe, but it is still unprotected and directly endangered by water use and unsustainable use of resources. Newly introduced threats include draining floodplains by collecting and retaining water in swimming pools or transferring them through artificial canals and tunnels, which could jeopardize traditional economic activities, mostly related to livestock and cheese production, of which about 600 families currently make their living. Exploitation of coal and peat from open pits in Livanjsko polje is currently carried out to a very small extent. If there was an increase in exploitation, the excavated pits would be filled with water, which would reduce the groundwater level. If more water were drained through the canals, the problem would become more obvious. Fires pose a great danger, although occasional natural fires are beneficial, man-made fires change the composition of vegetation leading to desertification in some parts of the field. Underground fires are the occurrence of random underground combustion of peat and coal. When the water level is low, fires spread below the surface of the soil, and it is almost impossible to extinguish them, except in the case of natural rise in groundwater levels, and / or surface flooding. A real ecological catastrophe is happening at the landfill in place called Tabla, in the middle of Livanjsko polje. Garbage from the entire city is disposed at this location.

Photo: relax-portal.info



Dnevnik.ba

RIJEKA DOLJANKA

Rijeka Doljanka je desna pritoka Neretve, duga 18 kilometara, a u Neretvu se ulijeva kod Jablanice i to je ujedno i veza preko koje pastrmke iz Neretve prelaze u Doljanku za vrijeme mrijješćenja. Površina sliva Doljanke obuhvaća područje između planine Bačine na sjeveru i Čvrsnice na jugu i iznosi 69 km². Zahvaljujući svojoj čistoći ova rijeka omogućava razvoj i opstanak raznih vrsta riba, svojim tokom Doljanka protiče kroz krečnjački kanjon koji je stanište i mrijestilište kritično ugrožene endemske vrste pastrmke „glavaticice“ i stanište mnogih drugih vrijednih i endemskih biljnih i životinjskih vrsta. Prva mali broj pritoka, tako da vodu uglavnom dobija od podzemnih kraških voda. Vlada Hercegovačko-neretvanske općine 2014. godine donijela je odluku o davanju koncesija za korištenje voda rijeke Doljanke i javnog vodenog dobra sa svrhom proizvodnje električne energije, izgradnjom male HE “Zlate” instalirane snage 3,2 MW i male HE “Pačići” instalirane snage 1,3 MW u opštini Jablanica. Naredne godine Mirza Teletović, poznati BH košarkaš i igrač NBA lige, preko svoje firme Eko-Vat dobija koncesiju za izgradnju dvije male hidroelektrane. Uprkos protivljenju mještana, u oktobru 2018. godine radovi su počeli, a mještani su pokrenuli proces tužbe radi poništenja rješenja Federalnog ministarstva okoliša i turizma, ali i proces prijave nezakonitih radnji na izgradnji mHE prema opštini Jablanica. Razlozi zbog kojih se mještani protive gradnji mHE na rijeci Doljanki su uništavanje jedine preostale tekuće rijeke kroz opštinu Jablanica, uništavanje jedinstvenog eko-sistema, predviđenog zaštićenog područja Prenj-Čvrsnica-Čabulja-Vran, te uništavanje rijeke koja je prirodno mrijestilište ribe glavaticice. Kako mještani tvrde, i u ovom slučaju privatni interes je stavljen ispred javnog interesa.

RIVER DOLJANKA

The river Doljanka is a right tributary of the Neretva, 18 kilometers long, and it flows into the Neretva near Jablanica, it is also the connection through which trout from the Neretva cross into the Doljanka during spawning. The area of the Doljanka basin covers the area between Bačina mountain in the north and Čvrsnica in the south and has the area of 69 km². Thanks to its purity, this river enables the development and survival of various fish species, Doljanka flows through a limestone canyon which is a habitat and hatchery of critically endangered endemic trout species “glavaticice” and a habitat of many other valuable and endemic plant and animal species. It receives a small number of tributaries, so it mainly receives water from underground karst waters. In 2014, the Government of the Herzegovina-Neretva Canton made a decision on granting concessions for the use of Doljanka River water and public water resources for the purpose of electricity production, construction of a small HPP “Zlate” with an installed capacity of 3.2 MW and a small HPP “Pačići” with an installed capacity of 1.3 MW in the municipality of Jablanica. The following year, Mirza Teletović, a well-known basketball player and NBA star, born in Jablanica, received a concession for the construction of two small hydropower plants through his company Eko-Vat. Despite the opposition of the locals, in October 2018, the works began, and the locals initiated a lawsuit to alter the decision of the Federal Ministry of Environment and Tourism, they also started reporting illegal actions on the construction of SHPP to the municipality of Jablanica. The reasons why locals oppose the construction of SHPPs on the Doljanka River are the destruction of the only remaining flowing river through the municipality of Jablanica, the destruction of the unique ecosystem, the planned protected area Prenj-Čvrsnica-Čabulja-Vran, and the destruction of the river which is a natural hatchery. As the locals claim, in this case, too, the private interest is placed before the public interest.



RIJEKA DRINA

Drina je rijeka u istočnoj Bosni i Hercegovini koja nastaje spajanjem crnogorskih rijeka Tare i Pive na Šćepan Polju. Svojim donjim tokom čini prirodnu granicu između BiH i Srbije. Svojim tokom od oko 340 km prolazi kroz mnogobrojna mjesta u BiH. Ulijeva se u Savu blizu mjesta Srijemska Rača. Drina spada u najbrže rijeke na Balkanu. Voda joj je hladna, bistra, zelenkaste boje. Prosječna dubina joj je tri metra, a najviša 12 metara. U donjem toku Drina taloži velike količine pijeska i šljunka i gradi mnogo ada oko kojih se račva, sprudova, plicaka, meandri i okuka. Otuda i izreka "ispravljati krivu drinu", što znači "raditi beskoristan posao". Sjeverno od Višegrada, između Žepe i Klotijevca nalazi se najduži kanjon ove rijeke, dug 24 km. Rijeka Drina nekada je bila prepuna brzaka i prolazila kroz kanjone i klisure. Nažalost, ova jedinstvena priroda je uništena izgradnjom hidrocentrala u Višegradu, Bajinoj Bašti i Zvorniku. Rijeke na Balkanu su jedno od 25 globalnih žarišta biodiverziteta, sa dosta očuvanih staništa i visokom stopom endemizma. Drina je jedna od tri rijeke u regionu sa najvećim ribljim bogatstvom. Zajedno sa Neretvom i Moračom predstavlja stanište za više od 50 vrsta Crvene liste ugroženih vrsta. Drina je najvažnije prirodno stanište za mladicu, globalno ugroženu riblju vrstu, koja može dostići dužinu do 1,8 metara, a u njenim vodama mogu se naći pastrmka, som, štika, mrena... Međutim, hidroelektrane nanose nepopravljivu štetu za rijeke i živi svijet u njima, a Drina je pod prijetnjom izgradnje devet novih velikih hidroelektrana. Kamen temeljac za jednu od njih – Buk Bijela, položen je 17. maja 2021. godine uprkos apelima i upozorenjima ekologa, ljubitelja rijeka i stanovništva, ali i činjenici da se ovaj projekat osporava još od 1970. godine. Drina je početkom ove godine postala svjetska vijest, ali, nažalost, ne zbog ljepote nego "planine" smeća koja je plutala po njoj. Mnogi mediji objavili su fotografije i snimke hiljada kubika otpada. Na ekološku katastrofu koja prijeti da potpuno uništi jednu od najljepših rijeka upozorava se godinama, ali uzaludno.

RIVER DRINA

Drina is a river in eastern Bosnia and Herzegovina that is formed by the confluence of the Montenegrin rivers Tara and Piva on Šćepan Polje. With its lower course, it forms the natural border between BiH and Serbia. With its course of about 340 km, it passes through many places in BiH. It flows into the Sava near Srijemska Rača. The Drina is one of the fastest rivers in the Balkans. Its water is cold, clear, greenish in color. Its average depth is three meters, and the highest is 12 meters. In the lower course, the Drina deposits large amounts of sand and gravel and builds many hells around which it forks and bends. Hence the saying "making the wendy drina straight", which means "to do useless work". North of Višegrad, between Žepa and Klotijevac, is the longest canyon of this river, 24 km long. The Drina River used to be full of rapids and passed through canyons and gorges, unfortunately, this unique nature was destroyed by the construction of hydroelectric power plants in Višegrad, Bajina Bašta and Zvornik. Rivers in the Balkans are one of 25 global hotspots of biodiversity, with many preserved habitats and a high rate of endemism. The Drina is one of the three rivers in the region with the greatest fish wealth. Together with the Neretva and Morača, it is a habitat for more than 50 species of the Red List of Endangered Species. The Drina is the most important natural habitat for the young, globally endangered fish species, which can reach a length of up to 1.8 meters, and in its waters can be found trout, catfish, pike, barbel... However, hydroelectric dams caused irreparable damage to rivers wildlife. Drina is under threat of building nine new large hydropower plants. The cornerstone for one of them - Buk Bijela, was laid on May 17, 2021, despite the appeals and warnings of ecologists, river lovers and the population, but also the fact that this project has been disputed since 1970. Earlier this year, the Drina became world news, but, unfortunately, not because of its beauty, but because of the "mountain" of garbage that floated on it. Many media published photos and recordings of thousands of cubic meters of waste. The ecological catastrophe that threatens to completely destroy one of the most beautiful rivers has been warned for years, but in vain.



Photo: Armin Durgut

Photo: 058.ba

Photo: Armin Durgut

PLANINA BJELAŠNICA

Bjelašnica je planina u središnjem dijelu Bosne i Hercegovine, smještena jugozapadno od grada Sarajeva. Pripada dinarskom planinskom sistemu. Najvišoj vrh Bjelašnice je 2067 m nadmorske visine.

U sklopu 14. Zimskih olimpijskih igara u Sarajevu, na Bjelašnici su izgrađeni sportski i turistički objekti. Logika olimpijske gradnje uoči ZOI je bila u skladu s iskustvom evropskih zimskih centara. Smještajni kapaciteti za sportiste, organizatore i turiste gradili su se isključivo u gradu Sarajevu, a ne na planinama. Izgrađeno je skladno Olimpijsko selo na Mojmilu s centralnim restoranom, međutim po završetku Olimpijade sve smještajne jedinice prenamijenjene su u stanove i prodane na tržištu. Za potrebe Olimpijade na planini su izgrađeni samo primjereni kapaciteti za smještaj mladih sportista, hotel Famos iznad Babinog dola, odmaralište i veliki hotel Igman s bazenom, i na tome se stalo. Nije bilo koncepta daljnje gradnje zbog činjenice da skijaški centri okružuju Sarajevo i da posjetioci mogu doći autobuskim prijevozom i automobilima. Međutim u zadnjih 20-ak godina na Bjelašnici se grade privatna apartmanska naselja i hoteli gdje se nemilice siječe šuma i uništavaju izvorišta pitke vode za grad Sarajevo. „Stotine stabala jele i bukve bespravno je posječeno kako bi se očistio prostor za izgradnju poslovno-sportskog centra na Bjelašnici, novog projekta Općine Trnovo koji nepovratno narušava ljepotu ove olimpijske planine. Raskršćeno je skoro hiljadu kubika šume, najvećim dijelom bez odobrenja kantonalnih vlasti u Sarajevu i plaćene naknade”, otkrili su novinari centra za istraživačko novinarstvo (CIN). Također, tvrde da Općina Trnovo nije uradila obaveznu procjenu utjecaja gradnje na okoliš na Bjelašnici koja bi pokazala koliko šume treba posjeći i da li će se gradnjom zagaditi izvorišta sa kojih se vodom snabdijevaju građani Sarajeva.

MOUNTAIN BJELAŠNICA

Bjelašnica is a mountain in the central part of Bosnia and Herzegovina, located southwest of the city of Sarajevo. It belongs to the Dinaric mountain system. The highest peak of Bjelašnica is 2067 m above sea level.

As part of the 14th Winter Olympic Games in Sarajevo, sports and tourist facilities were built on Bjelašnica. The logic of Olympic construction before the Winter Olympics was in line with the experience of European winter centers. Accommodation facilities for athletes, organizers and tourists were built exclusively in the city of Sarajevo, not in the mountains. A harmonious Olympic Village was built in Mojnilo with a central restaurant, but after the Olympics, all accommodation units were converted into apartments and sold on the market. For the needs of the Olympics, only adequate capacities were built on the mountain to accommodate young athletes, the Famos Hotel above Babino do, and a resort on Igman. There was no concept of further construction due to the fact that ski resorts surround Sarajevo and that visitors can come by bus and car. However, in the last 20 years, private apartment complexes and hotels have been built on Bjelašnica, where forests are mercilessly cut down and drinking water sources for the city of Sarajevo are destroyed. Journalists from the Center for Investigative Reporting (CIN) wrote that hundreds of fir and beech trees were illegally cut down in order to clean the space for the construction of a business and sports center on Bjelašnica, a new project of the Municipality of Trnovo that irreversibly damages the beauty of this Olympic mountain. The municipality of Trnovo has cut down at least 4.4 hectares of forest at the entrance to the Bjelašnica Olympic Ski Center, without the approval of the cantonal authorities and without an environmental study that should show whether and to what extent logging is needed.



RIJEKA BOSNA

Bosna je rijeka u Bosni i Hercegovini. Izvire iz kraških vrela u selu Vrutci u blizini Ilidže u podnožju planine Igman na 500 m nadmorske visine. Sam lokalitet izvora se naziva Vrelo Bosne i poznato je sarajevsko izletišće. Rijeka Bosna protiče centralnim dijelom Bosne, a kod Bosanskog Šamca se ulijeva u rijeku Savu te pripada crnomorskom slivu. Bosna je jedna od najzagađenijih rijeka u Bosni i Hercegovini. Zatrovana voda iz industrijskih postrojenja u gradovima kroz koje teče slijevaju se u ovu rijeku. U nekoliko navrata dogodili su se ekološki incidenti za koje je bila odgovorna kompanija ArcelorMittal Zenica. Odnos stanovništva BiH prema prirodi najviše se oslikava kroz korito rijeke Bosne. Stanovništvo okolnih mjesta na obalama ove rijeke stvara divlje deponije. Iako se Bosna 2014. godine izlila, jednim dijelom i zbog nemarnog odnosa prema njoj, te u poplavama ostavila katastrofalne posljedice, stanovnici su nastavili sa praksom bacanja smeće u njeno korito. Prije tri godine započeo je projekat „Čista rijeka Bosna“ u čiju realizaciju je uključeno 14 općina u BiH, Institut za zdravlje i sigurnost hrane Zenica, entitetske civilne zaštite, te mnoga ekološka i ribolovna udruženja. Cilj je identificirati i uklanjati manja nelegalna odlagališta čvrstog otpada u gradovima i općinama koje se nalaze u dolini rijeke. Nažalost, kao i mnoge druge bosanskohercegovačke rijeke, i Bosna je na meti onih koji žele graditi hidroelektrane, a planovi o izgradnji jedne u zeničkom naselju Janjici aktuelni su još od 2010. godine. Izgradnja i rad protočne hidroelektrane Janjici dovest će do trajnog gubitka i fragmentacije te promjene ekoloških uslova (narušavanja kvalitete) akvatičnih staništa u koritu rijeke Bosne i postojećih priobalnih staništa na projektnom području. Formiranje akumulacije će uzrokovati promjene ekoloških uslova u vodi i povećano taloženje sitnijeg sedimenta, što će promijeniti akvatička staništa na zahvaćenom dijelu toka rijeke Bosne zbog ujezerenja. Doći će do usporavanja brzine toka, dodatnog zagrijavanja stupca vode u području akumulacije, uz potencijalno smanjenje koncentracije otopljenog kisika.

Photo: FENA



RIVER BOSNA

Bosna is a river in Bosnia and Herzegovina. It springs from karst springs in the village of Vrutci near Ilidža under the Mount Igman at 500 m above sea level. The site of the spring itself is called Vrelo Bosne and is a well-known Sarajevo picnic area. The river Bosna flows through the central part of Bosnia, and near Bosanski Šamac it flows into the river Sava. It belongs to the Black Sea basin. Bosna is one of the most polluted rivers in Bosnia and Herzegovina. Polluted water from industrial plants in the cities through which it flows is released into this river. On several occasions, environmental incidents occurred for which ArcelorMittal Zenica was responsible. The attitude of the population of BiH towards nature is mostly reflected through the bed of the river Bosna. The population of the surrounding places on the banks of this river creates wild dumps. Although Bosnia spilled over in 2014, partly due to its careless attitude towards it, and left catastrophic consequences in the floods, the residents continued the practice of throwing garbage into its bed. Three years ago, the project "Clean River 'Bosna'" began, it involved 14 municipalities in BiH, the Institute for Health and Food Safety Zenica, entity civil protection service, and many environmental and fishing associations. The goal is to identify and remove smaller illegal solid waste landfills in cities and municipalities located in the river valley. Unfortunately, like many other rivers in Bosnia and Herzegovina, Bosna is also a target for those who want to build hydroelectric power plants, and plans to build one in the Zenica settlement of Janjici have been current since 2010. The construction and operation of the Janjici hydro-power plant will lead to permanent loss and fragmentation and change of ecological conditions (quality disturbance) of aquatic habitats in the Bosna riverbed and existing coastal habitats in the area. The formation of the reservoir will cause changes in ecological conditions in the water and increased deposition of finer sediment, which will change the aquatic habitats in the affected part of the course of the river Bosna due to lakes. There will be a slowing of the flow rate, additional heating of the water column in the accumulation area, with a potential decrease in the dissolved oxygen concentration.

Photo: FENA



Photo: maqlaj.net



RIJEKA SPREČA

Rijeka Spreča teče sjeverozapadnim pravcem sa ukupnom dužinom toka od 127 km i površinom sliva od 1.947 km², njene vode pripadaju Crnomorskom slivu. Izvire ispod Velje glave u Snagovu kod Zvornika, a ulijeva se u rijeku Bosnu kod Doboja. Spreča spada u red većih rijeka u Bosni i Hercegovini. Spreča se kod Lukavca ulijeva u akumulaciju jezera Modrac. Sliv rijeke Spreče obuhvata 12 općina i u njemu živi oko pola miliona stanovnika. Njene vode se koriste za industriju Tuzlanskog kantona. Uz Jalu, Spreča predstavlja glavni vodotok na području Tuzlanske kotline. Na rijeci Spreči danas je vidljiv i izražen niz negativnih uticaja čovjeka. Zagađenje rijeke Spreče je veoma ozbiljan i alarmantan problem. Prekomjerno hemijsko i biološko zagađenje rijeke Spreče, njenih pritoka i jezera Modrac direktno ugrožava zdravlje, ali i ekonomski prosperitet stanovnika ovog područja. Vode sliva rijeke Spreče prelaze najveću četvrtu kategoriju zagađenja voda. Najveći dio komunalnih voda ispušta se u naseljima u Tuzli i Živinicama, a otpadne vode stižu od industrije i rudnika u Banovićima i Đurđeviku. Istraživanje Biodiverzitet faune sliva rijeke Spreče je pokazalo da prvu klasu kvalitete vode ima 10% uzoraka; drugu klasu kvalitete vode ima 30% uzoraka, a četvrtu klasu ima čak 60% uzoraka (Modrac, Spreča, Oskova, Gostelja). Osim toga, bakterija Escherichia coli prisutna je u 70% uzoraka. Osnovni uzroci ovog zagađenja su ispuštanje industrijskih i komunalnih otpadnih voda u vodotoke bez prethodnog tretmana, odlaganje čvrstog i tečnog otpada direktno u vodotoke i zagađenje iz poljoprivrede. Spreča je nakon Drugog svjetskog rata bila jedna od rijeka najbogatijih ribom i brojala je 42 različite riblje vrste, danas ima tek 16, a u jednom dijelu svoga toka, rijeka Spreča je apsolutno mrtva rijeka, bez ikakvog biljnog ili životinjskog svijeta.

RIVER SPREČA

The river Spreča flows in a northwesterly direction with a total length of 127 km and a catchment area of 1,947 km², its waters belong to the Black Sea basin. It springs below Velja glava in Snagovo near Zvornik, and flows into the river Bosna near Doboj. Spreča is one of the largest rivers in Bosnia and Herzegovina. Near Lukavac Spreča flows into the accumulation of Lake Modrac. The Spreča river basin includes 12 municipalities and has about half a million inhabitants. Its waters are used for the industry of Tuzla Canton. Along with Jala, Spreča is the main watercourse in the Tuzla valley. Today, a number of negative human influences are visible and pronounced on the Spreča River. Pollution of the Spreča River is a very serious and alarming problem. Excessive chemical and biological pollution of the river Spreča, its tributaries and Lake Modrac directly endangers the health and economic prosperity of the inhabitants of this area. The waters of the Spreča river basin exceed the largest fourth category of water pollution. Most of the communal water of the settlements in Tuzla and Živinice is discharged in the river as well as the wastewater from industry and mines in Banovići and Đurđevik. The study of Biodiversity of the fauna of the Spreča river basin showed that 10% of samples is of first class of water quality; 30% of samples is of the second class of water quality, and as many as 60% of samples (Modrac, Spreča, Oskova, Gostelja) are of the fourth class. In addition, Escherichia coli is present in 70% of samples. The main causes of this pollution are the discharge of industrial and municipal wastewater into watercourses without prior treatment, the disposal of solid and liquid waste directly into watercourses and pollution from agriculture. After the Second World War, Spreča was one of the rivers richest in fish and had 42 different fish species, today there are only 16, and in one part of its course, the river Spreča is an absolutely dead river, without any flora or fauna.



PROKOŠKO JEZERO

Prokoško jezero se nalazi na planini Vranici u Bosni i Hercegovini i glečerskog je porijekla. Nalazi se na 1670 metara nadmorske visine. Vodom se puni topljenjem snijega u proljeće i kišom u ostatku godine. Iznad samog jezera je najviši vrh Vranice – Nadkrstac, sa 2112 m nadmorske visine. Jezer-ska kotlina je posljedica dominantnog ticaja tektonskih, fluvijalnih, kraških, gravitacionih i nivacionih procesa. U jezeru je još uvijek ostao endemični primjerak vodozemca - Raizerov triton (*Triturus alpestris reiseri*) koji u Bosni i Hercegovini obitava na većem broju lokaliteta. Osim tritona, u jezeru i oko njega moguće je pronaći i brojne druge biljne i životinjske vrste. Jezero je poribljeno kalifornijskom pastrmkom, što se pokazalo greškom, jer je ta vrsta ribe poznati predator i uništava tritona. Zajedno sa okolinom, jezero je 1984 proglašeno regionalnim parkom prirode, te postalo zona stroge zaštite. U 2005. godini područje je postalo Spomenik prirode jer su u godinama poslije rata oko jezera bez kanalizacije nelegalno izgrađene stotine vikendica, katura i kuća iz kojih se otpadne vode ispuštaju u jezero, kojem prijete potpuni nestanak. Lokalne vlasti u srednjoj Bosni i Općina Fojnica pokrenule su niz aktivnosti kako bi zaštitili Prokoško jezero, ali njegovo ozdravljenje je teško i usporeno, jer potoke koji su se slijevali u jezero vlasnici nelagalno izgrađenih vikendica preusmjerili su u svoja dvorišta. 2005. godine donesen je Zakon o upravljanju Prokoškim jezerom, koji propisuje zabranu gradnje objekata na ovom lokalitetu. 2014. godine urađen je kanalizacioni prsten oko Prokoškog jezera. Međutim, sam Zakon nije dovoljno dobro definisan, te to nije spriječilo i dalju nedozvoljenu gradnju u ovoj zaštićenoj zoni. U pomenutom Zakonu koji tretira Prokoško jezero spomenikom prirode, nisu pronađeni elementi koji definišu mjere i postupke revitalizacije i pretvorbe antropogenog u prirodni ambijent kako je to regulisano međunarodnim standardima spomenika prirode koji definiše oblik zaštite izvorne prirodne vrijednosti.

PROKOŠKO LAKE

Prokoško Lake is located on the mountain Vranica in Bosnia and Herzegovina and is of glacial origin. It is located at 1670 meters above sea level. It is filled by the water from melting snow in the spring and rain in the rest of the year. Above the lake the highest peak of Vranica – Nadkrstac is located, with 2112 m height above sea level. The lake basin is a consequence of the dominant influence of tectonic, fluvial, karst, gravitational and leveling processes. An endemic species of the amphibian - Raizer's newt (*Triturus alpestris reiseri*), which lives in Bosnia and Herzegovina still remains in the lake at a number of localities. In addition to newts, numerous other plant and animal species can be found in and around the lake. The lake is stocked with Californian trout, by the locals, which turned out to be a mistake, because this species of fish is a known predator and destroys newts. Together with its surroundings, the lake was declared a regional nature park in 1984, and became a zone of strict protection. In 2005, the area became a Monument of Nature because in the years after the war, hundreds of cottages, katuns and houses were illegally built around the lake without sewers, from which wastewater is discharged into the lake, which is threatened with extinction. Local authorities in central Bosnia and the Municipality of Fojnica have launched a series of activities to protect Lake Prokoško, but its recovery has been difficult and slow, as streams flowing into the lake have been diverted to the backyards by owners of illegally built cottages. In 2005, the Law on the Management of Prokoško Lake was passed, which prescribes a ban on the construction of facilities on this site. In 2014, a sewer ring was made around Prokoško Lake. However, the Law itself is not well defined enough, and this has not prevented further illegal construction in this protected zone. In the mentioned Law, which treats Prokoško Lake as a natural monument, no elements have been found that define measures and procedures for revitalization and transformation of anthropogenic environment into natural environment as regulated by international standards of natural monuments that define the form of protection of original natural value.



Photo: radiosarajevo.ba



Photo: Bistrobih.ba



Photo: radiosarajevo.ba