

**Federation of Bosnia and Herzegovina / FBiH
Ministry of Physical Planning and Environment**

**The Republic of Srpska / RS
Ministry of Physical Planning, Civil Engineering and Ecology**

**Federation of Bosnia and Herzegovina / FBiH
Ministry of Trade**

**The Republic of Srpska / RS
Ministry of Trade And Tourism**

**Japan International
Cooperation Agency (JICA)**

The Study on Sustainable Development through Eco-Tourism In Bosnia and Herzegovina Final Report



ANNEX 1

March 2005

**PADECO Co., Ltd
in association with
Pacific Consultants International**

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**A GUIDE TO
RECREATION ACTIVITIES
IN THE
PLIVA RIVER REGION**



BOSNIA and HERZEGOVINA

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I INTRODUCTION TO THE PLIVA RIVER REGION

(1) LOCATION

Bosnia and Herzegovina (BiH) is located between 42 ° 26 ' and 45 ° 15' Northern Latitude and 1545' and 19 ° 41' Eastern Latitude. It is bordered by Croatia on the north and west, and Serbia and Montenegro on the east and south; its coastline extends for a distance of 20 km on the Adriatic Sea near Neum. BiH encompasses the largest part of the Dinaric Mountain Range. The name Bosnia mainly refers to the northern, and largest part of Bosnia and Herzegovina

The Pliva River Region is located in the north - central part of the Bosnia region of Bosnia and Herzegovina. The region is dominated by several major rivers such as the Pliva, Vrbas, and Janje. For many hundreds of years this region was the ultimate stronghold of the Bosnian Kingdom. The castle in Jajce was the fortress of the last Bosnian King. The three largest communities in the Pliva River Region include Sipovo, Jezero, and Jajce. The Town of Sipovo is located near source of the Pliva River, the Village of Jezero is located near the Pliva Lakes, and Jajce is located where the Pliva River flows into the Vrbas River. This intersection is the site of a spectacular waterfall that is 15 meters in height.

The Pliva River plays vital environmental and economic development roles in this region of Bosnia. It is the single most important environmental feature of this region because it provides: water to sustain human and wildlife populations; a natural transport corridor through the mountains; the best available sites for human settlement, supports agricultural production, hydro-energy resources; and a diverse supply of outdoor recreation resources. The Pliva River provides the natural connection between the three towns of Jajce, Jezero, and Sipovo.



(2) TRANSPORTATION ACCESS

The Pliva River Region has an extensive paved road system. Bosnia and Herzegovina route numbers M-5 and M-16 connect the Pliva River Region with the rest of the country. This road system provides access for automobiles, busses and trucks. The Pliva River Region is approximately three hours driving time from the City of Sarajevo in the south and approximately four hours driving time from Zagreb in the north. Rental cars may be obtained in these cities as well as in Jajce. Bus transportation is provided throughout the entire region. All of the towns and rural areas have daily, regular bus service. The busses are very affordable.

(3) CLIMATE AND WEATHER CONDITIONS

The narrow river valleys of the Pliva and Vrbas Rivers are surrounded by several high mountains. The climate of the Pliva River is governed by these high mountain valleys as well as the region's distance from the Adriatic Sea. Examples of the several high mountains in the Pliva Region include Dimitor (1473 m), Vitorog (1907m), Radusa (1956m), Vlasic (1740m) and Ranca Mountain (1473m), Lisina (1337m), Manjaca (1236m) and Cemernica (1388m). The result of the mountainous conditions is a climate that is moderate in the summer months and cold in the other seasons of the year.

- **TEMPERATURE**

Temperatures in this region depend upon elevation. Summer temperatures average approximately 19°C. The highest recorded summer temperature was 38.7°C, during the month of July, the hottest month of the year.

The region frequently experiences temperature inversions. This is a condition in which cold air is trapped in the bottom of the valleys. Because of these inversions (increase of temperature with height), large areas of fog and frost can occur. This is a significant climate characteristic of the Pliva and Vrbas River Valleys. By example, in these valleys there are around 94 days with frost that occur when the minimum air temperature is under 0 °C.

Winters are often severe in the Pliva River Region. The average low temperature in January goes from -0.7°C in Jajce to -1.1°C in Šipovo. The lowest temperature recorded in this region was a January temperature of -25.4 recorded in Jajce.

Average month temperature (°C), Period 1951-1985.

Station	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
Jajce	-0.7	1.4	5.4	9.8	14.3	17.5	19.0	18.7	15.3	10.7	5.8	1.5	9.9
Šipovo	-1.1	1.6	5.3	8.6	14.7	17.1	18.6	18.5	14.8	10.5	4.6	-1.0	9.4

- **PRECIPITATION**

The Pliva River Region receives a substantial amount of rain in the spring, summer and fall, and snow in the winter. Annual rainfall throughout the entire region averages between 969 mm to 1,494 mm. Most of the precipitation occurs during the fall and winter. Approximately 56 percent of the total precipitation occurs during that time.

Average Monthly Precipitation Amount (mm)

Station	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
Jezero	60.6	61.7	61.0	79.7	94.2	104.8	82.3	81.2	75.0	84.1	97.0	90.9	972.3
Jajce	60.8	63.9	59.6	67.1	92.2	97.6	79.7	81.6	72.5	75.0	90.1	87.6	927.7
Šipovo	68.5	66.0	64.4	78.9	80.6	93.5	89.4	83.9	88.6	76.6	85.3	93.4	969.2

(4) THE TOWNS AND THEIR PEOPLE

• JAJCE

The Town of Jajce is located at the confluence of the Pliva and Vrbas Rivers. This location is the site of a magnificent waterfall that is approximately 15 meters in height. The town was originally built as a fortress situated on a high mountain promontory overlooking the rivers. For most of Bosnia's history Jajce served as a strategically important location. First, for the rule and defense of the Bosnian Kingdom; then for the governance of the Turkish Empire in this region, and finally the meeting place for the formation of the Yugoslav nation. The population estimates for the year 2003 was 31,549 persons.



The Town of Jajce

- **JEZERO**

Jezero was recently designated a town. According to the terms and conditions of the Dayton Peace Agreement Jezero was recognized as an independent municipality in July 1996 by the National Assembly of Republika Srpska. Prior to 1996 it had been within the municipal jurisdiction of Jajce.



Pliva Lake at Jezero

- **SIPOVO**

The Municipality of Sipovo is located at the junction of five major rivers. The two largest rivers, the Pliva and Janja, flow through the town and the smaller rivers Sokocica, Lubovica, and Volarica Rivers are nearby. Sipovo is located 6 km downstream from the source of the Pliva River. In the year 2000 a total of 12,574 people resided in the Sipovo Municipality.

The large valley where Sipovo is located is surrounded by mountains that contain an abundance of wildlife, mineral, and forest resources. The tallest mountain in this area is Vitorog with an elevation of 1905 meters. The resource wealth of this location was recognized and used by people since the Paleolithic Era. The Romans created a settlement in the area

called Soko Grad to provide protection for the critically important trade routes that went through this region. The Roman Road in this area was called the Salt Road because it was used for the transfer of salt from the Adriatic Sea to the inland territory of Europe.



Watermill on the River Janj



The Pliva River at Sipovo

II THE RECREATION ACTIVITIES

- A. FISHING**
- B. KAYAKING and BOATING**
- C. MOUNTAINEERING**
- D. HERB and MUSHROOM COLLECTION**
- E. WILDLIFE VIEWING, BIRDING and PHOTO SAFARI**
- F. HUNTING**
- G. CAVE EXPLORATION**

A. FISHING

(1) INTRODUCTION

The pure, spring fed waters in the rivers and lakes of the Pliva River Region have provided superb fishing opportunities for decades. The Pliva River has a well-deserved reputation as one of Europe's best fly fishing rivers. The middle and lower segments of the Pliva and the other four large rivers in the region provide excellent fishing opportunities for all types of anglers. Enormous fish have been caught in the Pliva Lakes from both the shore and from boats. All of these quality waters are easily accessible from an excellent paved road system that parallels the rivers and lakes.

The rivers and lakes in the Pliva River Region have a diversity of large and healthy fish species may be caught by the sports angler. Passive to very active fishing techniques may be employed in this region. The sports angler may pursue streamside fishing by either spin casting or fly fishing or considerably more leisurely boat fishing in the lakes.

The information contained in this guide provides the prospective angler with descriptions of the rivers and lakes; the types of fish that inhabit these waters; advice regarding licenses and permits; and contact information for sport fishing clubs that are well qualified to provide fish guiding and other support services.

(2) FISHING AREAS

- **THE RIVERS**

The Pliva River

The River Pliva is a mountainous river that extends for 29.5 km from its source at the foot of the Jastrebnjak Mountain, west of the municipality of Šipovo, until it joins the Vrbas River at the Pliva Falls in Jajce. The Pliva Falls are approximately 15 meters tall and provide an extremely picturesque setting. Although the Pliva River is slightly less than 30 km long, it possesses an unusual variety of unique features. The upper reaches of the river zig-zags through mountain valleys where it has an extremely fast rate of flow. Across the flat lands the river meanders and its rate of flow reduces considerably. Upon arrival at Jezero, the Pliva is transformed into a series of lakes that are renowned for their calm waters. Beyond Jezero, a short series of waterfalls provide both ancient and modern hydro power. The historic water

mills are located near the modern hydro-electric generating facilities. From this location the river proceeds a short distance through the Municipality of Jajce and then plunges into the Vrbas at Pliva Falls. This incredible variety provides numerous settings for an equally diverse collection of recreation activities.

The source of the Pliva River are three enormous underground springs that arise from karst limestone geologic features in the Jastrebnjak Mountain. These springs, located at approximately 489 m above sea level, produce water at an incredible rate that varies from 4 to 15 m³/s. Pliva River's water temperature at its source is between 7 and 8 °C and this makes the water a perfect, highest quality fishery habitat. The Pliva River springs are a truly remarkable natural resource. The environmental significance of this situation is that the springs continuously supply an abundance of extremely high quality and very cold water. Fishing activities located near the source of the Pliva River, especially fly fishing, can be assured of environmental quality.

The Pliva River has distinct seasonal characteristics. During the spring or during long term rainfalls, the Pliva floods the area from Sipovo to Jezero, as well as the part from Draganica to the bridge for Brdjane. The upper reaches will remain clear throughout most of the year, but the lower reaches can be influenced by runoff from snow melt, rainfall, and tributary rivers.

The prize fish specie near the source of the Pliva River is the Grayling. The Brown Trout are also native to the Pliva River and this wary fish provides the angler with both challenges and action. The mid-section of the river has California and brook trout, as well as Browns.

There are several streams that enter the Pliva River. The Janj is by far the largest, but the water volume of the Pliva is also increased by flows from the smaller streams that include the Perućica, Sokočnica, and Libovica.

The Janj River

The Janj River is a large, spring-fed river in the Pliva Region. It flows for a distance of 14.5 km through extremely beautiful canyons with sheer rock walls. The source of the Janj River emerges in the River Vaganac canyon. The spring of Janj lies in a deep, dark canyon.

The Lubovica River

The Lubovica is a tributary river of the Pliva River. The character of this river can be torrential. There are numerous creeks along the Lubovica, of which some of the larger ones are Potočić,

Vranovina, Mandića potok, Paklarica, Vučajski potok, Jasika, Radovanovića potok, Trnovica.

The River Volarica

The Volarica is one of the right streams of the Pliva, joining it at Volari. It is approximately 5 km long and drains a small watershed that is approximately 17 km² in size.

The River Jošavka

In the centre of the Jezero settlement, the Jošavka joins the Pliva. During heavy rain it floods the area it runs through.

The Pliva Lakes

In the vicinity of the Town of Jezero are a series of lakes. The two most prominent of these are called the Great and Small Pliva Lakes. The lakes were originally part of a natural group of lakes associated with the natural course of the Pliva River. Water impoundment structures near the Town of Jajce enlarged the lakes substantially. The entire lake system is now some 6 km long. The lake system is divided by a limestone rock into two parts: Gornje or Veliko jezero and Donje or Malo jezero. The lakes are quite cold, highest water temperature being around 21°C.

The Pliva Lakes possess unique characteristics that make them especially attractive for kayaking and canoeing. Specifically, the water is “Heavy”. This means that there is a naturally occurring additional atom of hydrogen that provides extra stability to the water. This unique condition results in the water being very flat and stable and this provides the perfect venue for kayak and canoe competitions. The kayak and canoe ecotourism activities associated with this natural condition enjoy a significant competitive advantage over other international kayak locations.

Lake Trout, Carp, Catfish and California Trout can be caught in the Pliva Lakes. The largest Lake Trout caught in these waters was 24 kg. Sport fishing from either the shore or from boats are both very popular.

(3) SPORTFISHING

• FISH SPECIES AND SIZE

The Pliva River and lakes systems have a remarkable diversity of trophy sport fish species. The name for each species of fish described below is provided in English, Bosnian, and in the Latin biological name.

Grayling – Lipen (*Thymallus thymalus*)

The Grayling – Lipen (*Thymallus thymalus*) thrive only in rivers that have pure and clear water. The Pliva River provides ideal habitat for the Grayling from its source to the Town of Sipovo, a distance of approximately 6 km. The Grayling is one of two dominant species in the Pliva River. The second species is the Brown Trout. The steady flow of water from the springs, the nearly constant temperature of the water, and the slow current of the Pliva provide the conditions that are essential for sustaining a quality Grayling habitat.

Grayling may only be found in cold and oxygen rich rivers, with rocky and sandy river beds. The stream conditions in the upper section of the Pliva River provide deep, slow moving water that covers a river bottom composed of sand and rock. The slow pace of the river allows vegetation to flourish and the insects that live in the vegetation provide abundant food sources for the Grayling. The upper Pliva River crosses a wide, flat valley that has a diversity of lush vegetation along its shoreline. These perfect water conditions are becoming increasingly rare and for that reason the Grayling is considered a very desirable sport fish for anglers.

The Grayling is from 20 to 50 cm long and appears to be egg shaped when viewed in cross section. The most prominent feature of the fish is its large dorsal fin that the fish is able to expand like a large fan. Its head is small and pointed. The back of the fish is a gray-green or blue-gray color and the side and the belly are silver or honey color. On the back he's got unevenly distributed dark spots.

Grayling in the Pliva River spawn from mid - March to mid - May on rocks. After fertilization it covers the eggs with rocks. The female hatches from 3,000 to 6,000 eggs that are from 3 to 3.5 mm large.

Grayling feed very aggressively. They will eat both water and airborne insects, terrestrials such as frogs and grasshoppers, as well as larva, snails, and small fishes.

The size of the Pliva River Grayling range for one to five pounds, with an average weight of three pounds. The largest Grayling caught in the Pliva was 58 cm in length.

Suggested Flies for Arctic Grayling

Adams Dry	Mosquito Larva
Elk Wing Caddis	Pheasant Tail Nymph
Gold Ribbed Hare's Ear	Salmon Fry
Humpy	Tellico
Mosquito Dry	Zug Bug
Light Cahill	Black Gnat
Polar Shrimp	Orange Woolly Buzzer

Brown Trout – Potocna pastrva (*Salmo trutta morpha fario*)

Brown Trout – Potocna pastrva (*Salmo trutta morpha fario*) prefer strong flowing rivers and cold temperatures. The Pliva River provides the perfect water conditions for the Brown Trout. As previously stated, the Brown Trout is a native species in the Pliva River. In areas close to the spring the current is stronger and the temperature is lower and this location is an especially important spawning area. The abundant oxygen content of the Pliva River is an essential support for sustaining the Brown Trout.

The average size of the Brown Trout is about 25-40 cm long and the body shape is mostly round. The fish is dramatically colored. The body is often a bright gold or orange color and there are red and black spots that add to the colorful appearance. The colorful sides of the fish contrast sharply with the back which is mostly greenish to dark brown. The color changes towards the belly. On the upper and lower jaw there are numerous sharp teeth that extend in angles from the mouth.

The spawning season for Brown Trout in the Pliva River is occurs in the fall. The fall spawning season lasts from October to the end of December. Females dig a hole in that time with 20 to 50m cm diameter and spawn about 1 000 eggs per 1 kg of her weight. Eggs are from 4 to 5 millimeters, yellow-red or orange. When they grow up, the fish travel upstream.

Brown Trout are considered one of the most difficult fish to catch. They can be selective feeders and can be scared away easily when approached. They feed on water and airborne insects, small crabs, larva, tadpoles, small fish, and even on their own species.

The Pliva River has many large Brown Trout. The upstream region has fish that average between four and six pounds. The downstream region has fish that are seven pounds and larger.

California Trout - Kaliforijska pastrov (*Salmo iridens*)

There are several attractive trout species that have been introduced to the Pliva River from foreign countries. One of these is the California trout - Kaliforijska pastrov (*salmo iridens*) that was introduced from the United States. This fish was brought to Europe from California rivers in 1882, and was introduced to the Bosnia region in 1899.

The California Trout spawn in the spring when the flow of water is violent. For this reason their reproduction in the Bosnian rivers, such as the Pliva, was minimal. They do spawn very successfully in a fish hatchery, and the Bosnian people along the Pliva River have actively been producing this fish in streamside hatcheries.

California Trout are well-known as powerful fighters and they feed on a wide variety of food sources. Once hooked, it is not unusual for these trout to leap from the water several times during their attempt to break away from the line.

Flies for Rainbow Trout

Adams Dry	Iliama Pinkie
Bunny Fly	Mirabou Muddler
Egg Sucking Leech	Pheasant Tail Nymph
Elk Wing Caddis	Polar Shrimp
Gold Ribbed Hare's Ear	Woolly Bugger

Brook Trout - Amerikanski somic cvergi (*Amirus nebulosus*)

The Brook Trout - Amerikanski somic cvergi (*salve linus fontinalis*) is another famous species of trout that was introduced to the Bosnian river system. This species of fish was first brought from Canada in 1879 for breeding in fish ponds. It is found throughout the Pliva River system and especially in the Pliva Lake near Jajce. Another Brook Trout habitat is at the source of the river Bosna, near the spring.

The pectoral, pelvic and anal fins on Brook Trout are usually orange and edged with black and white. The body is dark, marked with both white and red spots inside blue circles. These fish spawn in the fall and have produced a large population in the Pliva River.

Flies for Cutthroat Trout

Baby Needlefish	Iliama Pinkie
Blue Smolt	Muddler Minnow
Gastineau Smolt	Pheasant Tail Nymph
Gold Ribbed Hare's Ear	Roselyn's Sand Lance
Humpy	Woolly Bugger

Lake Trout - Linjak (*Tinca tinca*)

Lake Trout - Linjak (*Tinca tinca*) can grow to enormous size in the Pliva Lakes. For this reason they are a very desirable sport fish. It is an introduced species of trout that was found in select locations of the Mediterranean region and then brought to Bosnia's river systems. Its natural habitat was the Black Sea and the Vardar Region of the Aegean basin.

Lake Trout have a golden brown color on their sides and have a dark brown back. Their dorsal fin is especially prominent.

The Lake Trout may be fished from either the edge of the Pliva Lake or from a boat. The record weight for a Lake Trout caught in the Pliva Lake was 26 kg.

Catfish

In rivers of Danube basin American catfish (*Amirius nebulosus*) domesticated, that was first brought in to Europe from North America in 1885 (pic.57).

Sucker Pes (*Cottus gobi*)

If the mountain flows are slower and with smaller drop the trout is joined by some other fish, like Zlatni pior (*Phoxinus phoxinus*), Peš (*Cottus gobio*), and tivuška (*Nemashilus barbatulus*) (pic 44). It should be noticed that towards the end of the last century the American Californian trout (*Salmo iridens*) was brought to Europe. They are bread in fish ponds and than released in to the rivers. In some of our rivers in same areas the water lamprey is known (*Lampetra planeri*) (pic. 45)

Perch or Grgeč (*Perca fluviatilis*)

In summer those water are warm and muddy. In the surface part they contain lot of oxygen, and very little on the bottom. The river bed is muddy and sandy, and the shore sedimentation is great. Also the vegetation of higher plants is developed and its suitable for šaranka, Štuka and Grgeč spawning.

Carp Mrena (*Barbus barbus*)

20 kg

Main area of Carp spread in our country are low waters of Black see basin. From those waters it moved partially upwards and in to transition rivers like Drina up to Zvornik and Foča, Bosna, up to Lašva river mouth, and in Sava up to above Krka and Sutla. It appears in Bled lake as well. It populates the low waters of Aegean basin, and its not present in Mediterranean basin.

Downstream is an area of cataract. The area includes river with fast flow, rich with oxygen but with relatively high temperature. The river bed is covers with round pebbles. The shore is rich with vegetation that has rooted in pebbles and sand. For this area the cataract is characteristic fish (pic.47) it is 30 to 80 cm long and up to 4 kg heavy. Colors are different. Mostly the back and the upper part of the head are gray-green and sides are brighter. It lives in floats and during the day stays in shelter, and it feeds during the night. It's interesting that during the winter it stays in deeper and calmer waters. Spawns from middle of May to July. Travels long distance to the place where it lays eggs. Females lay from 3 000 to 8 000 of sticky eggs that are about 2 mm large. It mostly feed on animals living on the river bed like larva, snails, spangle and fish eggs. Annually it can be caught up to 50 to 100 kg of fish in middle European region per 100 m³ it should be mentioned that fish eggs are poisonous especially in spawn period.

Lower reaches of the Pliva River the fish species include brook trout, rainbows, and lake trout. This is the Jezero region of the river.

- **RIVER CONDITIONS**

Different kinds of fish that live in certain areas of river can be divided by the way they spawn. Some of them spawn on fast running parts of the river on sand and some in calmer parts on plants. For example, members for the first group are: Mrena, Skobalj and others, and to the second group: Štuka, Linjak, šaran,deverika,crvenperka and others. Because of the river floods, the conditions for spawning can change and widen the original area of the fish. In that

case the conditions for other fish spawning on sand aggravate. Life conditions for fish that spawn on plants do not aggravate if the waters are dirty. For those fishes that spawn on plants its is important that soft plant, and not hard plants and water plants develop. Myriophyllum, Ceratophyllum, Ranunculus fluviatilis and different kinds of Mrijesnik (Potamogeneton) are representatives of soft water plants. And hard water plants are: Trska (Pharagmites), Rogoz (Typha) and Juncus.

In case of a river flood it is easier for hard plants to survive. But they retain large quantities of plant waste and help produce h_2s . And it has bad influence on development of soft plants. That is why shores overgrown with cane are not of importance for fish spawning. Floating plants are much better adapted to river floods; they can follow the changes of water levels and provide a good place to spawn in times of floods. Best conditions for spawning are on soft underwater plants. Overgrown shores have bad influence on fish roe, which place eggs on plants.

Pliva River has three sources. All springs from karst formations. The rate of flow is 13 cubic METERS per second.

The temperature ranges between 6 and 8 degrees CeniGrade.

The river sustains a steady flow and temperature.

Prone to natural flood events. Occasional flooding does occur. Cleansing of the river a natural process.

California Trout - Kaliforijska pastrov (*Salmo iridens*)

There are several attractive trout species that have been introduced to the river sof the Mount Velež Region from foreign countries. One of these is the California trout - Kaliforijska pastrov (*salmo iridens*) that was introduced from the United States. This fish was brought to Europe from California rivers in 1882, and was introduced to the Bosnia region in 1899.

The California Trout spawn in the spring when the flow of water is violent. For this reason their reproduction in the Bosnian rivers, such as the Buna, was minimal. They do spawn very successfully in a fish hatchery, and the Bosnian people along the Buna River have actively been producing this fish in streamside hatcheries.

California Trout are well-known as powerful fighters and they feed on a wide variety of food sources. Once hooked, it is not unusual for these trout to leap from the water several times during their attempt to break away from the line.

Brown Trout – Potocna pastrva (*Salmo trutta morpha fario*)

Brown Trout – Potocna pastrva (*Salmo trutta morpha fario*) prefer strong flowing rivers and cold temperatures. The upper reaches of the Zalomka River and the Buna River provide the perfect water conditions for the Brown Trout. The Brown Trout is a native species in both those rivers. In areas close to the source of the rivers the current is stronger and the temperature is lower and these locations are especially important spawning areas. The abundant oxygen content of the regions rivers is essential for supporting a sustainable population of Brown Trout.

The average size of the Brown Trout is about 25-40 cm long and the body shape is mostly round. The fish is dramatically colored. The body is often a bright gold or orange color and there are red and black spots that add to the colorful appearance. The colorful sides of the fish contrast sharply with the back which is mostly greenish to dark brown. The color changes towards the belly. On the upper and lower jaw there are numerous sharp teeth that extend in angles from the mouth.

The spawning season for Brown Trout in the Pliva River is occurs in the fall. The fall spawning season lasts from October to the end of December. Females dig a hole in that time with 20 to 50m cm diameter and spawn about 1 000 eggs per 1 kg of her weight. Eggs are from 4 to 5 millimeters, yellow-red or orange. When they grow up, the fish travel upstream.

Brown Trout are considered one of the most difficult fish to catch. They can be selective feeders and can be scared away easily when approached. They feed on water and airborne insects, small crabs, larva, tadpoles, small fish, and even on their own species.

- **SPORT FISHING MANAGEMENT**

Fishing Locations

Premier fishing locations are located along the 6 km stretch of the Pliva River located from its source to the town of Sipovo.

Source to the first bridge, now mixed and will become primarily fly fishing.

Bidge to bridge, the hatchery area used primarily by residents.

Second bridge to town, now closed but will be open to fly only.

All sections of the river are accessible.

Lake is both bank and boat fishing

Flyfishing in all areas.

Janje River south flowing that is open to all types of fishing.

Licences

All persons of all ages must have fishing licenses.

Jezero the cost is 10 KM per day both residents and non-residents.

Sipovo the costs are 10 KM per day for residents and 20 KM for non-residents.

Citizens are eligible for seasonal licenses. The cost is 60 KM in Jajce and 50 KM in Sipovo.

Re-stocking Program

Source of indigenous fish that are compatible with Pliva River: Ljuta Rijeka on the Buna River. The hatchery that raise these fish is managed by the Norwegian firm Norfish. These are the same species of fish as the Pliva and most importantly, the temperature of the river is the same at both locations. The size of the fish at the time of transplanting is 7 mm.

Seasons

Spawning occur from the end of October to the end of December for trout

Grayling spawn from early March to mid-May

March 1 to the end of October for grayling and brown trout

Flies

Grayling is especially attracted to stoneflies in the spring time.

May – Stoneflies sizes 14 to 8,

Mayflies sizes 14 to 8

Spinners.

Early season nymphing and dry flies.

Beetles, grasshoppers, firefly, bees, fresh river crab (shrimp) frogs, minnow fish.

Guides and Fishing Equipment

- ▶ Fly rods of 4, 5, and 6 weights for streams and rivers.
- ▶ Rod weights of 7, 8, and 9 for the lakes. To cope with the wind conditions.

- ▶ Spinning rods. Usually a two piece sectional rod at 10 feet of length. 15 to 40 grams of action.
- ▶ Both open and closed spinning reels.
- ▶ Repallas, spinners, boilies,
- ▶ For attracting carp aroma of sweet corn, flour

Techniques

- ▶ Specific sections of the river allow the angler may tie on as many as 5 flies to a single line. Other locations require only one fly per line.
- ▶ Spinners and floating dry flies are located on specific reaches of the river.

Catch and Release and Allowable Catch

Flyfishing practice is catch and release.

- ▶ Trout – current regulations one fish at least 25 cm in length. New regulations will require fish to be 30 cm in length.
- ▶ Grayling Trout – current regulations one fish at least 30 cm in length. New regulations will require fish to be 40 cm in length.

Mayor of Sipovo is the President of the fishing club. We need his support. He wants money. What else is new.

Alex to FFE in Slovenia at the end of May.

Sports fishing society Sipovo takes care of Pliva and Janja water-flows long about 40 km and one of its basic assignments is fish-farming. Next to brook and Californian trout, fishermen have *lipljen* as well. Local fishing areas (rivers Pliva, Janj and other joining rivers) are visited by guests from abroad as well. A traditional fishermen night is organized for the “opening of the season” at the beginning of March with special programme and numerous guests.

B. KAYAKING AND BOATING

(1) INTRODUCTION

The Pliva River offers world class kayaking along its entire 29.5 km length. The upper reaches of the river from its source to the Pliva Lakes provides a diversity of white water kayaking experiences. The time of the year and the rate of flow will provide a variety of white water challenges for the recreational kayaker. The Great Pliva Lake provides both the international competitor and the recreational kayaker with world class conditions and facilities.

Great Pliva Lake was the site of the World and European Kayak Competition in 1963. During the past 40 years the lake has been the training site for Olympic and world class kayakers. The recreational kayaker has the unique opportunity to participate with, and learn kayaking skills from, these world class athletes.

Boating experiences include a range of passive to active recreation activities. The tourist may participate in peddle boating or canoeing on the tranquil waters of Lake Pliva. The visitor may also participate in canoeing the white water upper reaches of the Pliva River. There are also good wind conditions suitable for small sailboats. In order to prevent water pollution, motor boats are not allowed to operate on the lake.

The information contained in this section of the guide describes a variety of kayaking and boating experiences. Also included is information regarding the excellent instruction and guiding services that are available and suggestions for appropriate equipment.

(2) THE GREAT PLIVA LAKE

The Great Pliva Lake was created by impounding the Pliva River near the Municipality of Jajce in order to provide hydro-electrical power. The lake is 3,800 meters long and this enormous lake extends from the City limits of Jajce to the town of Jezero. The lake is 500 meters wide and its average depth is 33 meters. The deepest location in the lake is 100 meters. The waters of the lake are generally calm, but high winds occasionally do occur. The Great Pliva Lake never freezes and people actively participate in year round kayaking and boating.

The tourist will enjoy a lake that has very little development surrounding it. The water of the Pliva Lake is publicly owned. At the Jajce end of the lake, the municipality maintains a park

that has several historic water mills that are extremely picturesque and recreational facilities such as picnic tables and grilles for outdoor cooking. The shore of the lake is privately owned by several individuals. A few very attractive cabins are located along the edge of the lake.

Since the creation of the Pliva Lake reservoir, a number of islands have been created by sediments continuously being deposited from the flow of the Pliva River. These large islands are densely vegetated. They offer excellent locations for kayakers and boaters to rest and have picnics. They have also created attractive channels through which kayakers and boaters can transit.

The Pliva Lakes are excellent wildlife habitats. They never freeze and have a large fish population. Wildlife such as bear and deer are frequent visitors to its shores. For both migrating and resident bird species, the islands and shoreline are especially attractive habitats. The shore and islands have dense vegetation that provides the birds with both cover and insects to feed upon.

(3) THE PLIVA KAYAK AND BOATING EXPERIENCE

The Pliva kayak experience represents a unique recreation opportunity because it offers the individual an intimate, but non-intrusive relationship with the natural beauty and wildlife of the Pliva River and Lakes. The kayak experience also allows the individual to actively participate in a centuries old mode of travel. The pace of travel is established by means of a compromise between the desires of the paddler and the natural conditions of the region. Given the length of the river and the size of the lake, the opportunity to explore a large region of Bosnia is exceptional.

The kayaking recreation experience will begin at the Kayak Club facility. The kayaker's skill and experience level, equipment needs, and familiarity with local conditions will be determined. Based on a quick review of this information, the kayaker will be provided with the appropriate kayaking instruction, equipment, information, and potentially with a guide. Transportation arrangements, as well as emergency communication procedures, will be provided to the kayaker. All instruction, advice and basic training will be provided at no cost to the kayaker. Kayak rentals, equipment sales and rentals; food and beverage; maps, transportation costs; and guiding services will be charged.

The kayaks available for tourists include two and four seat styles of boats. The equipment

provided to the recreational kayaker includes personal flotation devices, paddles, spray skirts, drip rings, float bags, and helmets.

For the persons seeking boating recreation there are canoes and peddle boats available for hire. Safety equipment and appropriate instruction are provided for to visitors desiring to use these boats. Peddle boats may be hired for the rate of 2 KM per hour for a maximum of 10 hours use.

The Pliva is an undisputed mecca for paddlers and it attracts kayakers from all over the world. Easy access from the paved road that parallels the river and lakes contributes to its appeal. The largely protected waters of the Pliva Lakes make them a good place for less experienced paddlers to sharpen their skills.

Paddlers can find a range of conditions to suit them within Pliva River Region. White water conditions may be found in the upper reaches of the Pliva and these are particularly rigorous during the spring runoff. Placid segments of the river provide leisurely paddling while the lake provides an enormous body of water for pleasurable paddling or testing one's competitive skills.

Wildlife viewing from kayaks and boats can be an especially pleasurable activity. All of the kayaking experiences in the Pliva River Valley may be witnessed by wild bears, wolves, and deer that frequent the shores of the Pliva. Swans, ducks, loons, geese, and many other species of birds can be seen. These animals should be respected, especially during the time that they are raising their young. But there is no danger to the tourist viewing these animals from their boats.

Kayakers and boaters should be aware of the cold water temperatures of the Pliva River and Lakes. Appropriate clothing and Personal Flotation Devices are essential for the water conditions of the Pliva.

The islands in the Great Pliva Lake have attractive picnic sites. The kayaker or boater may travel for as long as they wish and then enjoy natural settings for picnics. Comfortable rest stops may be found within a leisurely one hour paddle from the Kayak Club.

Half day and full day recreation opportunities are available. The paddling time for the recreational kayaker or boater from the Kayak Club to the end of the lake is only two hours.

Paddling along the entire perimeter of the Great Pliva Lake is a very pleasurable activity that can be experienced for the entire day.

The small beach of the small Pliva Lake is occasionally used for concerts. A schedule of these events is available at the Kayak Club, Plaza Restaurant, or the Jezero Motel.

(4) THE COMPETITIVE KAYAKING EXPERIENCE

The Great Pliva Lake has 2 km of ideal conditions for flat water kayak competition. Measured kayak courses for 200, 500 and 1,000 meter distance races have been marked with buoys. Kayak competitors train and race in one, two, and four person hard shell boats. Additional facilities include a judging tower and a spectator viewing platform. Construction projects scheduled for completion in 2004 include repairs to an existing pier and building a new floating pier.

Expert kayak training is provided on site. The senior instructor has been training world champions since 1959. Kayak paddling, boat handling, and racing techniques are taught by the instructors. Very comprehensive fitness and health programs are also designed for the competition kayaker. Competition training classes are held throughout the year from 0800 to 1300 and from 1500 to 1900 hours. The time schedule for teaching kayaking skills to new students is from 1300 to 1500 hours. The training program has been reinforced by cooperative partnerships with other European clubs such as those in Croatia, Slovenia, Germany, and Sweden.

As previously mentioned, the Great Pliva Lake hosted the 1963 World and European Kayak Championship. Since that time many international and national competitions have been held at the Great Pliva Lake. State and International Kayak Championships are held each July and August. The competitions are exciting attractions to view. In addition to the many competitors, there are nine judging boats and two safety boats traveling alongside the racers. Approximately 1,000 spectators view these events from either a special platform or from their own kayaks. Weather conditions, of course, influence the size of the audience.

(5) KAYAKING INSTRUCTION AND SUPPORT SERVICES

All persons who may be interested in learning how to kayak are welcome to participate in the training sessions offered by the Kayak Club. There are 30 expert instructors available to teach the fundamentals of paddling and boat loading and handling.

Specially designed educational programs for the area schools have been very successful. The young people of the region have enthusiastically participated in year round kayaking. They learn skills, participate in competitions, and are becoming experts in guiding. Tourists traveling with children are encouraged to inquire about these educational programs.

Kayak repair and boat building skills are also available to competitors, or others who may need these services. Patch kits and fiberglass repair supplies, equipment and skills are readily available.

Hotel accommodations and food services for kayakers and their traveling companions are available at new facilities located on the shores of the Great Pliva Lake. The Jezero Motel has both rooms and restaurant facilities. The Plaza Restaurant offers food services at a location directly adjoining the kayak boat house and pier. It must be noted that the Plaza Restaurant was originally built as the headquarters for the Kayak Club and has recently been privately purchased and refurbished as a restaurant.

(6) PREPARATIONS AND PRECAUTIONS

1. Understanding kayak and boat safety is crucial to your enjoyment of this recreation experience. Tourists are advised to listen carefully to instructors and the licensed guides.
2. Unlike canoes, kayaks may be pushed out into the water before getting in or out. The shape of the kayak may cause the boat to swamp if either end is beached. Therefore, it is desirable to have calf-length or knee high waterproof rubber boots to kayak.
3. Bring waterproof bags and heavy duty rain gear. The waterproof bags may consist of plastic garbage bags or flotation bags.

4. Ultimately the weather conditions will dictate the route you will follow, your speed, and even your destination and choice of landing sites.
5. If you encounter foul weather and big waves, don't panic. The boat will not sink. Make sure your spray skirt is on properly, your life vest is on, and flotation bags inflated before leaving shore. Go to shore in a protected area where waves are not breaking. Paddle either into the waves (best) or directly downwind. Do not paddle in the trough, parallel to the waves.
6. Never abandon your boat; it can handle more extremes than you can. Never attempt to swim to shore. Above all take no chances with the weather. Stay on shore and wait.
7. For those persons who are renting kayaks, the rental form will record your time due and destination. If weather or other circumstances prevent your scheduled return, the Kayak Club will be aware of this situation. In case of an emergency, be assured that rental personnel will notify well qualified search and rescue groups that you are missing.

C. MOUNTAINEERING

Soko Grad ancient fortress originally established to protect the Salt Road. Can be seen from the paved road and is an easy hike.

The Mountain Sports Club of Sipovo is called the Planinarsko Sportsko Drustvo "Vitorog". The membership of this organization is comprised of citizens of the Sipovo region. The Mountain Sports Club was established in April 2000 and is officially a member of the Mountain Union of Republike Srpske.

The purpose of the Vitorog organization is to improve the quality of life for citizens and visitors through an improved understanding of the region's natural resources. Specific programs provided by Vitorog include educational programs, preservation of natural resources, and providing enjoyable and safe hiking and mountaineering experiences.

"Vitorog" enjoys a Non Governmental Organization (NGO) status. It is a multi-ethnic, humanitarian organization of free and independent persons. All persons are eligible to be members of Vitorog regardless of ethnicity, age, sex, or political affiliation. Vitorog currently has 100 members and 100 volunteers. Sixty percent of the membership is made up of young persons who are enthusiastically participating.

Contact Information:

Ilijac Misic
Tel: 050 372 213
U. Njegoseva 27
Sipovo

Elevation from Sipovo, Pliva River, approximately 1,500 ft. rising to a height of approximately 3,400 ft.

Approximately 20 km of trails. 5 large rivers, 10 smaller ones. 4 canyons

Cross country skiing

Considerable infrastructure in place – roads, huts, and some utility supports.

Kuprice River site of a monastery that is readily accessible to hikers.

Sources of the rivers as destinations for hikes.

There are 10 mountain cabins owned by the forest company and the hunting clubs. These should be considered as backcountry rest sites.

Route:

Waypoint 319 Sipovo Forestry Headquarters Building, elevation 1,550 ft.

(1) FOREST ROADS OFFER THE BEST BACKCOUNTRY ROUTES

Routes across the tops of ridges and lateral travel.

Prevents getting lost.

Assurance that there are No mines.

Hiking

Mountain Biking

Photo Safari

Nature study

There are locked gates at the entry to backcountry roads. Several entry sites had gatehouses with employee.

Waypoint 320 First Hut at 3,400 ft. elevation.

N 44 15 611

E 17 11 127

Cabin is located a small valley that is on the direct path of a game trail. The structure is built on stilts in order to overlook a bait area and thus provide a clear shot to the hunter. The window has a built in rifle rest that can be adjusted to the height desired by the hunter. The cabin has electricity, heat, a bathroom, and primitive furnishings.

Dead cows were the bait at the time of my visit.

Large bear tracks showed clearly in the mud near the bait. One of the paw prints was 14 cm wide.

Predators must be fed all year long to keep villages, domestic livestock, and the wild animals safe from each other.

Domestic livestock is in direct competition with wildlife for food in this region. The domestic livestock includes horses, cows, sheep, and goats.

There are beautiful meadows at the top of many hill. Numerous species of wildflowers were in bloom.

(2) IMPORTANCE OF TH ROADS FOR BACKCOUNTRY ACTIVITIES

Roads are a series of switchbacks that permit travel through this steeply sloped terrain.

Positive

- Hiking
- Mountain Biking
- Nature Tours
- Cross Country Skiing
- Jeeping
- Routes can be monitored.

Negative

- Traffic conflicts
- Restricted entry
- Logging operations
- Logging trucks

Damaged two story building that used to house the forest service facilities a candidate for backcountry education and management. Now being used by shepherd family.

Waypoint 321 Mountain Hunting Cabin at elevation of 3,636 ft.

N 44 10 943

E 17 16 554

Beer cans perched at the top of poles provide the way markers.

Very Steep Slopes throughout the entire region.

Hiking on steep slopes

Erosion that would be caused by trails.

Trail Maintenance a virtual impossibility.

Waypoint 322 Hunting Hut Concrete structure

N 44 05 772

E 17 14 282

Waypoint 323 Djordje's lunch location.

N 44 11 148

E 17 04 102

264 cultural monuments in the region. The antiquity and diversity is quite remarkable. Age extends from Paleolithic, Roman, Middle Ages, and historic.

The Pliva River valley was a cross road of conflict during the war.

Kuprice River site of a monastery that is readily accessible to hikers.

D. HERB AND MUSHROOM COLLECTION

The forests and river valleys of the Pliva River Region contain a diversity of herbs and mushrooms that have many useful purposes. The medical herbs and edible mushrooms found throughout the region are not only attractive, but also have significant economic value. The people of this region use their many natural resources for food, medicines, and fragrances. They also obtain income from the sale of herbs and mushrooms.

The information contained in this section of the guide book describes (1) the types of herb and mushrooms found in the region, (2) the time of the year for collecting the herbs and mushrooms, and (3) qualified guides who can provide a successful collection experience for the tourist.

Šipovo municipality is a significant habitat of the self-grown medicinal and edible herbs and mushrooms. Some of the important medicinal herbs found here include: *Achillea millefolium*, *Asperula odorata*, *Atropa belladonna*, *Fragaria vesca*, *Gentiana lutea*, *Hipericum perforatum*, *Rhamnus fallax*, *Rosa canina*, *Rubus ideaus*, *Rubus fruticosus*, *Sambucus nigra*, *Thymus serpillum*, *Vaccinium myrtillus*, *Valeriana officinalis*.

Some of the significant edible mushrooms include: edible bolete (*Boletus* sp), morel (*Morshella* sp), chanterelle (*Cantharellus cibarius*) and many others.

SIGNIFICANT MEDICINAL HERBS	
1. Milfoil	<i>Achillea millefolium</i>
2. Monks-hood	<i>Aconitum variegatum</i>
3. Agrimony	<i>Agrimonia eupatoria</i>
4. Onion	<i>Allium ursinum</i>
5. Bear clover	<i>Anthyllis vulneraria</i>
6. Burdock	<i>Arctium lappa</i>
7. Bear ears	<i>Arctostaphylos uva-ursi</i>
8. Wormwood	<i>Artemisia absinthium</i>
9. Asarabacca	<i>Asarum europaeum</i>
10. Woodruff	<i>Asperula odorata</i>
11. Shield-fern	<i>Aspidium filix-mas</i>
12. Belladonna	<i>Atropa beladonna</i>
13. Daisy	<i>Bellis perennis</i>
14. Caraway	<i>Carum carvi</i>
15. Forest strawberry	<i>Fragaria vesca</i>
16. Gentian	<i>Gentiana lutea ssp. symphyandra</i>
17. Common John's Wort	<i>Hypericum perforatum</i>
18. Marjoram	<i>Origanum vulgare</i>
19. Plantain	<i>Plantago sp.</i>
20. Primrose	<i>Primula sp.</i>
21. Lung-wort	<i>Pulmonaria officinalis</i>
22. (Žestika)	<i>Rhamnus fallax</i>
23. Alder buckthorn	<i>Rhamnus frangula</i>
24. Wild rose	<i>Rosa canina</i>
25. Raspberry	<i>Rubus idaeus</i>
26. Blackberry	<i>Rubus fruticosus</i>
27. Dwarf-elder	<i>Sambucus ebulus</i>
28. Elder	<i>Sambucus nigra</i>
29. Dandelion	<i>Taraxacum officinale</i>
30. Thyme	<i>Thymus serpyllum</i>
31. Colt's-foot	<i>Tussilago farfara</i>
32. Grat nettle	<i>Urtica dioica</i>
33. Bilberry, Blue-berry	<i>Vaccinium myrtillus</i>
34. Valeriana	<i>Valeriana officinalis</i>
35. Wood-violet	<i>Viola sylvestris</i>

Source: Institute for Urbanism, Banja Luka (corrected by National Museum, Sarajevo)

E. WILDLIFE VIEWING, BIRDING AND PHOTO SAFARI

(1) ANIMALS

Characteristic rare and endangered species in the area of Sipovo/Jajce are otter (*Lutra lutra*) and ream (*Lynx lynx*) with small populations. Otter is by the Law permanently protected, while ream since recently appeared so it is not yet protected by the Law.

Also on the red list of endangered species, there are also bats mostly appearing in Jajce area.

Particularity of Velez and Podvelez is the presence of chamois (*Rupicapra rupicapra*), also often called mountain's beauty one.

This animal has limited population and it is necessary to protect it and allow only sanitary bag.

The biggest natural exclusivity for both surveyed areas is for sure the virgin forest Janj at territory of Sipovo municipality.

It is settled at the same called massif, west from the Stolovas peak (1476). Its surface is 295 hectares. It has separated core (I of IUCN category, strictly protected area of untouched nature for only scientific purpose use). The zone out of core is mostly for the protection of wildness (I b of IUCN category).

General data:

• HABITATS

According to cadastre records, the most widespread vegetation type in Šipovo municipality is forests, which covers some 48,4% of the total municipality area, which makes Šipovo municipality one of the afforested municipalities in Bosnia-Herzegovina. In larger areas, forests are occupying more and more steep hillsides in the hilly parts of Šipovo municipality and almost all parts in the mountainous part of Šipovo (Jastrebnik, Lisina, Vitorog, Stolovaš etc.), taking the shape of primary natural ecosystems of MEZOFILNOST and thermophile forests.

- ▶ In the lowest areas above the sea level, next to the rivers Pliva, Janj, and Sokočnica (the lower part), there are poplar-tree and willow forests (*Salicetum*

albae-amygdalinae, Populetum nigro-albae, Salici-Populetum etc.), and also in swampy land areas there are black alder forests, in the lowest parts there are both black and grey alder forests (Aluetum glutinosae), while in the highest areas above sea level (Aletum glutinoso - incanae).

- ▶ In the hilly areas, the lower layer is occupied by the oak-trees (rambling crown) and hornbeam-trees (Querco petraeae-Carpinetum betuli illyricum), whereas the upper by beech-trees (Fagetum moesiacaе montanum). Depending on the type of soil, these forests are found in two ecological variants: in addition to the typical (on carbon substrata), as follows: Luzulo-Carpinetum betuli (illyricum) and Luzulo-Fagetum (illyricum). In some areas (in the north, in exposed valleys and similar relief forms), one forest extends into another, i.e. beech-trees are found on the hillsides next to the oak- and hornbeam-trees, and vice versa. The area covered by these forests is, according to all ecological conditions, most suitable for the human kind to live and work in, so these forests have been extensively anthropologically changed, and have been declined to smaller segments by settlements and roads.
- ▶ In the third, mountain area, above the pine-trees on the hillsides, there are beech-, fir- and spruce-trees, respectively, reaching the highest levels above the sea (Abieti-Fagetum dinaricum), the most beautiful examples of which can be found in the "Janj" nature reserve just below Stolovaš, and then sub alps beech-trees (Fagetum subalpinum dinaricum) and the alps community of the mountain pine (Pinetum mughi dinaricum), in parts divided by the spruce-tree (Piceetum subalpinum).

Due to well-developed relief in the municipality, conditioning the specific micro-climatic conditions of particular locations, in some of the areas there are out-of-zone and secondary-forest community, as follows: a bit stronger in the south-exposed and normally eroded terrains (limestone) within hilly forests, there are trees and thickets of rambling-crown oak and turkey oak (Quercetum petrae – cerris), hop hornbeam (Querco – Ostryetum), white and black pine-trees (Pinetum nigrae and Pinetum nigrae silvestris) and hillside thermophile beech-trees with the Bosnian maple on the dolomites (Aceri obtksati - Fagetum), whereas within mountain forests there are fir-trees and spruce-trees (Abieti - piceetum illyricum), spruce-trees on dolomites (Piceetum dolomiticum), i.e. in coves (Pinetum inersum) and white pine- and spruce-trees (Piceio - Pinetum illyricum).

The environmental conditions located in the Pliva and Janje River Regions offer excellent habitat for a remarkable diversity of wildlife. It is essentially an enormous wilderness area located near the center of Europe. This region provides vital habitat for dominant predators such as the European Brown Bear, wolves, lynx, and wild boar. The remoteness of the region, enormous size, rugged terrain, and few human inhabitants allowed a variety of rare wildlife species to thrive for centuries.

Puh – a type of squirrel that lives exclusively in the upper canopy of trees. Never sets foot on the ground. Yellowish in color, full brushy tail. An animal that hibernates for six months of the year. Perhaps the longest hibernation period for any animal.

Lynx

(2) THE ECOTOURISM EXPERIENCE

Wildlife viewing is single greatest natural attraction to ecotourists. This activity is considered to be the most rewarding personal experience associated with nature based tourism. The diversity and abundance of wildlife species, and the opportunity for seeing rare and endangered animals and birds offers the tourist an experience that is unique in the world.

The Bosnia and Herzegovina wildlife experiences are especially unique to Europe. The abundance of wildlife in BiH and the diversity of bird species is created by the occurrence of bountiful and expansive habitats that remain wild in character. This wilderness setting offers both a sanctuary for the animals and also a challenge to viewing them safely.

The information provided in this section of the guide identifies the kinds of animals and birds that can be viewed in BiH. The wildlife viewing philosophy and methods for sustaining these wildlife populations are described. The tourist may pursue wildlife viewing and nature photography by means of nature hikes, guided tours, sport fishing, and photo safari.

The wildlife nature photography techniques and precautions required to take pictures in the Mount Velež Region are explained. For those persons seeking additional detailed wildlife information, the guide services and lists of the animals and birds are provided.

(3) WILDLIFE VIEWING PHILOSOPHY AND METHODS

The primary responsibility of the guides in the Mount Velež Region is to provide safe recreation experiences to their guests. The approach to conducting organized tours is to limit the size of the tourist group and to select an appropriate mode of transport that offers both a safe and enjoyable tourist experience. This approach insures that the group is safely managed in order to prevent wandering or straying that may result in either a confrontation with a wild animal or getting lost. In some instances the transport may be by hiking, in others a vehicle, and in others off-road vehicles. The size of the groups is consistent with a quality recreation experience and visitors will receive the maximum amount of interpersonal relationship with the naturalist guides.

For the purpose of providing an enjoyable and informative wildlife viewing experience to the tourists, the guides will combine several guest service functions. Interpretive services provide and introduction by the wildlife expert prior to a tour's departure. While the tour is in progress the guide not only speaks about the wildlife, but also explains the environmental conditions that enable the animals to survive. And, of course, the guide is available to answer questions that the tourist may have. This approach is designed to allow tourists to view animals in their natural habitats and also to enhance their enjoyment of that experience by gaining an improved understanding of the animals and their relationship to the BiH environment.

(4) WILDLIFE SPECIES

Perhaps the most remarkable environmental characteristic of the Mount Velez Region is that it is the home of complete environmental systems. All of the animals that are essential for sustaining the region's ecology are present. This means that animals ranging from dominant predators to very small wildlife species may be found in this region. These conditions and the presence of these animals provide a potentially valuable opportunity for the tourist to view wildlife in their natural habitats.

(5) BIRDING

Birding is a recreational activity that is avidly pursued by persons of all ages. Birding, once considered an obscure hobby of a few nature lovers, is now one of the world's most popular outdoor activities. Numerous organizations throughout the world, such as the International

Audubon Society, have millions of members who actively pursue birding, and spend billions of dollars in the process.

Bosnia and Herzegovina's geographic location represents an enormous opportunity to provide birding experiences to tourists. The Balkan Peninsula represents one of the most significant bird migration paths between the continents of Europe and Africa. Tens of thousands of birds migrate through BiH each spring and fall. A total of 240 bird species have been positively identified in BiH. Most of these are migratory, but because of the great abundance of water and cover several resident bird species may also be found in BiH.

Based on extensive field observations and research performed by BiH ornithologists a bird species list for the southern part of BiH has been produced. The information provided is the list of confirmed bird species in the southern region of BiH.

BIRD SPECIES LIST

- **PHOTO SAFARI**

The Pliva River Region is an exceptional place for photo safari – wildlife photography. In order to successfully and safely take pictures of BiH wildlife there are certain considerations regarding safe stalking techniques, appropriate photographic equipment, and safety guidelines that the photographer should be aware of. The information presented in this section of the guide is intended to be the minimum guidelines in this regards. It is suggested that in addition to this information, the photographer try to become familiar with the behavioral characteristics of the animals. Field guidebooks and the experience of naturalist guides can offer the photographer valuable information.

- **GUIDELINES FOR PHOTO SAFARI**

The elimination of human profiles and smells is very important. Don't stand against a skyline. Wear clothing that blends with your environment. Do not act like a predator. Crawl, don't walk when approaching wildlife from short distances. Move in oblique or zig zag patterns and exercise extreme patience. Adapt yourself to circumstances and be aware of how the animals respect your presences. If you respect their needs and desires, they will often accept you.

Stalking (tracking) is the most commonly used method for approaching wild animals to get a good photograph. Prepare by wearing clothing that blends with the natural setting. Binoculars and spotting scopes are helpful in locating animals at a distance. Be sure to scan the entire area to determine if there is more than one animal in the vicinity. For example, the safe way to photograph a bear is to be certain that there are no cubs in the area. Before string off for your animal, have your camera ready to go and mounted on the tripod. Anticipate where the animal will be when you get close enough to get a good picture. Plan your approach to the animal so that lighting and background will produce the best possible picture.

When you get close to an animal and it is aware of you, be patient. Allow the animal to adjust to your presence. Move only when it is busy feeding or otherwise occupied in an activity that will make it less likely to notice your movement. Once you are in its view, it is best to remain in the open where your subject can keep track of you. Never block an animal's escape path. Always be sure they have a clear path to run away.

Take your pictures as discreetly as possible in order to get more natural poses and cause the

animal the least distress. Ideally, you should stalk, photograph, and leave without unreasonably disturbing the animal. When you achieve this, you are an excellent stalker and ethical photographer.

A good understanding of the animal's behavior is helpful when stalking. Some species living in open habitats, such as bear and wolves, may approach rather than flee from an intruder they sense by sight. They come closer to catch the intruder's scent before deciding to escape. This behavior often provides an ideal opportunity for photographs. Special care should be taken around nests and dens where disturbance can lead to abandonment and death of eggs and young. Extreme caution should be used when photographing young animals – the mother is around somewhere and will be very protective. Always consider the consequence of your photographic activities on both the animal's and your well-being.

- **PHOTO SAFARI GUIDE SERVICES**

Guide services for Photo Safari are provided by the traditional hunting clubs in the communities of Sipovo and Jajace. The members of these organizations have many years of experience of knowledge regarding the wildlife in the PlivaRiver Region.

F. HUNTING

(1) HUNTING FAUNA

Šipovo area is one of the richest in the country. These are habitats of the brown bear (*Ursus arctos*), black grouse (*Tetrao urrogallus*), wild boars (*Sus scrofa*), wolf (*Canis lupus*), deer (*Capreolus capreolus*), fox (*Vulpes vulpes*), pine marten (*Martes martes*), rabbit (*Lepus europaeus*) as well as lower feathered game: ducks (*Anas spp*) etc.

Due to well-developed hydrography, the area is also a habitat of the otter (*Lutra lutra*), which is a rare species in Europe, and which is a protected species in our country. Inaccessible areas are inhabited by eagles and falcons.

Another curiosity and quite a rarity is the lynx (*Lynx lynx*), which appeared in the area only after the war was over.

There are 6 hunters' lodges (čekas) offering one of the finest accommodations in Bosnia-Herzegovina, and can take up to 20 hunters. They are situated in the following locations: 2 at Roduša, 1 at Ljušća, 1 at Natpolje, 1 at Kupreška rijeka, and 1 at Lisina. There is annual wolf hunt in February in which hundreds of hunters from Bosnia-Herzegovina and abroad take part.

Hunting area has a surface of about 60 000 acres and it is managed by forest community "Gorica". There is a hunting society "Tetrijev" which organises game hunting such as brown bear, big mountain cock, boar, wolf, as well as low hunt game: duck, rabbit and so on. There are 6 hunting homes that offer one of the best accommodations to hunters in Bosnia and Herzegovina, and can accommodate 20 hunters. Hunting homes are located in the following places: 2 in Rodusa, 1 in Ljusa, 1 in Natpolje, 1 in Kupreska rijeka and 1 hunting home in Lisina. Traditional wolf hunt is organized every year in February where several hundred hunters from the country and abroad participate.

As mentioned in the Wildlife Viewing section of this guide, the Pliva River region represents critical habitat for a diversity of wildlife. Private hunting clubs have provided sport hunting experiences in the region for more than one hundred years.

The Sipovo Hunting Club is an excellent example of the hunting experiences offered in the region. The trophy wildlife species that are hunted include European brown bear (*Ursus arctos*), wolf, (*Cannis lupus*), wild boar, and a unique bird called a Tretijeb (*Tetrao lericus*). A diversity of small game such as squirrel and rabbits, birds such as ducks, and deer are also hunted in the region.

Djordje Luic

Hotel Owner and Sipovo Hunting Club

Motel Tetricjeb: 50 rooms dining room with 150 person capacity

Professional Hospitality School Graduate

46 years of hunting and photo safari experience

Milorad Luic (son of Djordje)

Forestry Expert and Hunting Guide

Sipovo

050 371 356

Father and son are hunting guides.

20 hunters his year

12 huts established throughout the region

Significant animal loss during the war

The largest predators are fed continuously throughout the year.

The hunting practice is **baiting** for guaranteed success.

Forest area is 61,600 hectares. This is an enormous hunting region.

10 mountain cabins, huts, each with baited hunting sites at each location.

The bag limits:

- **BEARS**

4 bears per year, which is estimated to be 20 percent of the entire population.

Season is 15 October to 15 May.

- **WOLVES**

Many killed during the war. They were attracted by carion.

76 killed in the last 7 years

Population of wolves is considered to be over-populated at this time.

Pack size is 3 to 5 animals. Winter they obviously congregate.

Season is November through the end of March.

- **WILD BOAR**

Over populating the region at this time.

These animals migrate across very large regions.

Season is all year with the exception of no hunting for females during the spring.

War allowed the environment to re-vitalize. No factories after the war either, and this has also allowed the environmental conditions to improve.

- **SMALL GAME**

Fox

Rabbit

Duck

- **HUNTING COSTS**

Licenses: No distinction between resident and non-resident. Cost is 50 KM

Each species has a specific cost associated with its size.

Wolf minimal cost is 1,250 Euros

Tretijeb cost is 1,250 Euros

Bear minmal cost is 3,000 Euros and has been as much as 25,000 Euros

Vehicle rental – varies

Lodging and food

- **GUIDES**

The Forestry Firm that manages the forest also provides the guides. They are provided formal education in forestry management and obtain guide training through experience.

- **MARKET**

Traditional commercial market that began in 1954. Wildlife management of some sort has been continuous since that time. Many hunters from Ukraine and Romania. Germany and Italy are also markets. The market is primarily European, but there have been Americans. Most guests are foreigners. Hunters are guaranteed success. CITI McEnroe – world champion trophy bear hunter hunted here in 1981.

- **HUNTING EXPERIENCE**

The hunter requests a particular species. That type of animal is tracked to determine its location. When the location is confirmed then the hunter arrives. They are taken to the appropriate hunt and wait for the animal which will appear on the killing ground. All wild animals are attracted to the huts by bait. The baiting continues all year long. The cabin is essentially a hunting blind with a window that open up to the baiting area. There is a rifle rest of the window frame to insure a steady shot.

3 to 4 days are the average duration of the hunt.

- **PHOTO SAFARI OPPORTUNITIES**

Huge area

Diversity of animals

Certainty of photographing predator species

Organization is more of challenge than the traditional hunting.

- **WEAPON TRANSPORT**

Fax is forwarded regarding weapons that includes type, make, serial number, caliber. A license for entry is issued. Both weapons and ammunition are allowed to be licensed. The estimated cost for this is 100 Euros. It is far less expensive to rent the weapons. The rental cost is 20 Euros. A range for siting the rifle is available for the guest.

LAND MINES IN THIS REGION NEED TO BE SURVEYED AND REMOVED.

(2) HUNTING MANAGEMENT IN THE PLIVA RIVER REGION

The information presented in this guide describes the

- ▶ areas managed by the clubs,
- ▶ wildlife species that are especially unique to a particular area, and
- ▶ hunting seasons, rules and regulations.

G. CAVE EXPLORATION

(1) DRY CAVES

360 caves are located throughout the Pliva River region. Only two have been sufficiently explored to provide tours.

Kuprice River is the site of one of the caves that can be explored. This is also nearby an elementary school.

- **UNIQUE NATURAL CONDITIONS**



III VISITOR SAFETY and PRECAUTIONS

(1) VISITOR SAFETY AND PROTECTION

(2) WEATHER CONDITIONS

Moderate climate. No extreme temperatures.

Persons acclimate to this region very quickly.

Hypothermia conditions are present, but precautions are readily available.

No extreme winds.

(3) TERRAIN AND ANIMALS

Persons acclimate to this region very quickly.

Two species of poisonous snakes. Sarka, Posvok – hemeopathic kind of venom. Very difficult to find appropriate type of anti-toxin. Swelling , trauma, and skin discoloration associated with the bite.

Avoidance of dangerous animals is the best precaution. No attacks of animals on record. Some animal bites. Capacity to respond to rabies incidence.

(4) CLOTHING AND EQUIPMENT

(5) MOUNTAIN SEARCH AND RESCUE

(6) VISITOR SAFETY AND MEDICAL SERVICES

Communications: No formal protocols.

Facilities: Sipovo has clinic. X-ray and diagnostic capacity. 35 medically trained personnel with an additional 15 support personnel.

Banja Luka is the nearest hospital.

Ambulance Service: One based at the hospital.

5 Field ambulances. Each ambulance is staffed with a trained nurse.

Mobile and fixed phone communication systems for ambulance dispatch.

Water quality is good throughout the Sipovo region.

No endemic diseases.

Few cases of lightning strikes.

(7) TERRAIN AND ANIMALS

The majority of the terrain in Mount Velež Region is either flat or has hills that can be easily hiked. Many locations in the Velež Mountains are, of course, very steep. Travel in these areas requires substantial technical climbing skills.

The tourist can experience a rapid increase in elevation in this region. For those persons with breathing difficulties or who may have problems acclimating, caution is suggested when traveling from the valleys to the mountains.

Snakes: There are two species of poisonous snakes in the Mount Velež Region. One of these is a viper and the other an adder. Both are hemeotoxic (blood poisoning) and bites require immediate medical attention. A bite wound will display swelling and skin discoloration.

Bears: The European brown bear (*Ursus arctos*) inhabits this region. Confrontations with this animal are rare. The best advice when encountering this type of bear is as follows: do not run, this will trigger their predator instincts and they will quickly pursue and overtake you; back away slowly; if an attack is imminent then lay on the ground and curl into a ball covering your head and neck with your arms; do not approach bear cubs, the mother is nearby and will definitely defend them from any threat.

Wolves: The wolf (*Cannis lupus*) roams freely throughout this region. They will avoid humans. If wolves are seen then attempt to stay upwind of their position. Allow them to migrate through your area.

Wild Boar: These animals also roam freely through the region. Because these animals are hunted they fear man. However, these animals are belligerent and are especially dangerous when protecting their young.

(8) CLOTHING AND EQUIPMENT

Staying dry is essential for having an enjoyable outdoor experience in the Mount Velež Region. Wet weather can occur throughout the year and the visitor is advised to be prepared for this event. Raincoats, a windbreaker or light jacket, or umbrella will all serve this purpose very well. When hiking, rain pants are strongly suggested so that blue jeans, or other pants, do not "wick up".

Proper footwear will promote an enjoyable outdoor experience. The footwear should be both sturdy and have a lug type sole that will provide excellent traction. Layering techniques are recommended to stay comfortably warm and dry. A good hat is recommended with a brim for keeping both the sun and the water off. In the fall months, gloves are suggested, especially for anglers.

(9) THE "TEN ESSENTIALS" FOR BACKCOUNTRY TRAVEL

- Map and Compass
- Flashlight
- Whistle
- Emergency shelter
- Appropriate clothing
- Sun protection
- Waterproof matches or fire starter
- Pocket knife
- Personal First Aid Kit

(10) COMMUNICATIONS

There are two digital phone-exchanges, within fix-phone net. capacity of phone-exchange in Sipovo is 3904 connections and exchange in Pjeva is 368 connections. In city area (Sipovo) valley mobile network is operational, and has access to Mobile Srpske. It's

expected that area of Janja is going to be covered with mobile signal and radio (CLL system) telephony.

(11) FIREARMS

If you are hunting then be sure to know how to use your firearm. Always assume that a firearm is loaded.

If you are NOT hunting, then know that hunting is allowed in the Mount Velež Region and be certain that you are not hiking or fishing in an area where firearms are being used.

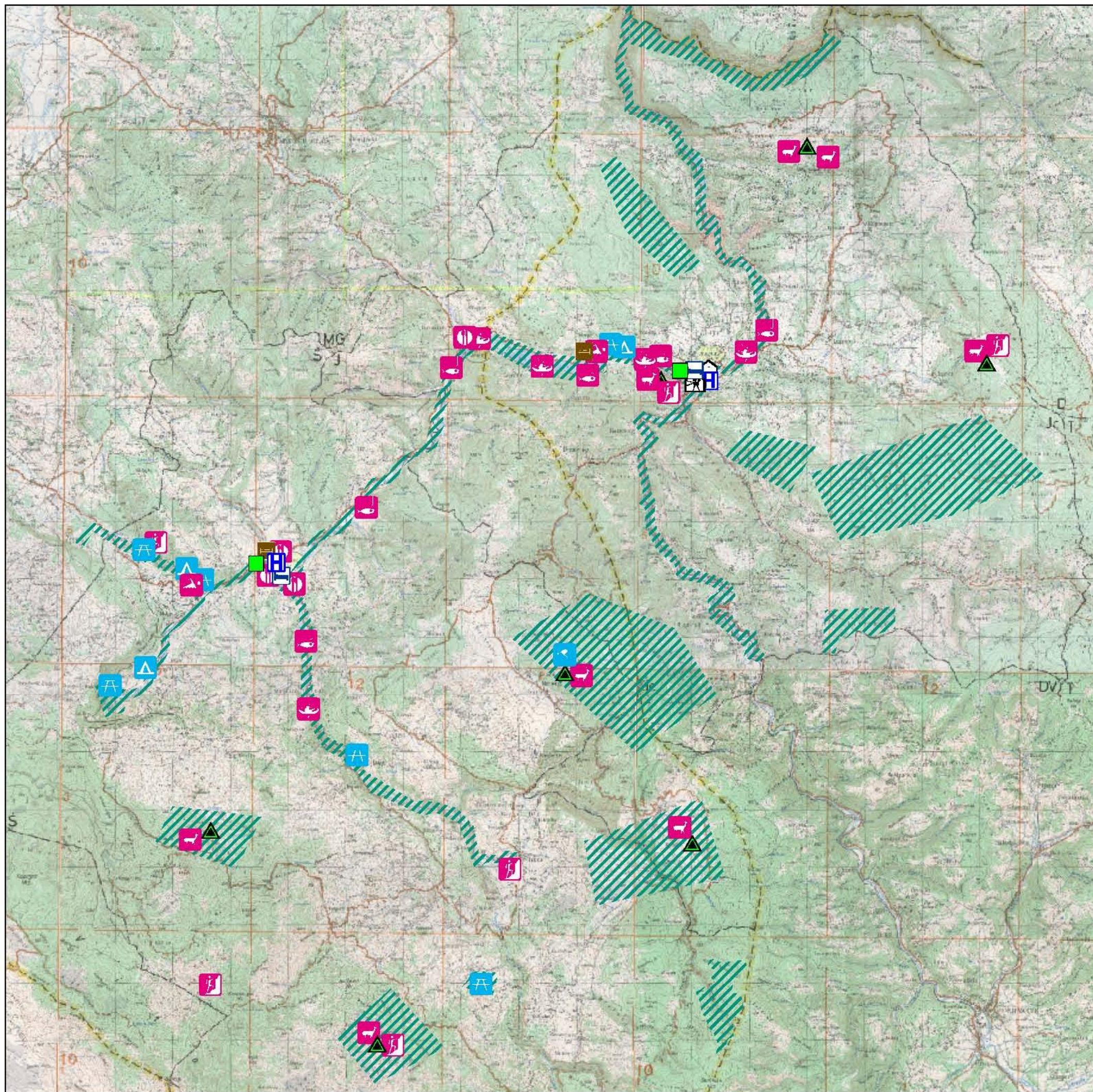
(12) MEDICAL SERVICES

Medical facilities in the Mount Velež Region include a hospital in Mostar and clinics in the communities. Ambulance service is provided throughout the entire region.

A First Aid Kit is intended to be used during minor emergencies, but if properly stocked, can help you to deal with serious emergencies until professional medical help arrives. Having the right supplies nearby during an emergency can make a big difference in your ability to promptly respond.

The Kit should be large enough for you to clearly see and find anything you need quickly. The location of the kit should always be the same so you can find it immediately, but out of the reach of young children. Keep it apart from other medicines and supplies, and check it frequently to be sure to replace used and expired supplies. Add any special items, for example, an allergy kit, that may be needed by you or your family.




This Section of the Guide has been prepared as a quick-reference, but should in no way substitute for the extensive and professional training you should receive to be fully prepared for an emergency. We recommend you contact your local hospital or the Red Cross for comprehensive First Aid training and certification.





**TOURISM FACILITIES AND ACTIVITIES
- Municipalities Sipovo, Jajce and Jezero -**

Legend

Public Services

-  Hospital
-  Cultural Center
-  Museum

Tourism activities

-  Fishing
-  Rafting and canoeing
-  Mountain-climbing
-  Hunting
-  Bathing Resort
-  Skiing (ski lift)
-  Vacation Area
-  Camping
-  Sports Field
-  Mountain Lodge

Tourism Facilities

-  Hotel
-  Motel
-  Restaurant
-  Eco Area

ANNEX 1 - 2



**A GUIDE TO
RECREATION ACTIVITIES
IN THE
MOUNT VELEZ REGION**



BOSNIA and HERZEGOVINA

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I INTRODUCTION TO THE MOUNT VELEZ REGION

(1) LOCATION

Bosnia and Herzegovina (BiH) is located between 42 ° 26 ' and 45 ° 15' Northern Latitude and 15 ° 45' and 19 ° 41' Eastern Latitude. It is bordered by Croatia on the north and west, and Serbia and Montenegro on the east and south; its coastline extends for a distance of 20 km on the Adriatic Sea near Neum. BiH encompasses the largest part of the Dinaric Mountain Range. The name Herzegovina mainly refers to the Neretva River basin, and Bosnia to the northern, and largest part of the country.

The Mount Velež Region is located in the south central part of the Herzegovina region of Bosnia and Herzegovina. The three largest communities in the Mount Velež Region include Blagaj, which is located near the source of the Buna River; Nevesinje which is located in a mountain valley; and Podvelež which is located below the summit of Mount Velež.



(2) TRANSPORTATION ACCESS

Year round access to the Mount Velež Region is available by means of several methods of transportation. Thee region is close to the major highway between Sarajevo in the north and Dubrovnik, Croatia. A paved road system provides access for automobiles and trucks. Rental cars may be obtained from the nearby City of Mostar.

Bus transportation is provided throughout the entire region. All of the towns and rural areas have daily, regular bus service that is very affordable.

Passenger railroad transport is available between Sarajevo and Mostar. The trains operate on a daily schedule and provide comfortable accommodations.

(3) CLIMATE AND WEATHER CONDITIONS

Diversity accurately characterizes the climate and weather conditions of the Mount Velež Region. The diversity is caused by the dramatically different land forms that are located in this region and the influence of major rivers. The topography of the region includes large, wide valleys at low elevations located near Blagaj, a wide mountain valley that surrounds Nevesinje, and finally, the tall mountain range of the Velež Mountains. The elevation at Blagaj is only 92 meters, the community of Nevesinje is located at a height of 896 meters, and the highest peak in the Velež Mountains rises to 1,958 meters. The naturally cold temperatures of the region's rivers and their rapid flow contribute to the rapid movement of airflow in selected regions and to dramatic differences in temperatures throughout this region. Given these conditions, the climate of the communities of Blagaj, Nevesinje, and Podvelež has distinctly different weather conditions.

The Blagaj area experiences Mediterranean weather conditions. The climate in the Mostar Blagaj region is generally characterized by mild winters and very hot summers. Fortunately for the residents and visitors of Blagaj, the Buna River provides cool breezes in the summer that result in comfortable weather conditions.

The Nevesinje area is under the influence of both the Central European climate from the north and Mediterranean climate from the south. The varied relief and produces a variety of weather conditions in the vicinity of Nevesinje, but the dominant climate conditions characterize this area as a mountain climate. Cold winters are typical for this climate type. The coldest month in the year is January with average temperature of 2°C and the hottest months are July and August with average temperature of 18°C. Autumn is hotter than spring, which is made by stronger temperature influences of the Adriatic Sea.

The mountain community of Podvelež experiences the most severe winters in the Mount Velež Region and very comfortable summers. Many persons from the Mostar region go to the Podvelež region in the summer to escape the heat of the low valleys. The other climate

characteristic, particular in Podvelež is strong wind. Persons pursuing outdoor recreation activities in this area are advised to be well prepared for these wind conditions by either wearing or carrying warm clothing, gloves, and a hat.

- **TEMPERATURE**

The Area basically belongs to Sub-Mediterranean zone that is featured by long and warm summer season with high temperatures during day. The temperatures between Blagaj, Nevesinje, and Podvelež are quite different. Information from weather stations located at Blagaj and Nevesinje illustrate the sharp temperature contrasts that exist in the Mount Velež Region. The coldest monthly average temperature in Nevesinje is -2°C , and the warmest monthly average temperature is 18°C . On the other hand, the coldest monthly average temperature in Blagaj is 4.8°C , and the warmest monthly average temperature is 24.7°C .

Monthly Average Temperature in the Mount Velež Region

Unit: $^{\circ}\text{C}$

Station	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Nevesinje ¹⁾	-2	0	2	8	12	14	18	18.0	14	8	4	.0
Blagaj ²⁾	4.8	6.6	9.6	13.3	17.9	21.5	24.7	24.2	20.4	15.3	10.1	6.2

Source: 1) Institute for Urbanism, BiH; 2) State Hydro Meteorological Institute, Mostar

- **PRECIPITATION**

Annual average precipitation in Nevesinje and Blagaj is more than 1,500mm. This average exceeds the annual average precipitation of BiH. There is, however, a dry season and this lasts from June to August.

Monthly Average Precipitation in the Mount Velež Region

Unit: mm

Station	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Nevesinje ¹⁾	200	200	150	125	100	80	60	50	150	200	200	200
Blagaj ²⁾	165	148	150	127	102	78	43	76	96	151	200	179

Source: 1) Institute for Urbanism, BiH; 2) State Hydro Meteorological Institute, Mostar

(4) THE TOWNS AND THEIR PEOPLE

- **BLAGAJ**

The Town of Blagaj has existed for hundreds of years. Blagaj's location served as the critical source of water for the early fortifications that were built in this area. Its attractive climate has always provided a pleasant location for its residents.

According to a population census conducted in 2002, Blagaj has an estimated 3,040 people living in the town. The current number of residents represents approximately 68 percent of the town's pre-war population. In 1991, the population numbered 4,446 persons.



The Town of Blagaj

- **PODVELEŽ**

Podvelež is located below the summit of Mount Velež. It is actually a collection of small mountain villages. There are 13 mountain villages that comprise Podvelež.

In the year 2003 there were 1,053 persons living in the Podvelež area. This population is less than one-third of the pre-war total population. Nearly all of the current inhabitants of Podvelež are engaged in agriculture. Livestock grazing and dairy operations are the primary occupations of these people.



The Villages of Podvelež and Mount Velež

- **NEVESINJE**

The Town of Nevesinje is located in a wide mountain valley to the east of the Velež Mountains. This large valley covers approximately 1.040 km². In addition to the main Town of Nevesinje, there are 13 smaller villages and 57 settlement areas located in the municipality.

By the end of 2003, the entire population of the Nevesinje Municipality was estimated to be 18,280 residents. Again, these people are living in 14 local communities and 57 settlements. Approximately 4,800 people migrated from the area during the war.



The Town of Nevesinje

II THE RECREATION ACTIVITIES

- A. FISHING**
- B. MOUNTAINEERING and TECHNICAL CLIMBING**
- C. HERB and MUSHROOM COLLECTION**
- D. WILDLIFE VIEWING, BIRDING and PHOTO SAFARI**
- E. HUNTING**
- F. CAVE EXPLORATION**

A. FISHING

(1) INTRODUCTION

Several quality sport fishing opportunities are available in the lakes and rivers throughout the Mount Velež Region. Each community in this region can provide uniquely different fishing experiences. Within these waters a diversity of large and healthy fish species may be caught by the sports angler. Passive to very active fishing techniques may be employed in the Mount Velež Region. The sports angler may pursue streamside fishing by either spin casting or fly fishing or considerably more leisurely boat fishing in the lakes.

The information contained in this guide provides the prospective angler with descriptions of the rivers and lakes; the types of fish that inhabit these waters; advice regarding licenses and permits; and contact information for sport fishing clubs that are well qualified to provide fish guiding and other support services..

(2) FISHING AREAS

- **THE RIVERS**

There are three major rivers located in the Mount Velež Region and a variety of smaller tributaries. Each of these rivers and streams has unique water conditions and fishing characteristics. The three major rivers are named the Zalomka, the Buna, and the Bunica.

The biggest and the most important river in the Nevesinje valley is the Zalomka River. This large river traces huge curves as it flows northwards through the entire valley. In some locations it is very prominent and wide and in other locations quite narrow. The amount of water in each section of the river can vary considerably by both location and season of the year. Its annual average rate of flow has been estimated to be 300 m³/sec.

The season of the year will impact the flow of water significantly in the Zalomka River. During the springtime, when the snow runs off the mountains, the river can rise dramatically. The snows, when increased by the spring rains, can produce a substantial torrent of flowing water. In the summer season the Zalomka's water flow decreases significantly.

The following types of fish and crabs can be found in the Zalomka River: California trout, Brown trout, Rockery crab, puddle crab. A brief description and illustrations of these species will be found in a separate section of this guide.

The Sports Fishing Club (SFC) “Zalomka” controls fishing access to sections of the Zalomka River. This ownership is important to insure both excellent management of the fishery and a quality fishing recreation experience. The river fishing occurs along two sections of the Zalomka River located south of the town of Nevesinje. The first sport fishing section of the Zalomka River, located directly south of the town, flows from west to east and is approximately 10 km in length. The second section of the river is located north east of town and flows in a meandering pattern. Its flow begins in southeast direction and then bends towards the northeast.



The Zalomka River



The Zalomka River



The Zalomka River

There are numerous small rivers located in the Nevesinje Valley. Examples of these smaller rivers include the Batuša, Radimlja, Zymlyski, Sebckje, Jamuk, Drezanjka, and the Zavadoke Rivers. Most of these rivers are intermittent streams. This means that they do not have water during the entire year. They are generally dry in the summer months.

One of the major rivers in the Mount Velež Region is the Buna River that flows through the center of the community of Blagaj. The Buna River has many unique characteristics. The source of the Buna is one of Europe's largest natural springs. Measurements of this natural spring indicates that water is flowing out of the ground at the rate of 36m³/s. From this remarkable water source, the Buna flows towards the west for a distance of approximately 6 km to the Neretva River.

The flow of the Buna River water is also believed to be an important source of water for the Zalomka River. Investigations of the underground water channels indicate that the Buna contributes water to the Zalomka River system. One channel of the Buna River literally sinks underground in the vicinity of Ponor and then re-appears in the Zalomka River system. The underground route of the Buna river system has been explored by French cave diving teams. The result of this unique water distribution system is that the Buna River provides an important source of water to the communities of Blagaj, Nevesinje, and Mostar.

The constant cold temperature of the Buna River makes it an ideal fish habitat for trout. An abundance of California trout may be found in this river. Its nearly ideal temperature and purity have made it an attractive site for a large trout fish hatchery.

Fishing in the Buna River is allowed from the western boundary of the Town of Blagaj to the

Neretva River. From its natural source to the western boundary of the Town of Blagaj fishing is prohibited.



Source of the Buna River



The Buna River

The Bunica River is a tributary to the Buna River. The source of the Bunica River is 4 km far away from the source of the Buna. The Bunica River begins in the village Malo Polje. This river is an excellent location for recreation. At the mouth of the Bunica River, where it enters the Buna River, there is a sport recreation center called “Bunica”. People are attracted to this location because there is evidence that the Bunica water is especially healthy and can provide medicinal help to people. Given the purity of this water and its remoteness, it may represent an excellent sport fishing location.



The Bunica River

- **THE LAKES**

The Nevesinje region has many large and small lakes. The small lakes are natural and these are located in the upper elevations of the mountains that surround the Nevesinje Valley. By example, there is an especially attractive mountain lake located approximately 4 km east of the Velež Mountain Range. Naturally occurring lakes along the floor of the valley have seasonal characteristics. In the winter and spring they are generally full, but by the middle to the end of summer they can be nearly dry.

The largest lake in Nevesinje Valley is a man made lake called Lake Alagovac. It is located at the foot of the Velež Mountains and its water surface area covers approximately 40 ha. Lake Alagovac is located approximately 4 km north of the Town of Nevesinje. This lake is the source of the town's water supply. The water quality of the lake is excellent and the town carefully manages the water resources to sustain water quality.



Trophy fishing is available at Lake Alagovac. The trophy species include White Amur and Pike. The Sportfishing opportunities also include Dace, Carp, Lake Trout, and Catfish. A complete description and illustrations of these species may be found in a separate section of this guide.



Streamside and boat fishing are allowed in Lake Alagovac. The only prohibited region is in the vicinity of the town's water supply facilities. The fishery at Lake Alagovac is managed by the local fishing club, SFC "Zalomka" Nevesinje. Fishing information, guides, and support services such as transportation are provided by SFC "Zalomka" Nevesinje.

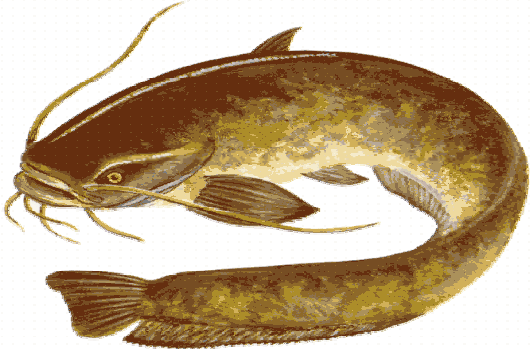
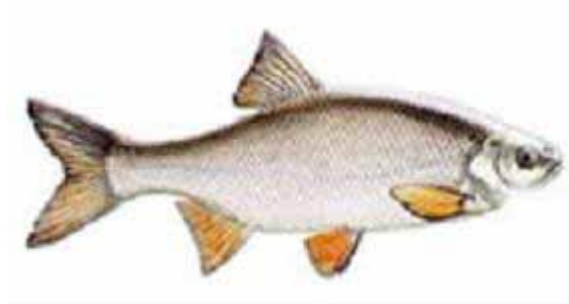


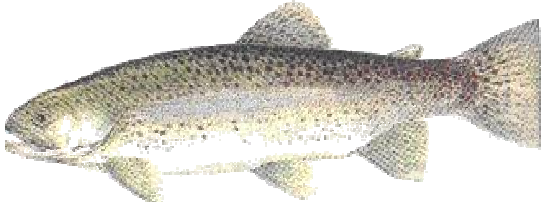

Lake Alagovac

TYPES OF FISH

White amur <i>(Ctenopharyngodon idella Val.)</i>		Carp <i>(Cuprinus caprio L.)</i>	
			
Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>	Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>
Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>	Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>
Location	<i>The Lake Alagovac</i>	Location	<i>The Lake Alagovac</i>
Max. Allowed Daily Catch	-	Max. Allowed Daily Catch	<i>4 fish</i>
Min. Allowed Length Catch	<i>60 cm</i>	Min. Allowed Length Catch	<i>30 cm</i>
Closed Season	-	Closed Season	<i>01. April - 31. May</i>
Allowed Equipment	<i>Two rods with two fish hooks</i>	Allowed Equipment	<i>Two rods with two fish hooks</i>
Allowed Baits	<i>All natural and artificial baits except alive baits</i>	Allowed Baits	<i>All natural and artificial baits except alive baits</i>

Pike perch <i>(Stizostedion Luciperka L.)</i>		Tolstolobik <i>(Hipophtalmichthys molitrx Val.)</i>	
			
Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>	Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>
Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>	Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>
Location	<i>The Lake Alagovac</i>	Location	<i>The Lake Alagovac</i>
Max. Allowed Daily Catch	<i>4 fish</i>	Max. Allowed Daily Catch	<i>-</i>
Min. Allowed Length Catch	<i>40 cm</i>	Min. Allowed Length Catch	<i>60 cm</i>
Closed Season	<i>01.March 31. May</i>	Closed Season	<i>-</i>
Allowed Equipment	<i>Two rods with two fish hooks</i>	Allowed Equipment	<i>Two rods with two fish hooks</i>
Allowed Baits	<i>All natural and artificial baits except alive baits</i>	Allowed Baits	<i>All natural and artificial baits except alive baits</i>

<p style="text-align: center;">Catfish <i>(Silurus glanis L.)</i></p> 		<p style="text-align: center;">Dace <i>(Leuciscus tursyi Hecak)</i></p> 	
Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>	Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>
Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>	Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>
Location	<i>The Lake Alagovac</i>	Location	<i>The Lake Alagovac</i>
Max. Allowed Daily Catch	<i>4 pieces</i>	Max. Allowed Daily Catch	<i>-</i>
Min. Allowed Length Catch	<i>60 cm</i>	Min. Allowed Length Catch	<i>20 cm</i>
Closed Season	<i>16. April 15. June</i>	Closed Season	<i>-</i>
Allowed Equipment	<i>Two rods with two fish hooks</i>	Allowed Equipment	<i>Two rods with two fish hooks</i>
Allowed Baits	<i>All natural and artificial baits except alive baits</i>	Allowed Baits	<i>All natural and artificial baits except alive baits</i>

<p>California trout (<i>Salmo gairdneri</i> R <i>Salmo irideus</i> G.)</p> 		<p>Brown trout (<i>Salmo trutta</i> m. <i>Fario</i> L.)</p> 	
Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>	Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>
Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>	Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>
Location	<i>The River Zalomka The River Batuša The River Buna</i>	Location	<i>The River Zalomka The River Batuša The River Buna</i>
Max. Allowed Daily Catch	<i>5 pieces</i>	Max. Allowed Daily Catch	<i>5 pieces</i>
Min. Allowed Length Catch	<i>25 cm</i>	Min. Allowed Length Catch	<i>25 cm</i>
Closed Season	<i>-</i>	Closed Season	<i>-</i>
Allowed Equipment	<i>Two rods with two fish hooks</i>	Allowed Equipment	<i>Two rods with two fish hooks</i>
Allowed Baits	<i>All natural and artificial baits except alive baits</i>	Allowed Baits	<i>All natural and artificial baits except alive baits</i>

California Trout Kaliforijska pastrov (*Salmo iridens*)

There are several attractive trout species that have been introduced to the river of the Mount Velež Region from foreign countries. One of these is the California trout Kaliforijska pastrov (*salmo iridens*) that was introduced from the United States. This fish was brought to Europe from California Rivers in 1882, and was introduced to the Bosnia region in 1899.

The California Trout spawn in the spring when the flow of water is violent. For this reason their reproduction in the Bosnian Rivers, such as the Buna, was minimal. They do spawn very successfully in a fish hatchery, and the Bosnian people along the Buna River have actively been producing this fish in streamside hatcheries.

California Trout are well-known as powerful fighters and they feed on a wide variety of food sources. Once hooked, it is not unusual for these trout to leap from the water several times during their attempt to break away from the line.

Brown Trout Potocna pastrva (*Salmo trutta morpha fario*)



Brown Trout Potocna pastrva (*Salmo trutta morpha fario*) prefer strong flowing rivers and cold temperatures. The upper reaches of the Zalomka River and the Buna River provide the perfect water conditions for the Brown Trout. The Brown Trout is a native species in both those rivers. In areas close to the source of the rivers the current is stronger and the temperature is lower and these locations are especially important spawning areas. The abundant oxygen content of the regions rivers is essential for supporting a sustainable population of Brown Trout.

The average size of the Brown Trout is about 25-40 cm long and the body shape is mostly rounded. The fish is dramatically colored. The body is often a bright gold or orange color and there are red and black spots that add to the colorful appearance. The colorful sides of the fish contrast sharply with the back which is mostly greenish to dark brown. The color changes towards the belly. On the upper and lower jaw there are numerous sharp teeth that extend in angles from the mouth.

The spawning season for Brown Trout in the Pliva River is occurs in the fall. The fall spawning season lasts from October to the end of December. Females dig a hole in that time with 20 to

50m cm diameter and spawn about 1 000 eggs per 1 kg of her weight. Eggs are from 4 to 5 millimeters, yellow-red or orange. When they grow up, the fish travel upstream.

Brown Trout are considered one of the most difficult fish to catch. They can be selective feeders and can be scared away easily when approached. They feed on water and airborne insects, small crabs, larva, tadpoles, small fish, and even on their own species.

<p>Rockery crab <i>(Astacus terrentium Schr.)</i></p> 		<p>Puddle crab <i>(Astacus leptodaetybus Esch.)</i></p> 	
Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>	Authorized Fishing Association	<i>"Zalomka" Nevesinje</i>
Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>	Fishing License (Daily)	<i>domestics 10 KM tourist 30 KM</i>
Location	<i>The River Zalomka</i>	Location	<i>The River Zalomka</i>
Max. Allowed Daily Catch	-	Max. Allowed Daily Catch	-
Min. Allowed Length Catch	<i>8 cm</i>	Min. Allowed Length Catch	<i>8 cm</i>
Close Time	<i>01.November 15.May</i>	Close Time	<i>01.November 15.May</i>
Allowed Equipment	<i>Two rods with two fish hooks</i>	Allowed Equipment	<i>Two rods with two fish hooks</i>
Allowed Baits	<i>All natural and artificial baits except alive baits</i>	Allowed Baits	<i>All natural and artificial baits except alive baits</i>

(3) SPORT FISHING MANAGEMENT

Fishing in the Mount Velež Region is managed by two fishing clubs. One of the clubs is called Sports Fishing Club "Zalomka" and it is headquartered in Nevesinje. The second club is called The Fish Association and it is located in Blagaj. These clubs have played a very important role in sustaining both the fish population and the water quality in the region. As a result of their responsible management actions both the resident and non-resident angler can enjoy a high quality recreation experience.

• SPORTS FISHING CLUB "ZALOMKA" NEVESINJE

Fishing in the rivers and lakes near the Town of Nevesinje is managed by the Sports Fishing Club "Zalomka" Nevesinje. Specific fishing locations managed by the club includes Lake Alagovac, the River Zalomka from the bridge called Kunjak to its drainage in the Neretva River, and the Batuša River.

There are three fishing seasons in the Nevesinje region. The first is a spring season that begins in March and extends through mid-April. The second begins in June and continues until the arrival of winter weather in either November or December. Trout fishing season lasts from March through October.

The sports fishing club performs several management functions to sustain the fish stocks in Lake Alagovac and the Zalomka River. They regularly stock these waters and they organize fish keeping services in order to protect fish reserves. A vital part of the club's management functions include protecting water quality. The success of these efforts is evident in the size of the fish. By example, Amur over 50 kilos, Smooch at 10 kilos, and Catfish at 50 kilos can be caught in the fishery.

► Licences

The daily Fishing Licence cost is 10 KM per day for residents and 30 KM for foreign tourists. Daily licence is available from 5 a.m. to 10 p.m.

► Guides and Fishing Equipment

Sports Fishing Club "Zalomka" has trained guides. Six members of the Fishing Club serve as guides. Their guide training is based exclusively on experience. These people have many years of experience and are well acquainted with the region's fishing conditions.

The most popular fishing equipment used in the Nevesinje Region are spinning rods and reels. The spinning rods are usually a two piece sectional rod that is 3 and half meters (10 feet) in length. The strength of the rods should provide 15 to 40 grams of action. All types of spinning reels are appropriate for these fishing conditions. Spinning reels may be of either open or closed face design.

Numerous patterns and styles of lures and artificial bait are effective in the Nevesinje and Blagaj lakes and streams. The Rapala type lures are especially effective, as well as Heddon lures. In regards to specific lure colors, size, and action and artificial bait patterns, the guides will provide advice to the angler. As always, the type of fish, season, and lake and river conditions will dictate the appropriate type of lure.

A limited amount of fly fishing occurs in the Nevesinje Valley, but the Zalomka River offers prime conditions for trophy trout fishing. Suggested fly fishing equipment would include fly rods of 4, 5, and 6 weights for streams and rivers. Rod weights of 7, 8, and 9 would be appropriate for both Lake Alagovac and the high mountain lakes. The heavier weights would be essential to cope with strong winds that can occur in the region.

The sport fishing club can arrange vehicles for transport, but does not rent fishing equipment and tackle. Although they are not currently able to rent fishing equipment, they do allow guests to borrow their members' equipment.

► **Contact**

Contact person Mr. Milan Damjanac, phone number 059 601 790

The Sports Fishing Club "Zalomka" has a website and uses this to respond to inquires and book fishing trips.

• **FISHING ASSOCIATION BLAGAJ**

A new, but very active fishing club has been established in Blagaj. The name of this club is Fishing Association Blagaj. This fishing association is currently in the process of registering their association with the appropriate government agencies. There are 90 members and two fish keepers in this association.

The association manages three rivers in the Blagaj area. Those rivers include the Buna, the Bunica, and a small section of the Neretva Rivers. From the source of the Buna River to

Karađozbeg bridge fishing is forbidden. From the Karađozbeg bridge to Lehin bridge fishing is allowed for daily licence users. From Lehin bridge to the Sports Recreation Center called “Bunica” fishing is allowed with daily and monthly licenses.

The rivers in the Blagaj region provide quality habitat for California Trout, Brook Trout, Brown Trout, dentex, chub, and various types of crabs. The trout species spawn in the fall. The allowable catch is 4 fish per day.

The fishing season begins on May 1 and lasts until October 31. Most importantly, fishing is only allowed on specific days of the week. The fishing days are Wednesday, Saturday, Sunday, and holidays. The limited number of fishing days helps sustain the fishery and reduces the potentially negative impact of the 4 fish per day allowable catch.

► **Licences**

Daily Fishing License cost is 50 KM for foreign tourists.

► **Guides and Fishing Equipment**

The angler is limited to a few types of lures, baits, and artificial baits. Only one type of bait is permitted as well as one type of small fly and a type of butterfly. Fishing Association will provide information to anglers regarding the types of tackle that may be used.

The most popular fishing equipment used in the Blagaj Region are spinning rods and reels. The spinning rods are usually a two piece sectional rod that is 3 and half meters (10 feet) in length. The strength of the rods should provide 15 to 40 grams of action. All types of spinning reels are appropriate for these fishing conditions. Spinning reels may be of either open or closed face design. Members of the Fishing Association will rent fishing equipment to tourist anglers.

► **Contact**

Association of Sports fishermen

Mustafa Batlak president,

Telephone: 036 572 166

