

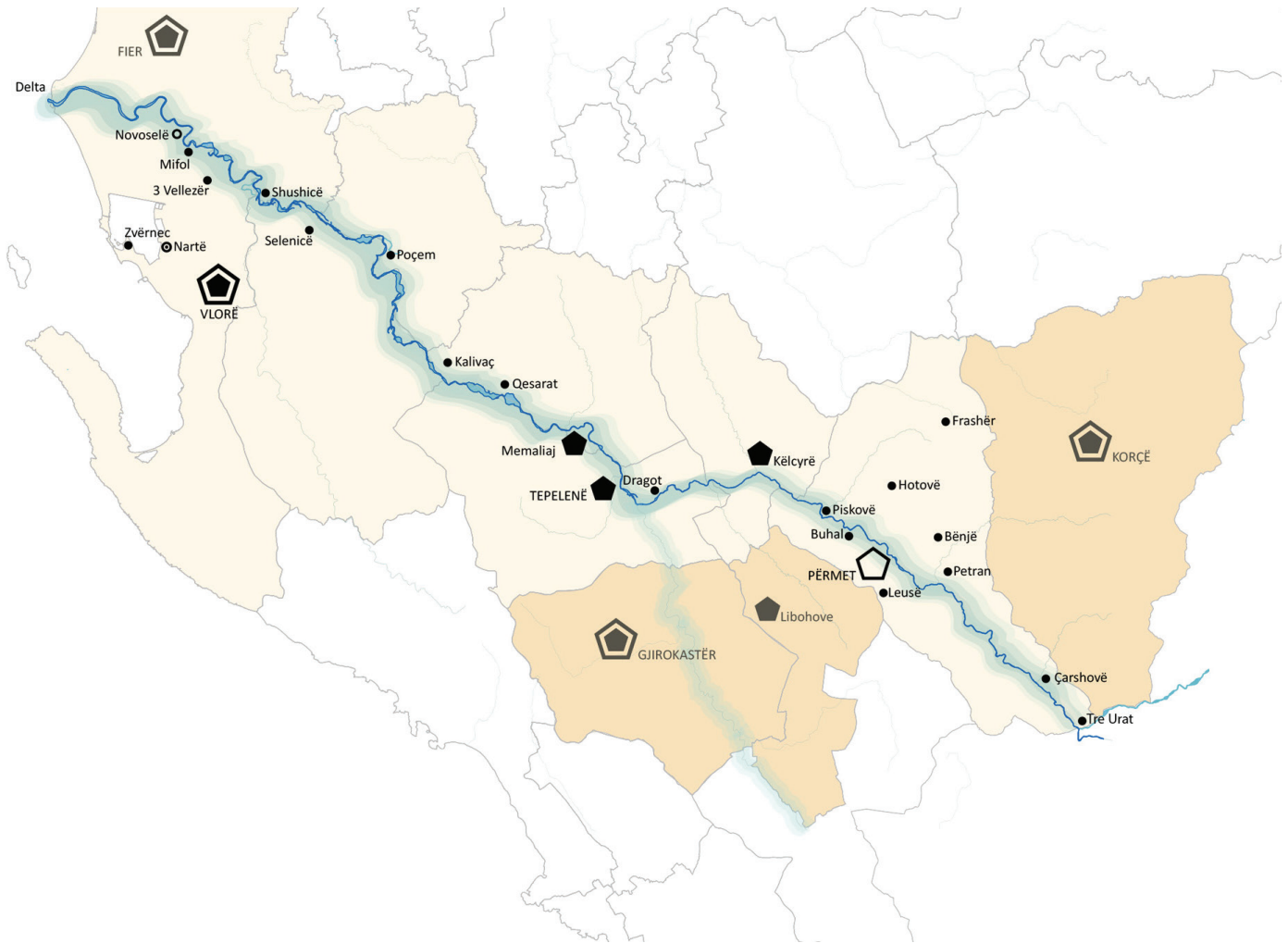
FACTSHEET

Mapping of Pressures to the Vjosa Wild River National Park



General Information

The Vjosa Wild River National Park (VWRNP) was established on March 13, 2023, becoming the first and only wild river national park in Europe.



Located in southern Albania, the park spans the counties of Fier, Vlorë, and Gjirokastrë, and includes the Vjosa River along with its main tributaries: the Drino, Shushinca, and Bënça rivers. The park covers an area of 12,727 hectares, of which 6,030 hectares (47.3%) are water surfaces, 4,593 hectares (36.1%) are riparian zones and floodplains, 1,199 hectares (9.5%) are land surfaces, and 905 hectares (7.1%) are river terraces prone to erosion.

The Vjosa River represents a unique riverine typology. Its extraordinary biodiversity is attributed to its hydromorphological dynamics, particularly the intact “natural flow regime” along its entire length. This uninterrupted flow is the park’s most valuable asset. Frequent flooding and high sediment transport create a mosaic of unique habitats and ecosystems.

The park also includes 47 springs with steady discharge, most notably the Këlcyrë Spring, Uji i Ftohtë (Tepelenë), and Syri i Kaltër (Sarandë). However, the river’s natural flow is influenced by a multitude of anthropogenic activities that take place along its entire course.

A recent assessment commissioned by EcoAlbania and supported by Riverwatch and EuroNatur, as part of the “Save the Blue Heart of Europe” campaign, identified, mapped, and evaluated the primary pressures on the Vjosa River and its tributaries’ hydro morphology and biodiversity. Various sources of pressure have been identified that significantly impact the Vjosa Wild River National Park. These pressures collectively diminish the ecological integrity of the national park, including its biodiversity, and also affect the local population. Key identified pressures stem from diverse activities such as mining and extractive industries (including bitumen, limestone, river gravel, and oil extraction, as well as water abstraction), urban activities (like waste disposal, wastewater discharge, and inert material deposition), the construction and operation of dams, canals, irrigation systems, and wells, tourism, silviculture and agriculture, and fishing activities including aquaculture.



Oil Extraction: Long-standing activities such as oil exploration and production in the Selenica Municipality continue to pose significant industrial pressure, with impacts on the surrounding ecosystem, including the Vjosa River.



Bitumen Extraction and Processing: The discharge of excavated materials, often containing heavy metals, significantly harms the ecological integrity of the river and its biota .



Water Abstraction: Water diversion for irrigation, urban supply, and industrial use is a major concern, especially during dry seasons, as it reduces river flow and threatens both aquatic and terrestrial habitats.



Gravel Extraction: The extraction and processing of riverbed materials (gravel) is an active and widespread industry throughout the park’s territory. It causes landscape degradation and damages riparian vegetation.



Urban Waste: Incomplete collection, lack of management plans, and uncontrolled dumping, particularly in rural areas, as well as wastewater from both urban and rural areas discharged into the river untreated, due to the absence of treatment plants. Make urban waste one of the main environmental pressures in the Vjosa River basin .

Addressing these pressures is crucial to avoid or minimize negative impacts on the park, in line with the Management Plan for the VWRNP.

Main Pressures

Oil Extraction

Industrial activities include the extraction of oil, bitumen, limestone, and other minerals. These activities lead to chemical pollution, damage to natural habitats, as well as changes and reduction in water quality.

In the middle section of the Vjosa River, between Selenica and Mallakastër, around 150 oil wells are currently active. Although most are located outside the National Park, these oil wells have a history of uncontrolled crude oil leaks, resulting in direct pollution of the river system and posing a continuous risk to aquatic habitats and water quality downstream. In the Municipality of Selenica, hydrocarbon exploration and production is carried out, particularly in the Gorisht-Kocul, Amonicë, and Karbunarë oil fields, located in the rural area between the Vjosa Valley (to the east) and the Shushica Valley (to the west). The Gorisht-Kocul area deserves special attention, with over 150 active wells ranging in depth from 700 to 1,500 meters, spread over an area of 6 km². The closest point of industrial pressure to the riverbed is approximately 1,300 meters from the Vjosa River, near the area of Poçëm . The infrastructure used for oil extraction in the region is largely outdated and poorly maintained. As a result, oil leakage is a common issue, often affecting not only the immediate vicinity of the wells but also the surrounding soil and water systems. In many cases, entire areas around the extraction sites show visible signs of contamination



Gorisht Oil Spill in Karbunarë, discharges directly into the river © Joshua David Lim



Gorisht Oil Spill in Karbunarë, impacts on wildlife © Ulrich Eichelman

Bitumen Extraction and Processing

Mines and quarries pose a threat to the river's aquatic biodiversity. Discharges of excavated materials severely affect the river's ecological integrity and biota, as they often contain heavy metals. According to the National Agency of Natural Resources (AKBN), the total number of mines in the Vjosa Valley is 43, all of which are classified as non-metallic. Based on combined assessments and field inspections, the Municipality of Selenica has the highest number, with 13 mines, 8 of which are located in the city of Selenica and exploit bitumen and bituminous gravel. These operations are concentrated within an area of approximately 3.4 km² to the east of the city, where some extraction points are as close as 100 meters from the riverbank.

Several informal landfills also containing remains from bitumen extraction and processing within the Vjosa National Park contain potentially hazardous waste, posing a serious risk of toxic pollution through leaching into the riverbed and causing downstream contamination. These unregulated landfills within National Park boundaries may contain toxic materials, making a significant threat to water quality and downstream ecosystems due to potential leachate entering the river system.

How the management plan addresses the threat.

The management plan prohibits oil and gas mining within the Vjosa Wild River National Park, recognizing the severe risks these activities pose to biodiversity, ecosystem functions, and natural landscapes. It emphasizes the need for active monitoring and control of oil-related industries near the park, including oil wells and bitumen mining in Selenicë, identifying this as a high priority. Additionally, the plan outlines steps to phase out existing extractive activities, including mining and limestone extraction, through the development and implementation of a structured transition plan. The operational objectives of the Management Plan foresee the phase out to happen within a 10 years or longer period.



Bitumen mine in Selenica that disposes of waste along the riverbanks of Vjosa River. © Joshua David Lim



Bitumen mine in Selenica that disposes of waste along the riverbanks. Vjosa © Artan Rama



Bitumen processing site, Selenice © Joshua David Lim

Necessary Immediate Measures (for oil and bitumen):

- Implement a comprehensive monitoring system to oversee emissions into soil, water, and air, in order to safeguard the ecological integrity of the Vjosa National Park.
- Develop an action plan for the rehabilitation of degraded habitats and prohibit further dumping of industrial waste.
- Remove mineral waste dumps near the riverbanks in Selenica and rehabilitate the damaged riverbanks.
- Immediately halt any oil discharge into the river.

Water Abstraction

Water abstraction for irrigation, urban supply, and industrial use poses a significant problem for the Vjosa River. Based on data from this report, irrigation alone impacts at least 47,266 hectares, primarily through irrigation channels. This intensive water use, especially during the dry season, directly reduces river flows, threatening both aquatic and terrestrial habitats and compromising the survival of sensitive species. Additionally, groundwater in the Vjosa River basin is heavily utilized for agricultural and industrial purposes.

A range of pumping systems supply water to irrigation canals, though precise data on their numbers is unavailable. Some canals operate with free flow. While not precisely quantified, numerous dams and weirs have also been constructed along the riverbanks to protect against flood erosion.

Much of the irrigation infrastructure is currently out of service, including some pumping stations. The Vjosë-Levan-Fier irrigation canal has been restored recently, and now appears to carry a full flow. Meanwhile, the Shushica no longer reaches the Vjosa, and the Drinos contributes very little flow, both also due to water abstractions. Both Drinos and Shushica are part of the National Park. Municipalities lack accurate data on sediment volumes, and even water volume data remains theoretical, based solely on pumping equipment parameters, making it impossible to calculate total annual water consumption.

The most concentrated abstraction activities are in the **lowlands of Fier and Gjirokastër**. Here, the significant water abstraction for irrigation and industrial use leads to noticeably low river flows in the downstream section of the Vjosa river.

How the management plan addresses the threat.

The management plan identifies water abstraction as a major threat to the Vjosa Wild River National Park and outlines strict measures to address it. It prohibits any new water diversions from the moment of the park's establishment and aims to phase out all existing extractions within 15 years. Key actions include mapping and monitoring all current abstraction points, assessing their impacts, and developing alternative solutions. An integrated water strategy will guide sustainable use, aligned with the River Basin Management Plan.



Irrigation Channel Vjosë-Levan-Fier © A.Rama



Himara Water Supply © Joshua David Lim

Necessary Immediate Measures:

- Water abstraction across the Vjosa basin must be drastically reduced to preserve ecological flow and river health.
- A comprehensive assessment of all water abstraction points is urgently needed to understand the scale and impact of current withdrawals.
- Tailored solutions must be developed for each outtake, including options to close, reduce, or adapt abstraction based on ecological flow requirements and improved irrigation practices.

Gravel Extraction

Gravel extraction from the riverbed is a widespread and active industry throughout the Vjosa Wild River National Park. This activity is primarily linked to the intensity of mining and processing operations, with impacts most visible along the riverbanks and main channel. These “hotspots”, while often distant from populated areas and each other, contribute to moderate visual disturbance and landscape degradation, the extent of which depends on physical characteristics, proximity to the riverbed, and surrounding landscape features.

Decades of gravel extraction have caused significant damage. Access roads, opened for gravel deposition over approximately thirty years, have exacerbated this. Further impacts arise from the improper management of construction waste, which forms small mounds on the surface, damaging riparian vegetation. Even larger mounds have been placed directly in the riverbed, leading to more substantial harm.



Map of the Distribution of Major Mines and Quarries near the banks of the Vjosa River

The section of the Vjosa River between Selenicë and Këlcyrë is the most severely affected, experiencing the highest concentration of gravel extraction. However, this activity is also prevalent in its tributaries, including the Drino, Shushica, and Bënça rivers. The riverbed of the Shushica has dropped due to gravel extraction over a 30 years period, leading to a corresponding decline in the groundwater level. These operations collectively have a significant impact on river morphology and the integrity of surrounding habitats.

How the management plan addresses the threat.

The management plan identifies commercial gravel extraction as a major threat to the ecological integrity of the Vjosa Wild River National Park. In line with the Law on Protected Areas, it prohibits the establishment of any new gravel or water extraction sites within the park. The plan calls for the enforcement of closures and rehabilitation of existing extraction sites with expired licenses and includes specific restoration actions for affected areas. The plan aims for the complete termination of gravel extraction activities, as outlined in management objective 4.3 in over 10 years.

A total of **36 gravel extraction and processing plants** have been identified, resulting in damage to natural habitats, altered sediment dynamics, and changes in water flow. Field observations indicate that **17 of these facilities are currently active** across the National Park's territory. In contrast, **five are inactive, five are abandoned**, and only **two have undergone rehabilitation**.



Aggregate processing plant on the banks of the Vjosa River (Tepelenë) © A. Rama



Abandoned gravel and aggregated deposit (Shushicë) © Joshua David Lim

Necessary Immediate Measures

- Conduct a study on the cumulative effects of gravel extraction and its impact on biodiversity.
- Monitor gravel extraction activities and rehabilitate the damaged areas through the restoration of riparian vegetation.
- Remove illegal deposits of inert materials near riverbanks and prohibit new depositions.

Pressures from Urban Waste Disposal and Wastewater

Municipalities along the Vjosa River and its tributaries face a range of environmental challenges, primarily related to urban waste management, wastewater discharge, and uncontrolled territorial development. Many waste disposal sites are unauthorized and lack environmental permits, directly impacting the river's water quality due to the wastewater being discharged directly into the river.

Waste collection is partial and inefficient, with many villages not covered by municipal services and dumping their waste directly into the Vjosa River. Only one-third of municipalities have waste management plans, and composting is entirely absent throughout the basin, despite the area's predominantly rural character. One particularly visible issue is the widespread presence of plastic waste across the landscape. Plastics accumulate along the riverbanks and floodplains, and large quantities are carried downstream, ultimately concentrating at the river mouth, where they pose serious risks to coastal and marine ecosystems.

Wastewater from both urban and rural areas is discharged into the river untreated, due to the absence of treatment plants. Sewer systems are either damaged or incomplete, leading to frequent blockages and direct discharges into the environment. Informal construction of housing settlements, lack of urban planning, and the proximity of road infrastructure to the riverbed further aggravate the situation, especially in heavily burdened areas such as the entrances to Tepelenë, Memaliaj, Novoselë, and the urban stretches of Këlcyrë. These areas show clear signs of landscape degradation and a rise in substandard, unregulated construction. In contrast, the upper stretches of the river and tributaries like the Upper Shushica still retain their natural character, although there are early signs of rapid tourism development, which could become a pressure in the near future. The current situation calls for urgent measures to improve environmental infrastructure, strengthen enforcement, and develop sustainable plans for waste management and urban development along the entire Vjosa River basin.

How the management plan addresses the threat.

The management plan prioritizes reducing urban and industrial pollution to improve water quality in the Vjosa Wild River National Park. It includes measures to identify major polluters and pollution hotspots, particularly from wastewater, fertilizers, and industrial sources. The plan foresees the management of wastewater in over 10 years, promotes investment in sewage and wastewater treatment infrastructure, with a focus on areas like the Drino River. It also calls for programs to reduce industrial pollution through filtration, treatment, and alternative practices, especially in the lower Vjosa and its tributaries. Waste management is addressed through improved infrastructure, public awareness campaigns, and the relocation of landfills away from the river.



Plastic Waste in Vjosa Delta © Ursi Seibert



Wastewater drainage channel © Joshua David Lim



Landfill in Tepelena Municipality "Majkosh" © Joshua David Lim

Necessary Immediate Measures:

- Remove existing illegal waste dumps and enforce a ban on new dumping activities.
- Establish an effective and sustainable urban waste management system.
- Implement regular monitoring and enforce accountability mechanisms for waste-related pollution.