# Protection study of the Vjosa River Valley based on IUCN protected area standards

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WORLD COMMISSION ON PROTECTED AREAS

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Vjosa River, Tepelena, Albania © Christian Baumgartner

# 1. Introduction

Article 5 of the Albanian Protected Areas Act (81/2017) states that "*in the categorization of protected areas and in the determination of the status of each of them, the competent institutions in the Republic of Albania refer to the criteria of the International Union for Conservation of Nature (IUCN)*".

The IUCN Guidelines for the Application of Protected Area Management Categories (Dudley, 2008, 2013) are widely accepted as the international standard for protected areas. The IUCN Protected Area Management Categories form the **basis for legislation** under the international standards to assist governments and others in **regulating activities**, for example by prescribing certain activities in some protected area categories in accordance with the management objectives of the protected area.

Signatories to the Convention of Biological Diversity (CBD) have committed to establishing protected area systems based on IUCN protected area management categories and standards. This explains the role of the IUCN Protected Area Management Categories in the planning, establishment and management of protected areas in the context of national commitments to international standards for nature conservation.

Until recently, professional and public debates on future development scenarios for the Vjosa Valley were based on two diametrically opposed proposals: exploitation of the hydropower potential of the Vjosa River and its tributaries, or protection of the natural and landscape values and development of nature- and culture-based tourism and the sustainable use of natural resources.

The highest political representatives of Albania reported in September 2020 that the ideas for the construction of hydropower plants (HPP) on the Vjosa River were rejected, and that the area would be declared a national park.

This report provides insight into the rationale and feasibility of declaring a protected area for the Vjosa Valley, along with the management objectives and associated protected area categories that would ensure the conservation of the area's key values.

Vjosa River, Albania © Gregor Subic

# 2. Brief description and characteristics of the Vjosa River Valley

The Aoos-Vjosa River runs for 272 km from its sources in Greece to its mouth in southern Albania, where it drains into the Adriatic Sea. The first 80 km are in Greece. The total catchment area covers 6,704 km$^2$, of which 4,365 km$^2$ lies in Albanian territory.

The Vjosa River and its tributaries can be classified as a gravel-dominated, laterally active, anabranch rivers with high sediment yields, where the bedload supply is higher than the actual transport capacity of the channel. This is reflected, particularly in the middle section of the river, in extensive gravel plains up to 2,000 m wide, crossed by several lateral and parallel rovers, oxbows and side channels. Another criterion of laterally active, anabranch gravel bars are specific forms of break-off at high flow velocities, which is reflected in the rapid abandonment of the main river channel during extreme flood events, and the formation of a new, parallel river channels in former floodplains.

Vjosa River in the vicinity of Kelcyra © Ols Lafe

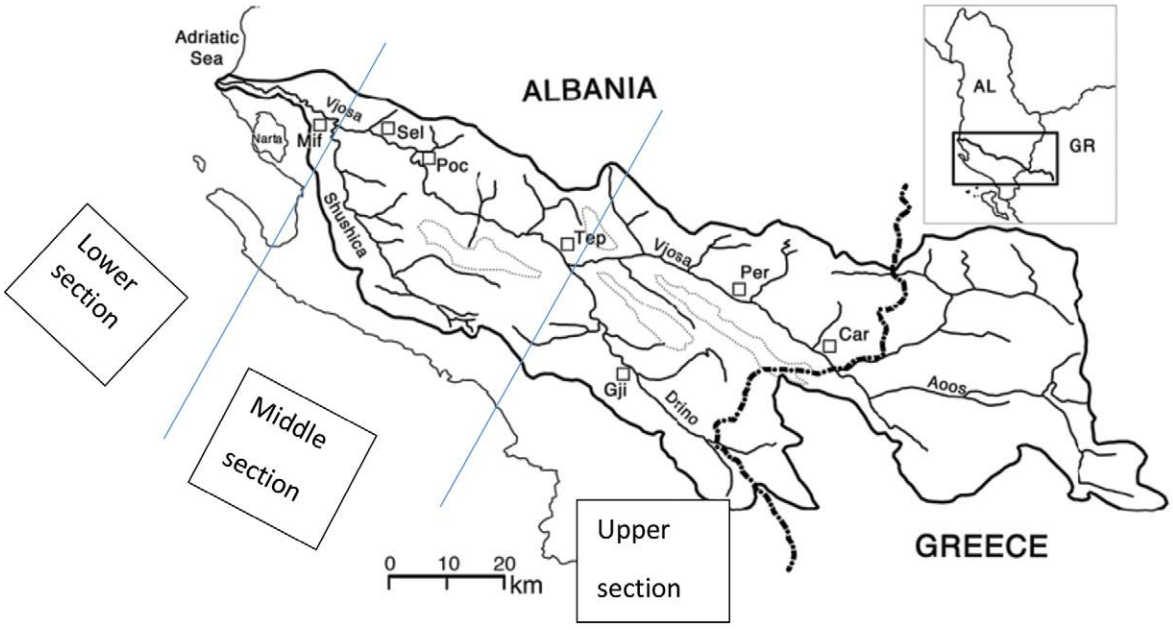



**Figure 1:** Map of the area with upper, middle and lower sections marked.
Map compiled by the report author.

Middle section of the Vjosa River © Jaka Subic

The **upper section** of the Vjosa River is characterised by a steeper slope of the watershed and a succession of steep gorges between the settlements Permet, Kelcyra, and Dragot, interspersed with areas of large alluvial fans and islands. Downstream of the Dragot town area, the river valley widens, with the exception of two gorges in the river course: Kalivaci and Pocemi.

The **middle section** of the river, between the towns Selenice and Tepelena, is a typical river floodplain. The middle section is known for the large gravel and sand banks formed by the branching river. The valley is wide, and the floodplains of Vjosa River are recognised as one of the most magnificent riparian ecosystems of the Balkan Peninsula, characterised by their natural, dynamic hydromorphological processes. A wide main stream with anabranches, open gravel banks and islands, lined by pioneer vegetation and bushes of willows, poplars and tamarisk, give the Vjosa floodplain an exceptional character.

The river gradient is low over the last 40 km before it drains into the Adriatic Sea. Here the river changes from a branching to a meandering course over a narrow stretch of about 15 km, ending in the Vjosa Delta, which comprises over 15 km of river course and almost 30 km of coastline, including the Narta Lagoon in the south (20,000 ha). The **lower section** is characterised by the widening of the Vjosa River and the formation of wide meanders. Between the towns of Fieri and Vlora, the Vjosa River crosses the Myzeqe lowlands and flows towards the Adriatic Sea. The river delta is located north of the Narta Lagoon, where the river reaches the sea.

# 3. Management objectives for the future protected area in the Vjosa River Valley

Most protected areas, including the proposed future Vjosa River Valley protected area, have multiple objectives and values. The authority responsible for the protected area may need to decide what the primary objective is among the many relevant objectives, in order to properly assign a protected area category.

A key component supporting the rich biodiversity of the Vjosa River Valley, featuring several rare, endangered and endemic species, is the unaltered hydrological regime along the entire Vjosa River and most of its tributaries. The upper part of the Vjosa River Valley is largely in natural conditions, with several natural features, such as gorges and canyons. Despite the fact that the elevated upper floodplain areas along the river course in the middle and lower sections are cultivated and grazed and sites of human settlements, the core riverbed remains in its natural state. The connectivity system of the river and floodplain habitats allows for the maintenance of species populations, communities, and natural ecological processes, along with other abiotic and biotic factors. The term "connectivity" is used to describe how the spatial arrangement and quality of elements influence the movement of organisms among habitats, and the Vjosa River maintains its high, original connectivity values for biodiversity.

The definition of the management objectives for the future Vjosa River protected area should be based on the following points:

- The Vjosa River valley contains representative examples of significant biological and ecological features or landscapes where **native plant and animal species, habitats, and geodiversity** sites are of special spiritual, scientific, educational, recreational, or tourism significance.

Research and studies, implemented in the middle section of the Vjosa River in recent years have revealed a high number and density of species and a variety of habitats categorised as endangered at the EU level. The presence of several globally and nationally critically endangered species has been confirmed. The extent of some well conserved EU threatened river habitat types found along the middle section of the Vjosa River and its tributaries is exceptional.

At least eight habitat types of the highest conservation importance at the EU level are found in the middle section of the Vjosa River. No less than 1,175 species from all taxonomic groups have been recorded in this area, including 13 globally threatened animal species and 2 vascular plants. There are at least 148 species of European interest listed on Bern Convention, 41 bird species and 78 animal and plant species listed on the EU Birds List and on the Habitats Directives. At least 50 animal species and 24 vascular plants are included in the national Red Lists of Albania.

The whole **river corridor is important for migratory species** (e.g., endangered eel species) and areas where large concentrations of organisms occur for spawning and/or breeding.

- The Vjosa River system is a **natural ecosystem in dynamic equilibrium, governed solely by natural forces**. The gradient of human

impacts on the landscape increases with the elevation of the natural floodplain areas, and is more pronounced in the lower sections of the river course.

The area contributes to the maintenance of ecological functions and processes, including the **unaltered/undisturbed hydrological and geomorphological regime of the river, the last of its kind on the Balkan Peninsula**. The floodplains of the Vjosa River in southern Albania are considered one of the most magnificent river ecosystems in Europe.

- Natural biodiversity and ecological processes can only be preserved if the **integrity of the flow regime along the entire Vjosa River and its unmodified tributaries** is maintained. Changes in water volume and levels, and sediment transport induced in one part of the river would be reflected in all other sections of the river, upstream and downstream, and also in its estuary.

**Protection of the entire river**, characterised by a high rate of sediment loading, is essential for maintaining **river dynamics** and for the proper functioning of important **coastal and marine environments**.

- The area is of **sufficient size and ecological quality to maintain ecological functions and processes** that would allow the long-term survival native species and communities, with minimal management intervention.

Presence of the **transition zones** between the main ecosystem types is essential for the maintenance of genetic or biological diversity.

- Much of the biodiversity composition, structure and function in the river corridor is in a natural state or has the potential to be restored to such a state (floodplain forests to be restored), with a relatively low risk of successful invasion by non-native species.

- There are a number of unique or rare **natural, historical or cultural resources** at the national, regional and even global/universal scales and **traditional activities and intangible cultural values** that show relevant or significant examples of harmony and integration between socio-economic activities and natural landscapes.

- Tourism and recreation resources have the potential to allow for a wide range of use options, especially in the areas of **ecotourism and cultural tourism**, which can be considered an attractive sustainable development option for this area. These are forms of recreation and tourism that can be developed in the Vjosa River landscape, with outstanding landscape values that are compatible with international standards for protected area management.

- Opportunities to promote **environmental education and community involvement** in conservation activities and natural, historic, and cultural resource management.

- The River Vjosa with its tributaries is one of **the last undisturbed river systems of this type in the wider European context**. Certain ecological units in the lower section, such as the meandering river, coastal area and lagoon, are particularly rare in the Mediterranean. The upper section consists of a number of specific natural features.

# 4. Compliance of the Vjosa River Valley with the IUCN definition of a protected area

The first step in the IUCN protected area category assignment process should answer the following question: does the site in question meet the IUCN definition of a protected area?

For IUCN, protected areas can only be those whose primary objective is conservation; this may include many areas with other management objectives, but in the case of conflict, the conservation objective takes precedence.

A protected area is defined as:

***"A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values"*** *(Dudley, 2008, 2013).*

According to the IUCN standards, every protected area should:

- Conserve the composition, structure, function and evolutionary potential of biodiversity.
- Contribute to national conservation strategies.
- Conserve the diversity of the landscape and habitats and associated species and ecosystems.
- Be of sufficient size to ensure the integrity and long-term maintenance of the identified conservation objectives.
- Sustain the identified values in perpetuity.
- Be operated under the guidance of a management plan.
- Have a clear and equitable governance system in place.
- Conserve significant landscape features, geomorphology and geology.
- Provide regulating ecosystem services.
- Conserve natural and scenic areas of national and international importance for cultural and scientific purposes.
- Provide benefits to resident and local communities (in accordance with management objectives).
- Provide recreational benefits (consistent with management objectives).
- Facilitate scientific research and monitoring.
- Help provide educational opportunities.
- Help develop public support for actions.

The **Vjosa River Valley meets the IUCN definition of protected area**. This is demonstrated through the compliance of the Vjosa River Valley with the common set of objectives for protected areas, as outlined in the IUCN protected area definition.

The IUCN definition of the protected area should be applied in the context of several accompanying principles, including the following:

- Protected areas must prevent, or eliminate where necessary, any exploitation or management practice that will be harmful to the objectives of designation.
- Protected areas should usually aim to maintain or, ideally, increase the degree of naturalness of the ecosystem being protected.
- The choice of category should be based on the primary objective(s) stated for each protected area and should be applied to at least three-quarters of the protected area – "the 75% rule".

## 4.1. Feasibility criteria for the establishment of the Vjosa River Valley Protected Area

- **Size of the area:** the area proposed for protection is of sufficient size so that its processes and functions can regulate themselves. The proposal for the establishment of the national park (submitted by Eco-Albania in February 2021) envisages a national park area of 466 km$^2$.

  Table 1 shows the size of comparable protected areas (national parks) in other European countries.

**Table 1:** Size of comparable protected areas in Europe.

| Country | National park | Size (km$^2$) |
|---|---|---|
| France | Ecrins | 1278 |
| France | Mercantour | 685 |
| France | Vannoise | 534 |
| Bulgaria | Rila | 810 |
| Bulgaria | Central Balkan | 720 |
| Slovenia | Triglav | 880 |
| Croatia | Plitvice | 297 |
| Croatia | Krka | 142 |
| Spain | Peneda Geres | 703 |
| Spain | Donana | 543 |
| Italy | Gran Paradiso | 710 |
| Greece | Vikos-Aoos | 12,600 |
| Greece | Pindos | 69 |
| North Macedonia | Mavrovo | 731 |
| Montenegro | Durmitor | 390 |

Table compiled by report author

The area proposed for protection is extensive, particularly in the longitudinal profile, so a **phased approach should be considered,** where protection status should be achieved by stage/section of the Vjosa River and its tributaries, and where protection should be secured for the most valuable sections first.

- **Isolation/integrity, configuration and ecological character of the proposed area**: the area proposed for protection is large enough to ensure its self-sufficiency to maintain its ecological character. The Vjosa area proposed for protection (and the potential zones within) has regular natural boundaries, including physical features (riverbed, different levels of floodplain, gorges, river delta, etc.).

  The most important basic requirement for maintaining the ecological integrity of the undisturbed river ecosystem in the Vjosa catchment is to ensure connectivity between the main river and its tributaries. The water quality and quantity, as well as the extremely high sediment load of the Vjosa River and its tributaries, should be maintained to protect aquatic species and water resources. The protected area in the Vjosa River Valley should be designated to limit excessive and harmful human use and alteration in certain places, to preserve representative ecosystems with their full biodiversity, and to derive associated goods and services for people.

  There are other examples of protected areas (national parks) that have formed around all or a large part of the river. The Donau-Auen National Park in Austria covers the Danube floodplains from the border with Slovakia to Vienna. The **Bierbza National Park** in Poland, which covers the entire Bierbza River, is presented in more detail below (see box).

- **Accessibility**: the Vjosa area proposed for protection is located within accessible areas that provide opportunities for effective management, including special services such as wildfire control, patrolling, visitor rescue, research, etc.

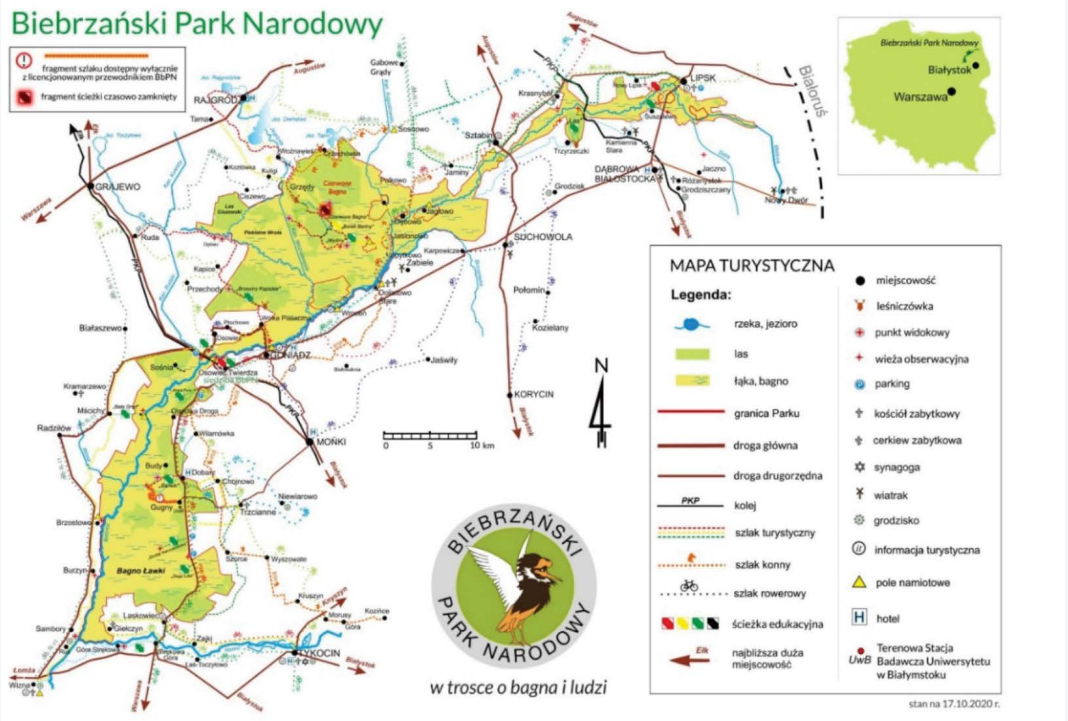
- **Land ownership**: the water resources of the rivers and tributaries are state-owned lands. Most of the adjacent land in the proposed future protected area in the Vjosa Valley is privately owned. Local communities overwhelmingly support the establishment of the Vjosa River conservation area. In the case of areas that are owned by the local communities, these zones must be preserved when the protected area is established.

## Box 1: Bierbza National Park case study

The Biebrza is a pristine river in northeastern Poland, located in the area known as the Green Lungs of Poland. The river length is about 165 km, and its catchment area covers 7,051 km$^2$.

The area of the Biebrza Marshes is one of the largest wildlife refuges in Europe, and the breeding birds attract ornithologists and nature lovers from all over the world. The Biebrza River, its tributaries and most of the natural floodplain of the Biebrza River are under strict protection ensured by the Biebrza National Park (park boundaries marked in red on the map, and the buffer zone in green). The park was established in 1993 and this is the largest national park in Poland (592.23 km$^2$). Almost the entire Biebrza River (about 155 km) is located within the Biebrza National Park.






- **Population density and economic interests in the area**: the establishment of stricter protection zones for the Vjosa River and its tributaries is envisaged only for the narrow area of the riverbed where there are no major human activities, such as the exploitation of natural resources or agriculture or urbanisation. There are no human settlements within the proposed core sub-zones of the protected area.

Some existing activities identified as threats to the area, such as water and gravel extraction for industrial use and intensive agriculture, should

be regulated in the future protected area to prevent disruption of the hydrological regime. Small-scale farming practices and the use of natural resources (gravel extraction, collection of wood for fuel, etc.) for subsistence purposes were not identified as a major threat to the biodiversity and conservation potential of the Vjosa River Valley, and therefore could continue if carried out on a sustainable basis.

Existing activities based on the use of natural resources, such as agriculture and grazing are mainly located on the higher floodplains, outside the core protection zones.

The Vjosa Valley is one of the least developed parts of Albania. New development models for the area, such as sustainable and adventure tourism, should be developed within the future proposed protected area.

# 5. Description and management objectives of the IUCN protected area categories

The area proposed for inclusion in the national protected area system should meet at least two basic requirements:

(1) that the proposed site **meets the definition of a protected area** and satisfies the description of the typological facts (ecosystems or cultural landscape, habitats/species, natural features, etc.), physical characteristics (large or small size) and degree of the naturalness of the site (human influence and presence, intactness of natural processes) as indicated for different IUCN protected area categories; and

(2) that the **regulation of activities** within the protected area **supports the achievement of the primary management objectives and other objectives of the protected area.** This includes use restrictions and prohibitions necessary to prevent the destruction or alteration of natural systems or species habitats, the disturbance or destruction of any wildlife, cultural resources or objects for exploitation, causing damage through pollution and other threats, and the introduction of invasive alien or exotic species.

Once an area has been identified as a protected area according to the IUCN definition, the next step in classification is to determine which category most closely matches the overall management objectives of the protected area. Table 2 shows IUCN protected area management objectives and principles.

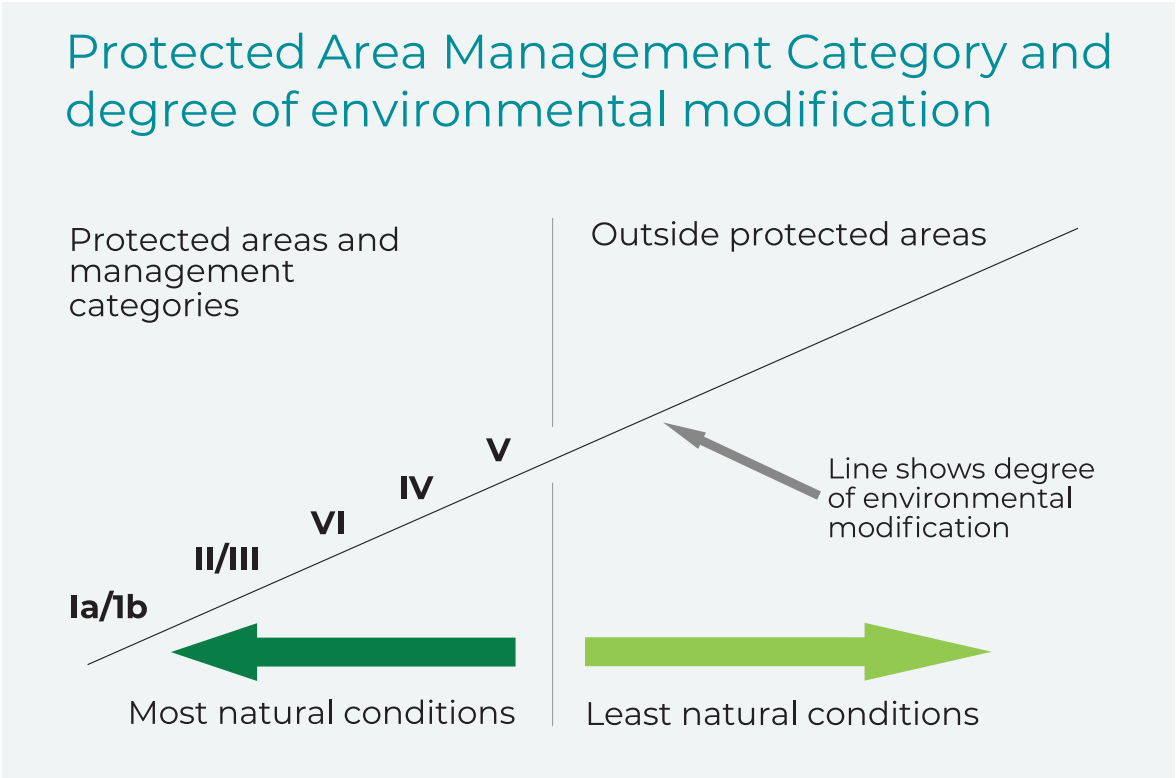



**Figure 2:** Degree of environmental modification in the IUCN protected area categories.

Source: Dudley, 2008, 2013.

**Table 2:** Short description of the IUCN PA categories and principles.

| IUCN protected area category | Primary management objective |
|---|---|
| Category Ia (strict nature reserve) set aside to protect biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. "No-go" areas and not or just sparsely inhabited. Often small. | Category Ia:<br>To conserve regionally, nationally or globally outstanding ecosystems, species (occurrences or aggregations) and/or geo diversity features: these attributes will have been formed mostly or entirely by non-human forces and will be degraded or destroyed when subjected to all but very light human impact. |
| Category Ib (wilderness area) are usually large, unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition. Fulfils the criteria for "wilderness" and covers one or more ecosystems. Usually large. | Category Ib:<br>To protect the long-term ecological integrity of natural areas that are undisturbed by significant human activity, free of modern infrastructure and where natural forces and processes predominate, so that current and future generations have the opportunity to experience such areas. |
| Category II (national park) protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities. Usually large. | Category II:<br>To protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation. |
| Category III (natural monument or feature) protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature, such as an ancient grove. Usually small. | Category III:<br>To protect specific outstanding natural features and their associated biodiversity and habitats. |
| Category IV (habitat/species management area) protect particular species or habitats, where management reflects this priority. Many will need regular active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category. Protect individual species/habitats or only fragments of ecosystem. Often small. | Category IV:<br>To maintain, conserve and restore species and habitats. |
| Category V (protected land-/seascape) protect areas where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated values. These areas are cultural landscapes that have been altered by humans over longer period of time and rely on continuing intervention to maintain their qualities, including biodiversity. These areas and not natural ecosystems. Usually large. | Category V:<br>To protect and sustain important landscapes/ seascapes and the associated nature conservation and other values created by interactions with humans through traditional management practices. |
| Category VI (protected areas with sustainable use of natural resources) protects ecosystems and habitats, and associated cultural values and traditional natural resource management systems. Generally large areas, with most of the area in a natural condition, where a proportion is under sustainable natural resource management with low-level non-industrial use of natural resources compatible with nature conservation. Biodiversity conservation is linked with sustainable use of natural resources and not left to natural processes. | Category VI:<br>To protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial. |

Source: Dudley (2008 & 2013).

**Table 3:** Matrix of activities that may be appropriate for each IUCN management category.

| Activities | Managed mainly for ecosystem protection and recreation | Managed mainly for conservation of specific natural/ cultural features | Managed mainly for landscape/seascape conservation and recreation |
|---|---|---|---|
| | IUCN category II – National Park | IUCN category III – Natural Monument | IUCN category V – Protected Landscape/ Seascape |
| Non-extractive traditional use | YES | YES | YES |
| Traditional collection of non-timber forest products | YES | YES | YES |
| Non-extractive/passive recreation | YES | YES | YES |
| Motorised traffic | YES* | YES* | YES |
| Restoration for conservation | YES | YES | YES |
| Restoration for other reasons | NO* | NO* | YES |
| Problem wildlife management | YES* | YES* | YES |
| Recreational hunting and fishing | NO | NO | YES |
| Research non-extractive | YES | YES | YES |
| Research extractive | NO* | NO* | YES |
| Renewable energy generation | NO | NO | YES |
| Mining | NO | NO | YES |

YES* - because no alternative exists; special approval is essential; NO* - Generally no, unless special circumstances apply.
Source: adapted by author from IUCN (2018).

Vjosa River, Albania © Roland Dorozhani

# 6. Threats to the Vjosa River Valley

Threats to the Vjosa River Valley can be summarized under the headings: Pollution, Land degradation, Hydromorphological change, Land use, and Natural factors. Table 4 below shows the threats by river section and the overall estimated value for the river as a whole.

**Table 4:** Threats to the Vjosa Valley.
Legend: ++ very high threat, + high threat, 0 no threat, ? unknown.

| | upper section | middle section | lower section | TOTAL |
|---|---|---|---|---|
| Pollution | | | | ++ |
| Solid waste/waste management | ++ | + | ++ | |
| Groundwater pollution | + | ++ | + | |
| Water pollution | 0 | ++ | ++ | |
| Land degradation | | | | ++ |
| Industrialisation | 0 | ++[1] | ++ | |
| Urbanisation | 0 | + | ++[2] | |
| Hydromorphological change | | | | + |
| Small hydropower plants[3] | ++ | + | ++[4] | |
| Land use | | | | +/++ |
| Oil dwellings + bitumen excavation and deposits | 0 | ++ | 0 | |
| Gravel extraction (industrial) | + | ++[5] | + | |
| Stone mining (industrial) | + | 0 | 0 | |
| Water extraction (bottling/ industrial) | 0 | ++ | ++ | |
| Water extraction/ irrigation | 0 | + | ++ | |
| Firewood collection[6] | 0 | 0 | 0 | |
| Poaching[7] | + | + | ++ | |
| Plantations of alien commercial species[8] | 0 | + | + | |
| Intensification of agriculture (pastures, regular burning), use of chemicals | 0 | + | ++ | |
| Transformation of former forested areas into croplands and pastures | 0 | ++ | ++ | |
| Tourism development | 0 | 0 | ++ | |
| Natural factors | | | | + |
| Riverbank/coastal erosion | 0 | + | ++ | |
| Floods | 0 | 0 | + | |
| Invasive alien species | 0 | 0 | ? | |
| Diseases[9] | + | + | 0 | |

Threats such as large-scale changes to the upstream water regime (e.g., construction of a large reservoir) may simply negate the benefits provided by downstream protected status, contributing to further declines despite good intentions. Conversely, large-scale gravel extraction could lead to increased erosion of the coastal area, but also affect the upstream flooding regime.

River and freshwater protected areas need to be custom-designed to fully overcome the challenges of water extraction, pollution, cumulative threats and lack of ecosystem connectivity.

1. Selenica area
2. Narta Lagoon (airport), seashore (construction of tourism facilities)
3. At the time of writing, plans to build the HPPs on the Vjosa River have been abandoned. Otherwise, the construction of the HPPs would be one of the biggest threats to the ecological character of the Vjosa River. There are several small hydropower plants (SHPPs) under operation on the tributaries in the upper part of the Vjosa River Valley.
4. Shushica HPP is currently already in the planning process which justifies listing the threat as very high; at present, there are only Kelcyra two minor SHPPs in operation in the headwaters of the Shushica River tributary.
5. Vjosa and Shushica Rivers (gravel extraction by the locals for their own purposes is not considered a threat)
6. Firewood collection is a traditional activity by the locals and mainly occurs in the upper and middle section. Due to its limited extent, it can not be considered a threat to the ecosystem; however, the collection and use of firewood should be properly prescribed in the future management plan for the protected area.
7. Poaching includes hunting of wild animals and illegal fishing. The latter could become a major problem if fishing should be prohibited due to protection of the area related with tourism. The Narta Lagoon fauna is especially sensitive to disturbances from poaching activities.
8. i.e. Paulownia tomentosa. Data deficient for other species.
9. i.e. canker stain plane – tree cancer. Data deficient for other diseases.

# 7. Most appropriate IUCN protected area category models for the Vjosa River Valley protected area

## 7.1. Selecting the right category or more than one category

Once an area has been identified as a protected area under the IUCN definition, the next step in classification is to determine which category most closely fits the overall management objectives of the protected area.

The area of the Vjosa River Valley under consideration for protection, is specific in several respects; it has a distinct longitudinal dimension, there are multiple targets in different parts of the area, and there is a striking difference in land use between the unaltered narrow riverbed profile and the adjacent landscape on the higher floodplains.

According to IUCN standards (Dudley, 2008: 36), large protected areas may contain several protected areas within them. The Vjosa River and its tributaries are divided into three sections: in the upper section, the river flows mainly through gorges and canyons and the adjacent land does not provide conditions for intensive agricultural or urban use; in the middle section, the river flows over a wide area with parallel currents and extensive gravel bars and land use is developed on the upper level of the floodplain; and in the lower section, the river is meandering and the area is often flooded, which in turn limits the intensity of land use for agriculture and urbanisation. Such marked differences in ecological character, as well as in the intensity of land use, in a narrow belt along the river course over a distance of more than 200 km could lead to considerations of designating separate protected areas within the larger protected area.

## 7.2. Parameters for determining the protected area category

Most protected areas, including the proposed future Vjosa River Valley protected area, have multiple objectives and values. The authority responsible for the protected area may have to decide on the **primary objective** among many relevant objectives in order to properly assign a protected area category.

### 7.2.1. Primary objective and the "75% rule"

The IUCN guidelines for protected area categories (Dudley, 2008, 2013) state that the category of a protected area should be based on its **primary objective** and that this objective **should be applied to at least three quarters of the area** (the "75% rule").

Although it has already been demonstrated that the primary management objective for the future protection of the Vjosa River Valley — which should apply to the Vjosa River and its tributaries — must ensure the long-term protection of the undisturbed river and its natural dynamics in order to safeguard the main natural values of the area, there are still differences in understanding how the Vjosa River and its tributaries are perceived in the wider environment. Given its size,

complexity and the various natural processes that still shape the character of the river, **is the Vjosa River is large enough to be considered an ecosystem in its own right**, with associated migration routes and catchment functions? **Or** should it be **considered as the 'blood of the wider cultural landscape' and an important part of the protected landscape**?

IUCN suggests the most appropriate protected area category for **inland wetland ecosystems that encompass the entire catchment** — the model proposed for the Vjosa River Valley — is the use of IUCN protected area categories I or II (Dudley 2008: 63). Kakadu National Park in Australia is cited as an example. For **different sections** of the river (as part of the inland wetland ecosystems) to be protected, the same source suggests **category II for the upper section of the river** (headwaters; example: Adirondack Forest Reserve, United States) or **category Ib and/or II for the middle and lower sections** (examples: Donana National Park, Spain and Douglas River-Daly River Esplanade Conservation Area, Australia).

At this stage, only the application of IUCN category IV can be directly excluded for application along the entire river section, as this category only aims at the conservation, protection and restoration of a **few important species and habitats, not ecosystems (or landscapes) and natural processes. Category IV areas are often based on regular management interventions rather than on leaving natural processes intact. One of the key conservation values of the Vjosa River lies in the fact that it is one of the last European rivers where intact natural processes prevail**.

## 7.2.2. Essential components of the description of the protected area category in the context of the Vjosa River Valley

Table 5 shows the specific parts in the description of the different categories of protected areas and how they apply to the Vjosa River Valley (by section).

Analyses based on the descriptive parts of the IUCN protected area categories show that categories Ia, Ib and VI are not appropriate for all sections of the Vjosa River.

Categories IV, V are excluded for the upper and middle sections.

The analyses also allow the upper section of the Vjosa River to be considered either as a cluster of natural monuments (category III) or as a national park (category II), and suggests the use of category II for the middle section of the Vjosa River Valley.

## 7.2.3. Distinguishing features by different parts of the Vjosa River Valley

### The middle part of the Vjosa River Valley

Extensive studies of the biodiversity values in the **middle part** of the Vjosa River emphasise that the vast majority of habitats of international conservation importance (according to the Annex of the EU Habitats Directive) **maintain and preserve** their high conservation value because there has been **no interaction of man and nature** in the hydrology of the river and the narrow riverbed of the river. The same can be stated for the extensive list of rare, endangered and even endemic species present here. It can be concluded that **the middle part of the Vjosa River and its tributaries is a natural ecosystem,** whose functions and values are **not supported by interactions with the wider man-made landscape** on the higher floodplains.

Distinguishing features of the middle part of the Vjosa River Valley:

- Large and functioning ecosystem of sufficient size and ecological quality so as to maintain ecological functions and processes that allow the native species and communities to persist in the long term, with no to minimal management intervention.
- Contains representative examples of a major natural region, biological features and scenery, where native plant and animal species, habitats, morphology and geodiversity sites are of special scientific, recreational, touristic and educational significance, and the composition of the biodiversity remains in a natural state.

**Table 5:** Vjosa River sections related to the different international protected area categories.

| Key descriptive parameters for the PA category | Section of the Vjosa River Valley | | | Comments |
|---|---|---|---|---|
| | Upper | Middle | Lower | |
| Is the section a "No-go" area and just sparsely inhabited? | No | No | No | **Excludes category Ia in all three sections** |
| Is the section in compliance with the four wilderness criteria[1] | No | No | No | **Excludes category Ib in all three sections** |
| Size | Large / Medium[2] | Large | Large | Categories Ia, III and IV are usually or often small, categories. Ib, II, V and VI are usually or often large. |
| Presence of natural feature(s) | Yes | No / Partly | No | **Potential option: category III only for the upper section** |
| Presence of only particular habitat(s) / species or only fragments of ecosystem (requiring management interventions) | No | No | No | Category IV areas generally aim to conserve few species, habitats or only fragments of ecosystems.<br><br>**Excludes category IV in the middle and upper sections,** as those sections represents ecosystems rather than only fragments of ecosystems or only habitats. Category IV could only be applied in some special cases of "nested" reserves inside larger protected area units. |
| Prevailing (natural) ecosystem and governed by unmodified natural processes and forces | Yes | Yes | Partly | The upper and middle sections are entirely natural ecosystems, at least in the narrow riverbed corridor.<br><br>Implication: **category II for the middle and upper sections.**<br><br>**Excludes Category V for the upper and middle sections** |
| Landscape (= human influenced ecosystem) | No | No | Partly | The upper and middle sections of the Vjosa River in their narrow river bed profiles are not modified landscapes where the interaction of man and nature over time has produced an area of distinct character and significant ecological and biological value, and the where integrity of this interaction would be critical to the protection and maintenance of the area and its associated conservation and other values.<br><br>**Excludes Category V for the upper and middle sections** |
| Is biodiversity conservation linked with sustainable use of natural resources and not left to natural processes. | No | No | No | **Excludes category VI in all three sections.**<br><br>Nature protection and ecological processes in the Vjosa River Valley are not protected through sustainable use of natural resources, but based on the undisturbed natural dynamics and processes. |

Table compiled by report author.

1. The four wilderness criteria are naturalness, scale, undisturbedness, undevelopedness (Kuiters et al., 2013)
2. Focusing only on the riverbed with the narrow strips along it (only the longitudinal profile of the river), the overall size of the upper section is relatively small; the upper section is characterised by steep slopes and ravines that could be considered a set of consistent natural features. Gorges are typical natural features that are part of the IUCN category III protected areas. Rough estimate: if only a narrow part of the terrain along the river in a width of 3 m on average along the upper section of the Vjosa River is included in the protected area, the area of such a "Natural Monument" across the entire upper section would be about 50 ha.

Primary management objective: protection of the natural biodiversity and supporting natural processes and promotion of recreation and education.

Bottom line for the middle section: **IUCN protected area category equivalent II (national park).** The protected area should include the entire length of the river and its tributaries in the middle section.

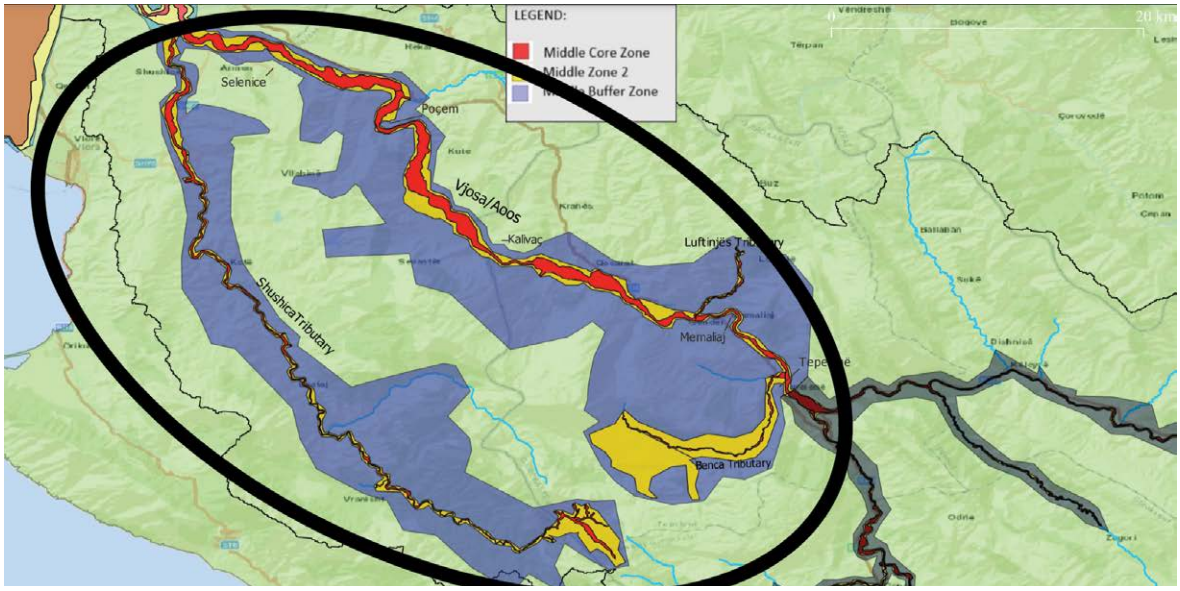



**Figure 3.** The middle part of the Vjosa River Valley.

BLACK - Middle section of the Vjosa River Valley
RED – National park core zone (ZONE 1)
YELLOW – National park sub-zone (ZONE 2); the Act 81/2017 foresees two distinct regimes for Zone 2 of the national park. These are: "Recreation and traditional use sub-zone" and "Sustainable development sub-zone".
BLUE – Buffer zone of the national park
Map compiled by the report author.

## The upper part of the Vjosa River Valley

Physical barriers and obstacles (gorges, canyons...) in the **upper part** of the Vjosa River Valley prevent extensive use of natural resources and urbanisation of the area. The **natural biodiversity and processes are well preserved** and their existence is **not at all affected by the interaction between man and nature**. The high concentration of natural features (gorges, canyons, springs, and also cultural monuments, such as historical bridges, etc.) could be seen as a series of natural monuments, but functioning as a natural ecosystem. This implies two proposed options of protected area category for the core conservation area in the upper part of the Vjosa River Valley:

Distinguishing features of the upper part of the Vjosa River Valley:

- Large and functioning ecosystem of sufficient size and ecological quality so as to maintain ecological functions and processes that allows the native species and communities to persist in the long-term, with no to minimal management intervention.
- Contains typical examples of a major natural region, high density (series) of natural and cultural features and scenery, where native plant and animal species, habitats, morphology, geodiversity and cultural sites are of special scientific, recreational, tourism and educational significance and the composition of the biodiversity remains in a natural state. IUCN suggest that a "protected area containing an important natural monument (normally category III), but nonetheless managed primarily for its ecosystem functions (normally category II) should be categorized as II rather than III" (Dudley, 2008: 35).

Bottom line for the upper section. Two options:

IUCN protected area category equivalent: **II (national park)** or **possibly III (natural monument).**

- **Natural Monument** (in the form of a series of individual natural features that form a functioning ecosystem) or
- **National park**, extended from and linked to the IUCN category II Core River Zone in the middle section of the Vjosa River.

Primary management objective: protection of the natural biodiversity with series of outstanding natural features, supporting natural processes and promotion of recreation and education.

Taking into account that the upper section should be managed primarily for its ecosystem functions (normally category II), it should be **categorized as the IUCN protected area II** (national park) rather than III. The protected area should include the entire length of the river and its tributaries in the upper section.

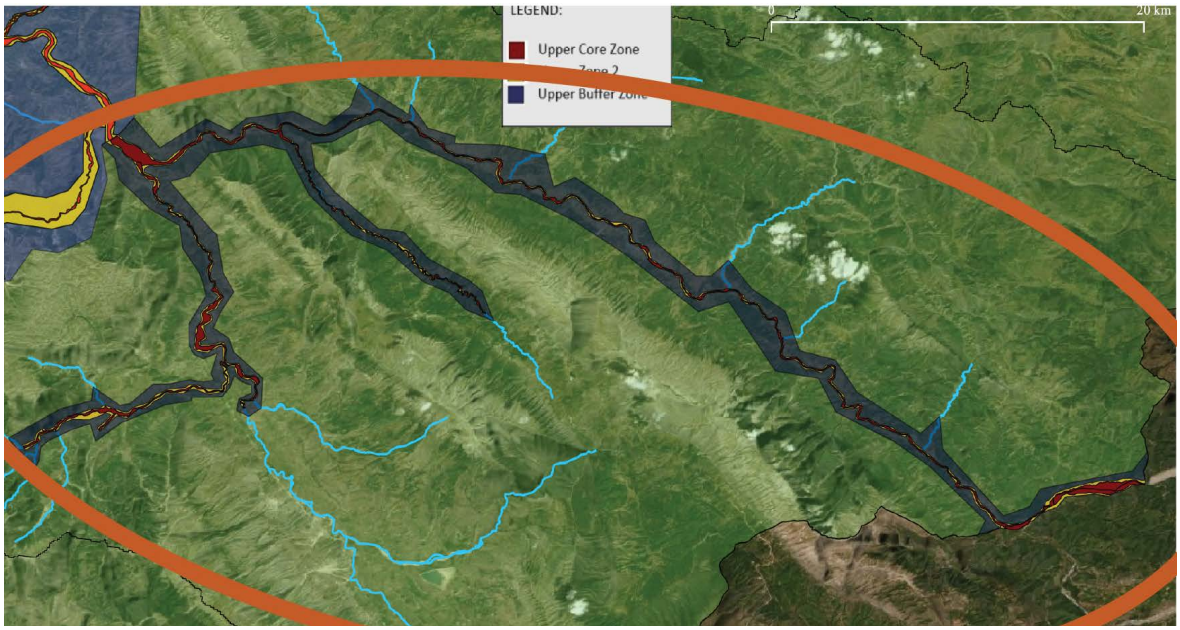



**Figure 4.** The upper part of the Vjosa River Valley.

BROWN - Upper section of the Vjosa River valley; two options:
- **Natural Monument** (in the form of a series of individual natural features that form a functioning ecosystem) or
- **National park**, extended from and linked to the IUCN category II Core River Zone in the middle section of the Vjosa River.

Map compiled by the report author.

## The lower part of the Vjosa River Valley

In its lower reaches, downstream of its confluence with the Shushica River, the Vjosa River runs in a "meandering course." The pressure of human activities and uses of natural resources is high and the river here flows through the human shaped landscape. However, the river retains two key features of its natural course: regular flooding and a heavy sediment transport load that has strong impacts on the estuary and seashore. In addition, this part of the landscape contains some extremely important natural features, such as the Narta Lagoon, natural beaches and the coastline.

Although not directly linked in the ecological context to the freshwater river ecosystem of the River Vjosa estuary, the brackish Narta Lagoon is of significant conservation value at the national and even global scales. The coastal lagoon covers an area of 59 km$^2$. Its national conservation value was already recognised in 2004, when the area became part of Vjose-Narta Protected Landscape. Its European conservation potential is reflected in the site's inclusion in the possible future Natura 2000 list. The Narta Lagoon is a Key Biodiversity Area (KBA), as a site with international conservation value.

The spatial unit of Vjose-Narte covers about 20,000 hectares and is the second most important area in Albania due to the high presence of water birds that use the area during the wintering, migratory and breeding seasons. In addition to the magnificent landscapes, this area includes

a wide range of valuable habitats that make the Vjose-Narta ecosystem quite unique along the entire Adriatic coast, including elements such as the sea lagoons, salt pans, a lowland forest, sand dunes and vast fields, in combination with a wealth of cultural and historical values.

Distinguishing features of the lower part of the Vjosa River Valley:

- Landscape, coastal and seascape of high and distinct scenic quality, with significant associated habitats, flora and fauna and undisturbed fluvial dynamics and hydromorphology in the river and sea, combined with cultural features.
- Rare and endangered coastal lagoon that contains a variety of rare habitats of sufficient size and ecological quality to maintain ecological functions and processes that allow native species and communities to survive over the long term.
- Contains representative examples of significant natural regions, biological features, and landscapes where native plant and animal species, habitats, morphology, and geodiversity sites are of special scientific, recreational, tourism, and educational importance and where the composition of biodiversity remains in a natural state.

Although the lower Vjosa River area includes several important ecosystems (river, coast, sea) and habitats (coastal lagoon with salt flats, dunes and others), these are not completely natural ecological units, as they are strongly affected by the impact of fragmentation and other cumulative influences of human activities.

Two components of the wider Vjose-Narte area require particular attention for protection: the **lower section of the Vjosa River**, downstream of the confluence with the Selenica River, where any change in the currently predominantly undisturbed hydrological regime would have dramatic effects on both the lower reaches (increased erosion or siltation of the coastal sea) and on the upstream Vjosa River section (important migration corridor for species such as eel) and the **Narta Lagoon**.

All protected area categories must prevent or, if necessary, eliminate any exploitation or management practises that could harm the objectives of the designation; however, the IUCN standards also say that the category does not reflect management effectiveness, which includes enforcement of management requirements.

Bottom line for the lower range. Two options:

- Option 1 for the lower section: **national park**
- Option 2 for the lower section: **landscape park**

IUCN protected area category equivalent: **II (national park)** or **V (protected landscape area) with two "nested" areas where a zoning model for the core sub-zone, level B** should be applied. Both options include both ecological units ("lower section of the Vjosa River" and "Narta Lagoon" as inseparable protected areas):

- Option 1 for the lower section: **national park**

  **A national park** encompassing the Narta Lagoon and the Vjosa River from its confluence with the Selenica River to its discharge into the sea, linked to the IUCN category II in the middle section of the Vjosa River, **not as its core sub-zone**, but as one of the other two national park sub-zones (Recreation and traditional use sub-zone or Sustainable development sub-zone).

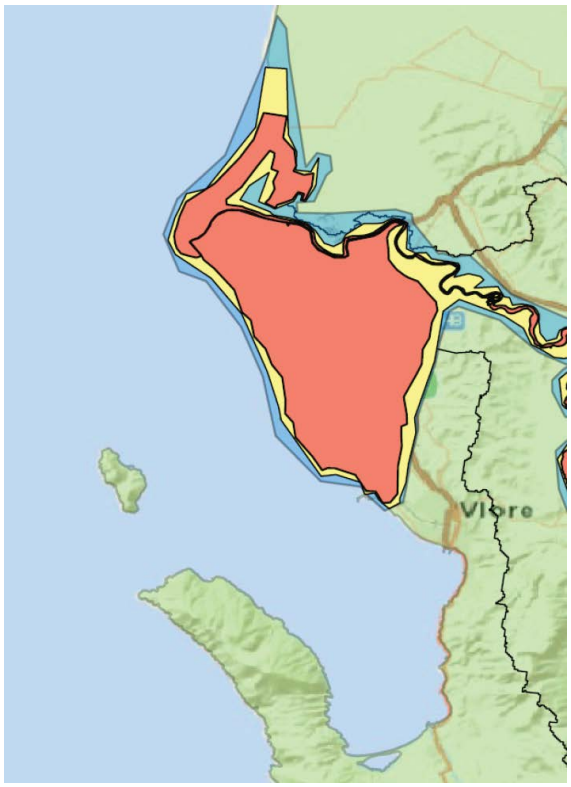



**Figure 5.** Option 1 for the lower section: national park.

LIGHT BLUE: national park zone 2 - Sustainable development sub-zone
RED: national park zone 2 - Recreation and traditional use sub-zone
YELLOW: national park zone 2 - Recreation and traditional use sub-zone or Sustainable development sub-zone
Map compiled by the report author.

- Option 2 for the lower section: **landscape park**

  **A protected landscape** which contains the two sub-areas in its interior, where stricter zoning (level B as mentioned in the Act 81/2017) should be applied; these sub-areas are the Narta Lagoon and the Vjosa River from its confluence with the Selenica River to its discharge into the sea.

In the core zone (level B), the following activities are prohibited:

a. Use of land by intensive technologies, means and methods that cause fundamental changes in biodiversity, ecosystem structure and functions, or irreversibly damage the land surface;
b. Neutralization of wastes originating outside the area of the national park;
c. Dispersal of non-native animals and plants if they bring changes in the biological diversity of the area;
d. Intensive reproduction of hunting animals, except for conservation reproduction;
e. Construction of roads, highways, railways, urban areas, power lines and extensive oil and gas systems;
f. Washing and spraying of roads with chemicals;
g. Afforestation in monocultures;
h. Lighting of fires outside designated places and areas;
i. Moving vehicles outside designated roads;
j. Extraction of minerals, stones, peat, except stones and sand for the maintenance of the park;
k. Massive sports and tourism activities outside the prescribed places, and
l. Organisation of car and motorcycle races.

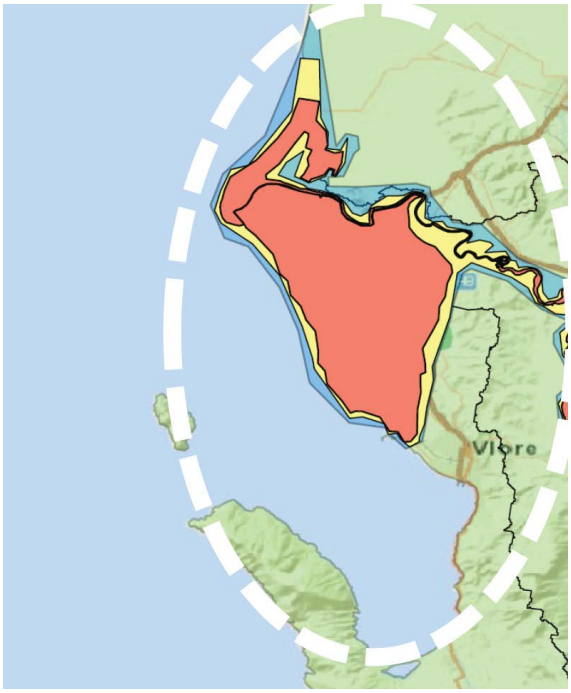



**Figure 6.** Option 2 for the lower section: landscape park.

WHITE DASHED LINE: Area of the landscape park
RED: Landscape park core sub-zone: Zoning level B (Narta Lagoon Reserve)
LIGHT BLUE: Landscape park core sub-zone: Zoning level B (lower section of the Vjosa River)
YELLOW: Landscape park Zone 2 - Recreation and traditional use sub-zone or Sustainable development sub-zone
Map compiled by the report author.

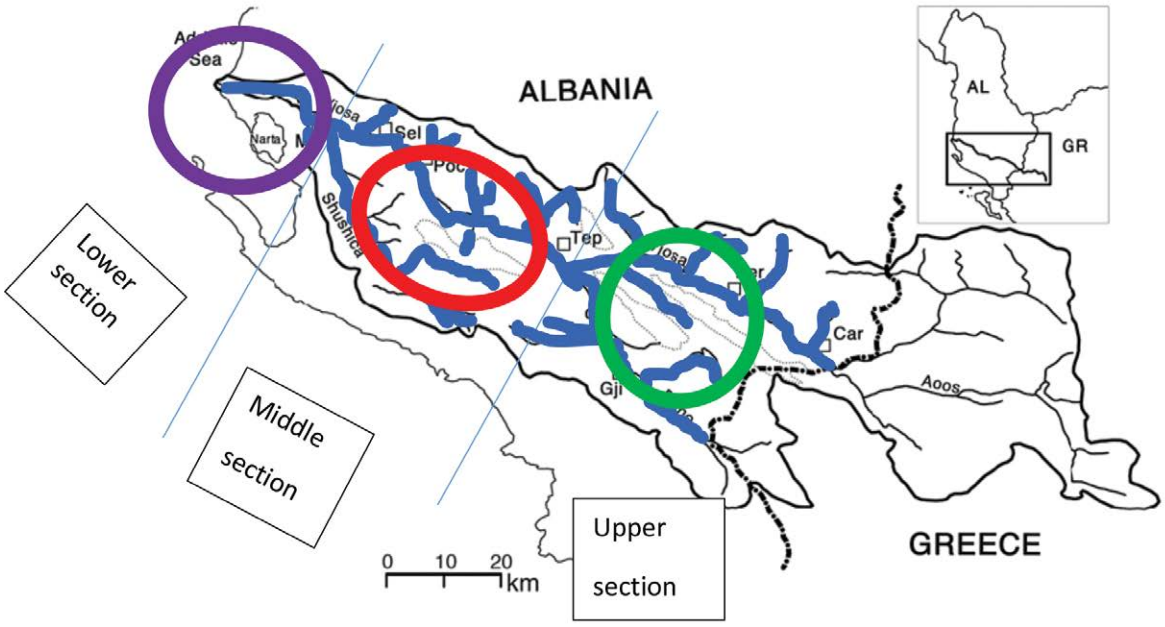



**Figure 7.** Vjosa River valley by sections.

River Vjosa and its tributaries as a natural ecosystem

River Vjosa and its tributaries / **middle section**: natural ecosystem extending over the narrow river bed profile

River Vjosa and its tributaries / **upper section**: natural ecosystem with several natural and cultural features (gorges, canyons, bridges)

**Lower section**: river (non-modified natural processes, such as floods, siltation, sediment transport and meandering natural flow), important habitats/separate ecosystems (Narta Lagoon, coastline...) in the man-made landscape

Map compiled by the report author.

# 8. National protected area categories in Albania and their application for the Vjosa River Valley

The Albanian Protected Areas Act (81/2017; section IV) defines eight protected area categories in Albania, referring to the IUCN protected area category system (categories I- VI, indicated in brackets, as underlined below):

a. Strict nature reserve/science reserve (category I);
b. National park (category II);
c. Natural monument (category III);
d. Managed nature reserve/nature park (category IV);
e. Protected landscape area (category V);
f. Managed resource conservation area/ multipurpose conservation area (category VI);
g. Municipal nature park (category IV);
h. Green crowns (around cities) (Category V).

Each protected area category in the national law in Albania is further determined by the objective or purpose of protection, followed by the list of prohibited and non-prohibited activities. For some protected area categories, management objectives are also mentioned, but the description is not strictly divided as in the IUCN categories based on primary and other management objectives, which leaves some room for interpretation.

Table 6 provides the description and objectives of selected protected area categories in the Albanian Act, which could potentially be applied to the future protected area Vjosa River.

**Table 6:** Description and objectives of selected protected area categories under Albanian law.

| Protected area category | Description and aims |
|---|---|
| Category II – National Park | 1. A national park may be declared for extensive territories, usually not less than 1,000 hectares, unique for their national and international values, which are protected and managed for the protection of ecosystems, species, education and recreation (leisure, entertainment), and which regulates the sustainable use of resources by humans.<br>2. The level of protection is applied to the national park with the aim of preserving the territory in its natural state, conserving the biotic communities, species and genetic resources in order to ensure ecological stability and diversity, and where:<br>a) human intensive occupation or exploitation is excluded;<br>b) use of land with intensive technologies, means and manners that cause fundamental changes to its biodiversity, structure and functions of ecosystems, or that damage irreversibly the land surface is prohibited;<br>c) construction of urban areas, highways, railways, high voltage power lines and long-range oil and gas systems is prohibited;<br>d) alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited;<br>e) any other activity contradicting the objectives for the preservation of the area is prohibited.<br>3. Activities that provide for spiritual, scientific, educational, and recreational opportunities may be carried out in accordance with environmental and cultural requirements, but only after the approval of state institutions is obtained and if their aim is:<br>to conserve the area in its natural state or as near to its natural state as possible;<br>to treasure the ecological and geomorphological values, sacred or aesthetic objects, for which the area is taken under protection;<br>to take into consideration the needs of local residents, including fishing, grazing and firewood, to the extent that they do not harm other objectives of management.<br>4. Upon the written and justified proposal of the protected area authority, the National Agency of Protected Areas (NAPA) may approve:<br>a) grazing and passing through of livestock and construction of light or temporary structures to house them;<br>b) putting up stands, signboards, advertisements, signs and posters;<br>c) sailing in boats, canoes and other means of sailing (not motorised);<br>d) non-military flights in helicopters, balloons, delta planes etc.;<br>d) driving and parking vehicles out of the assigned roads and spaces;<br>e) mountain climbing, skiing, camping and lighting of fires outside the defined spaces;<br>f) collecting of plants, fruits, seeds and fungi;<br>g) performing of seasonal tourism activities, that do not require the permanent occupation of the land.<br>5. Where the park protection authority notes that the purpose for which the park was declared a national park is violated, it may temporarily restrict or prohibit the movement of vehicles, fishing and other allowed activities.<br>6. Upon proposal of NAPA, the Minister may adopt an instruction on procedures for temporary prohibition of allowed activities where the purpose for which the area was declared protected is violated.<br>7. The management plan of the national park, should clearly define, according to management zones, the detailed activities that are allowed, prohibited or that require permission from responsible authorities according to existing legislation. |

| Protected area category | Description and aims |
|---|---|
| Category III – Natural Monument | 1. A natural monument may be declared for a natural formation with a surface up to 50 hectares (including special biological elements), a special geological and geomorphological formation, a deposit of minerals or a habitat of a rare, endangered or of particular scientific and aesthetic importance species.<br>2. In a natural monument, the same degree of protection shall apply as to Strict Reserves*. The area shall be protected and managed for conservation of specific features and natural phenomena, cultural, historical and archaeological, for which it is declared a monument.<br>3. Natural monuments are surrounded by a buffer zone of 50 meters in width from the perimeter of the monument.<br>4. In accordance with the degree of protection of the monument, upon proposal of NAPA, the Minister may approve short-term special rules for visits or passing through of visitors or tourists.<br>5. Every 5 years, NAPA should reassess the list of nature monuments, which is approved by decision of the council of ministers under minister proposal.<br><br>* Strict nature reserve (Category I)<br>A strict nature reserve is declared for relatively small areas or territories, which possess some unique ecosystems, typical or representative, and/or species of flora and/or fauna of scientific importance suitable for scientific research and/or monitoring, and which have little or no human intervention at all.<br>This category shall consist of two main subcategories; Sub-category Ib is potentially relevant for the Vjosa River Valley, particularly in its upper section: "Protected Area mainly managed for protection of the wildlife or Strict Nature Reserve, which is protected and managed so as to preserve their natural condition".<br>The highest level of protection shall apply to the strict natural reserves, where all human activity is prohibited and the main objectives are:<br>preservation of the biodiversity of the area shall be achieved through protection, that does not require any active management or habitat manipulation;<br>to minimize disturbances and concerns through careful planning of implementation of scientific research and other approved activities;<br>to limit contacts of the public with the area and to prevent its use for rest and leisure; and<br>to allow the presence of visitors without motorised vehicles up to a level which serves best their physical and spiritual welfare, and which ensures the quality of wildlife of the area for the present and future generations. |

| Protected area category | Description and aims |
|---|---|
| Category IV – Managed Nature Reserve or Nature Park | 1. A managed nature reserve or nature park shall be declared for those territories that are not very large and represent areas of active human intervention for management purposes of species and habitats, in order to ensure the preservation of habitats and meet the specific requirements of species of regional and local importance, as well as areas used for research, educational and cultural purposes.<br>2. A nature park is declared for the following main objectives:<br>ensuring the protection of habitat conditions necessary to protect significant species, groups of species, biotic communities or physical features of the environment, that require special intervention for optimum management;<br>facilitating scientific research and environmental monitoring as primary activities associated with the sustainable management of natural resources;<br>enabling the local population encompassed within the area to obtain economic benefits, as one of the objectives of management.<br>establishing special areas for the environmental education of public, assessment of habitat features and efforts to manage the species in nature;<br>3. Within the nature park the following activities are prohibited:<br>the alternation of the natural state of water reservoirs, springs, lakes and wetland systems;<br>the exploitation and occupation of the area with activities that are incompatible with the purposes for which it is put under protection;<br>4. Upon the prior written approval of the protected area authority, the following activities may be carried out:<br>driving and parking vehicles out of the assigned public roads and parking spaces;<br>collection of plants, minerals, palaeontological discoveries and stones;<br>establishment and operation of facilities for military and protection purposes.<br>placement of stands, signboards, advertisements, signs and posters, without prejudice to those that provide data on the objectives of the protected reserve;<br>skiing, camping and lighting of fires outside the designated areas.<br>5. In order to comply with the protective measures set forth in the management plan, the rules for short-term visits or passing through of visitors or tourists shall be approved by Instruction of the minister, upon proposal of NAPA.<br>6. the management plan of the nature park, should clearly define, according to management zones, the detailed activities that are allowed, prohibited or that require permission from responsible authorities according to existing legislation. |

| Protected area category | Description and aims |
|---|---|
| Category V – Protected Landscape | 1. A protected landscape shall be declared for territories greater than 1000 hectares, with a well formed and harmonious landscape, with uniquely developed features and a variety of ecosystems, marine or terrestrial, and the areas within which residential centres carrying out activities, such as agriculture, fruticulture, forestry, fishing may be located.<br>2. The protected landscape is managed in order to preserve the landscape, biodiversity, entertainment and leisure values of the area. This category includes land/sea/water in public or private ownership.<br>3. In a protected landscape the degree of protection, which ensures the following main objectives, shall apply:<br>to strengthen the balanced interaction of nature and culture for the protection of the landscape, the traditional land uses and building practices, and the typical social and cultural manifestations of the area;<br>to provide opportunities for well-being and economic activities that are in harmony with nature and the preservation of cultural and spiritual values of local population;<br>to eliminate where necessary, and to prevent the use of land and performance of other activities which are deemed inappropriate in scale and/or in content;<br>to create opportunities for the public to enjoy recreation and tourism, in accordance with the character and scope of the essential features of the area;<br>to encourage scientific and educational activities, that may assist in the long-term development and welfare of local populations and ensure the wide public support for the preservation of the environment in those protected areas;<br>to bring economic benefits and contribute to the improvement of the welfare of local populations through exploitation of natural products/such as forests and fish production and services/clean water or income derived from appropriate forms of tourism.<br>4. Activities that alter the use of the territory, i.e., construction, sewage treatment in farms, interventions to areas greater than 2 hectares, construction of highways, sailing canals and urban areas, and other similar activities may be allowed only if the entity seeking to perform such activities is issued the environmental permit.<br>5. The written approval of the protected area authority shall constitute sufficient authorisation for excising the activities stated below:<br>use of chemicals and pesticides in agricultural lands;<br>lighting fires out of designated places and areas;<br>driving vehicles out of roads and assigned places; this rule does not apply to state agricultural and forestry vehicles and machineries, to fire engines, ambulances, to veterinary services and water management machinery;<br>organisation of cars, motorbikes and bicycles racing;<br>practice of unique or traditional use of land and social organisations emanating from human settlements, local customs and religious beliefs, should be allowed upon requisition of an environmental permit.<br>6. The management plan of the protected landscape, should clearly define, according to management zones, the detailed activities that are allowed, prohibited or that require permission from responsible authorities according to existing legislation. |

Table compiled by report author.

## 8.1. Zoning within protected areas

Protected area legislation, including Act 81/2017 in Albania, recognizes the concept of zoning as a management tool. Zoning is particularly useful for dealing with large multi-purpose and multi-dimensional protected areas and for providing linkages between core areas. Albanian legislation allows the use of flexible zoning for inner zones in the national park, managed nature reserve and protected landscape.

The legislation indicates that the management plan for a given area can divide the area into zones or units to define different management needs (strictly protected areas, tourism areas, restoration areas...).

Alternatively, zones within a protected area can have their own protected area categories, permanently defined not only in the management plan but also in the law.

The first option provides flexibility for adaptive management and adjustment of zone categories through the management plan.

The second option provides greater legal certainty regarding the primary conservation objectives of the zone, but category change would only occur by law.

## 8.2. Recommendations for the use of zoning in the proposed protected area Vjosa River Valley

According to Article 13 of the Protected Areas Act (81/2017), zones shall be established within the national park, managed nature reserve and protected landscape as follows:

- Core sub-zone
- Traditional and sustainable use sub-zone
- Recreational sub-zone
- Buffer sub-zone
- Heritage and cultural landscape sub-zone

The first level of protection (strict) applicable in the core sub-zone aims for the comprehensive conservation of biodiversity and guarantees an undisturbed natural area. Article 48 (Act 81/2017) further divides the core zone (first level of protection) into levels A and B.

For the proposed **core sub-zone of the Vjosa River Valley in the upper and middle sections, protection level A** would be required.

The following human activities are prohibited in the Core Zone (Level A protection) zoning model:

a. Cutting of trees and shrubs;
b. Use of chemicals and fertilizers;
c. Construction activities of any kind;
d. Extraction of minerals and peat;
e. Fire making;
f. Grazing, passage of domestic animals and construction of shelters for them;
g. Construction of recreational, entertainment and sports facilities;
h. Driving on trails, without prejudice to the owner or user of the land;
i. Travel by vehicles of any kind, except vehicles of the Protected Area Authority and the Fire Department;
j. Travel by boats and other watercraft;
k. The intensive propagation of wild species which are the subject of hunting.

For the proposed **landscape park option in the lower section of the Vjosa River Valley, including the lower section of the Vjosa River (downstream of the confluence with the Shushica River to the sea) and for the Narta Lagoon, the Level B zoning model** should be applied.

In the core zone (Level B) zoning model, the following activities are prohibited:

a. Use of land by intensive technologies, means and methods that cause fundamental changes in biodiversity, ecosystem structure and functions, or irreversibly damage the land surface;
b. Neutralization of wastes originating outside the area of the national park;
c. dispersal of non-native animals and plants if they bring changes in the biological diversity of the area;
d. Intensive reproduction of hunting animals, except for conservation reproduction;
e. Construction of roads, highways, railways, urban areas, power lines and extensive oil and gas systems;
f. Washing and spraying of roads with chemicals;
g. Afforestation in monocultures;
h. Lighting of fires outside designated places and areas;

i. Moving vehicles outside designated roads;
j. Extraction of minerals, stones, peat, except stones and sand for the maintenance of the park;
k. Massive sports and tourism activities outside the prescribed places, and
l. Organisation of car and motorcycle races.

The second level of protection is applied in the Traditional and sustainable use sub-zone, which is primarily aimed at preserving biodiversity, while ensuring a somewhat disturbed natural area with traditional and ecotourism activities.

The third level of protection is applied in the Recreational sub-zone and aims to preserve nature and biodiversity in harmony with the development of socio-economic and tourism activities, including infrastructure for residents and businesses.

The buffer zone of the Vjosa River should follow the model of the "national park region" used in some EU countries (Italy, Austria), where the area included in the buffer zone provides logistical support and infrastructure for the national park, and where local communities benefit from the protected area by developing tourism, traditional food production and other services used by visitors to the protected area. Heritage and cultural landscape sub-zones should include cultural heritage and monuments within other zones of the proposed protected area.

Vjosa River, Albania © Gernot Kunz

# 9. Tourism as a development potential for the Vjosa River valley

The IUCN guidelines for national parks in the II category (Dudley, 2013) include visitor education and recreation as an important component of national park management. In most countries around the world, national park authorities have no legal obligation to promote tourism in the region. Rather, tourism promotion and development is usually part of a regional development strategy.

The national park authority, however, should be actively involved in the management of tourism in the broader region where the park is located, such as through the establishment and promotion of a regional tourism board liaising with the various tourism entities in the region. In the case of the Vjosa River Valley, the broader Vjosa River catchment area should be actively involved in shaping tourism and development policy. Certain tourism activities should also be run by the national park authorities. One such example is the national park visitor centre, offering a variety of interactive programmes for visitors. Other activities, such as the organisation of rafting, canoeing, etc., are usually run by tourism entities from the region.

With careful planning, tourism activities in the IUCN protected area category II can be consistent with the IUCN protected area category standards (Dudley, 2013), in that they are:

- based on appreciation and respect for nature and its intrinsic values, and provide learning experiences in nature without causing significant damage to natural assets;
- based on an appreciation of landscapes, local culture, heritage and traditional ways of life;
- not harmful to nature and do not pollute the environment, and
- not disturbing wildlife, vegetation or habitats, and do not require additional measures or interventions in nature and landscape.

Instead of building large-scale new infrastructures (e.g., accommodation facilities, large hotels, etc.) in the core protection zone of the national park, such objects and supporting structures are placed in the outer zones. Permet, Tepelena, Selenica and other settlements are ideal for providing accommodation and other facilities for visitors to the Vjosa River Valley. The example of Gjirokastra, which provides accommodation for visitors to the UNESCO World Heritage Site, should be highlighted as an example of good practice.

The main difference in planning tourism within national parks is that these areas do not encourage or stimulate mass gatherings of visitors or permit motorised access or transport in core protected areas. As an example, consider the Soča River Valley in Slovenia, which is part of Triglav National Park (see box).

There are other examples of national parks in Europe that are visited by a large number of visitors: Gran Paradiso NP in Italy (1.7 million visitors/year), and Plitvice Lakes NP (1.8 million visitors/year) and Krka NP (1.3 million visitors/year), both in Croatia. Some national parks contain true wilderness areas or natural monuments, but with careful planning and visitor management, they can also accommodate large numbers of visitors (wilderness area within Peneda-Geres NP in Spain: 250,000 visitors/year; Krimmler Waterfalls and River in Austria within Hohe tauern NP: 400,000 visitors/year). The number of visitors to Durmitor NP in Montenegro has increased from 80,000 in 2012 to 190,000 in 2017, due to the increase of “green tourists”). In North Macedonia,

### Box 2: Triglav National Park (Soča River Valley), Slovenia

Bovec is a settlement in the outer zone of Triglav National Park, characterised by a mountain landscape and one of the most beautiful rivers in the Alps: the Soča River. The territory of the municipality of Bovec covers 368 km2, with a population of about 3,100.

Tourism in Bovec is based on adventure and hiking: rafting, canoeing, swimming, cycling and mountaineering. Tourism generates more than EUR 5.1 million annually, and provides 11% of all jobs. Tourism-related activities (trades, handicrafts...) generate another EUR 10 million each year for the local community. Bovec offers small-scale accommodation in the form of agrotourism on farms and small guesthouses or private rooms.

Each year 2.5 million visitors are registered as visiting Triglav National Park.

Mavrovo NP attracts more than 3% of all tourists to that country.

Tourism in Majella NP in Italy brings annual revenues of EUR 200 million annually, while revenues in the wider region of the park are estimated at EUR 570 million.

Point Pelee NP is a small park in Ontario, Canada, located along the bird migration route. Bird migration is most active in May, and visitors spend no less than CDN$ 3.8 million in this national park during that month. The main spending categories of park visitors are: 27.2% on travel/transportation, 26.3% on food and 22.5% on accommodation. On average, day visitors spend CDN$ 54 at the park, and those staying for two to three days spend, on average, CDN$ 74.

Sustainable tourism is an essential component and a landmark of successful national parks worldwide. The national park label is an increasingly recognised brand and additional attraction for tourists across the globe, generating revenues for protected area management and also for the local communities surrounding them.

# 10. Conclusions

The Vjosa River Valley is listed in the draft version of the document “Decision on the Approval of Protected Area Boundaries” as the proposed future managed nature reserve/nature park (equivalent to IUCN PA category IV) from the Greek border to the Adriatic Sea; the proposed protected area includes only the main river, but not the tributaries. EcoAlbania has submitted a proposal to establish a national park (equivalent to IUCN PA category II) covering the entire Vjosa River and all its major tributaries.

This study is a contribution to the process of protecting the Vjosa River Valley, coordinated by the Ministry of Tourism and Environment of Albania and National Agency of Protected Areas (NAPA), from the perspective of the IUCN Protected Area Standards. It considers both the physical and ecological characteristics of the area, and the management objectives and appropriate protection regimes arising from the Albanian system of protected area categories, to ensure the long-term protection of the ecological character and biodiversity of the Vjosa River Valley.

1. The nationally, regionally and globally significant native biodiversity and outstanding scenic values of the Vjosa River Valley are the result of undisturbed river hydromorphology and fully functioning natural processes, which need to be protected along the entire Vjosa River and its main tributaries: any change in water volumes and sediment transport would dramatically alter the last river ecosystem of its kind in the Balkans and on a wider European scale, and disrupt the migration route of globally endangered fish species.

2. The protection of the existing natural phenomena and features, together with the rich cultural heritage, should be based on the establishment of a protected area, where the core protection sub-zone should be concentrated along the narrow riverbed (wider only in the middle section of the Vjosa River) and its tributaries and the brackish, coastal Narta Lagoon. Protection of the narrow watercourse must be secured along the entire course of the river in order to achieve basic protection of the “continuity” of the watercourse and sediment transport, since any potential disturbance along the course can have upstream and downstream effects. It should be noted that the strict protection of the narrow riverbed includes only those areas that are predominantly not used or exploited by humans.

3. The concept of protecting the wild river and its tributaries is based on strict protection of the entire narrow riverbed of the rivers, while allowing existing traditional land use activities (such as agriculture and grazing) to continue if managed for subsistence use and not on an industrial scale, with the possibility of developing the entire Vjosa River Valley as an excellent area for green, cultural and recreational tourism.

4. Although the brackish Narta Lagoon is not directly connected to the freshwater river ecosystem of the River Vjosa estuary in an ecological context, it is of significant conservation value at the national and global scales, and should be part of the Vjosa River Valley protected area.

5. The Vjosa River Valley meets the IUCN definition of a protected area, as evidenced by compliance with the common objectives for protected areas derived from the IUCN protected area definition.

6. Management objectives for the Vjosa River Valley have been defined for the three main sections of the river;
   - the upper section, characterised by a number of natural and cultural features and representing an undisturbed **natural ecosystem**,

- the middle section, characterised by a unique broad **natural ecosystem** in dynamic equilibrium, with several parallel streams and gravel bars with pioneer vegetation, and
- the lower section, with the river stream retaining its natural character with occasional flooding, and the adjacent large coastal lagoon located within the more intensively managed **landscape**.

7. The following points were considered in proposing the most appropriate protected area categories/models for the Vjosa River Valley:
   - the physical and ecological characteristics of the three main sections of the Vjosa River Valley (upper, middle and lower sections);
   - the description of the protected area categories in the Albanian system of nature protection;
   - the concept of zoning within protected areas, as described in Act 81/2017.

Pursuant to Article 13 of the Protected Areas Act (81/2017), zones within a national park, managed nature reserve and protected landscape, are defined as follows:

- Core sub-zone
- Traditional and sustainable use sub-zone
- Recreational purposes sub-zone
- Buffer sub-zone
- Heritage and cultural landscape sub-zone

Due to the specifics of the proposed protected area Vjosa River valley, with its exceptional longitudinal extent, the **Core Sub-zone is designated as Zone 1**, while the **Traditional and sustainable use sub-zone and the Recreational sub-zone have been designated as Zone 2** of the protected area.

**Special protection regimes, defined as Level A and Level B, can be applied in the core zone** of the conservation area.

The heritage and cultural landscape sub-zone could be established once the protection regimes are defined, as these zones represent only certain smaller areas.

The buffer zone to the proposed protected area Vjosa River Valley should be defined outside the boundaries of the protected area.

8. Three protected area models have been proposed:

# MODEL 1: NATIONAL PARK (upper and middle section) + PROTECTED LANDSCAPE (lower section)

The first option, effective both in terms of ensuring adequate protection of natural ecosystems and native biodiversity and in terms of creating a new development option for the Vjosa area based on green and cultural tourism, is the establishment of the **national park in combination with the existing protected landscape park** in the lower area: the core zone of the national park (Zone 1) should be established along the upper and middle narrow riverbed sections of the Vjosa River and its tributaries. In this core zone of the national park, zoning model level A should be applied.

The lower section of the Vjosa River and the Narta Lagoon should be part of the landscape park, where the zoning model level B (as described in the national protected area legislation, Act 81/2017) should be applied.

In the zones along the core zone (i.e., in Zone 2 of the national park), the traditional activities of the local population should be maintained.

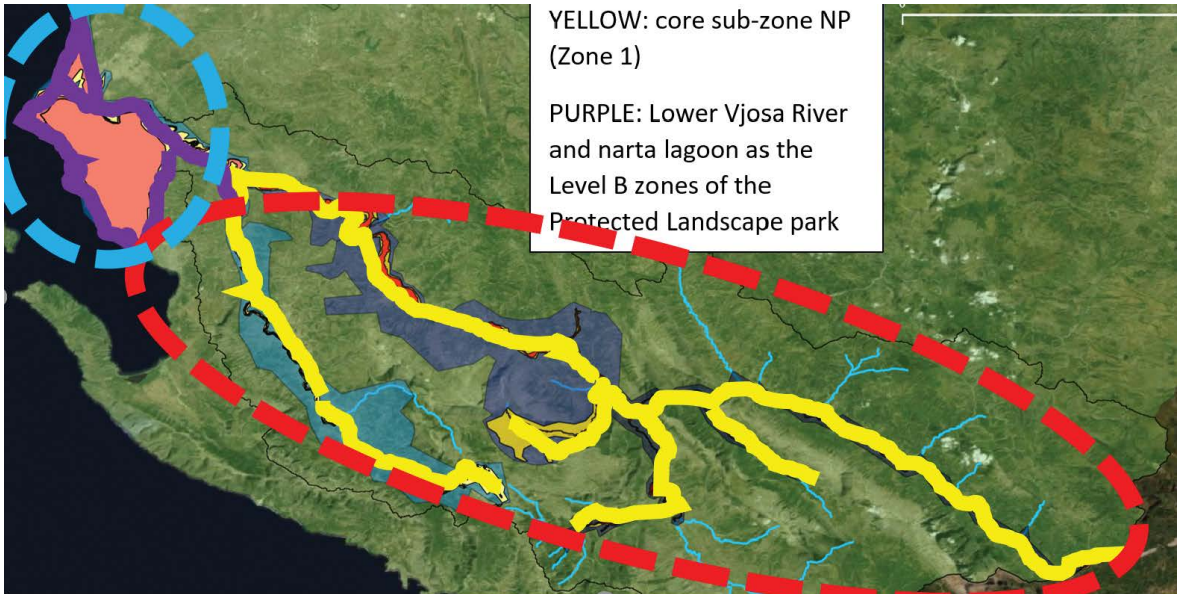



**Figure 8.** Model 1- National park in the upper and the middle part of the Vjosa River Valley and protected landscape for the lower section of the Vjosa River.

RED: National park
YELLOW: core zone - Zone 1 of the national park;
BLUE: Protected Landscape, zoning: Level B for the Narta Lagoon and lower section of the Vjosa River
Map compiled by the report author.

# MODEL 2: NATIONAL PARK ALONG ALL THREE SECTIONS, but with different zoning for the upper + middle and for lower section

(b) The second option is to list the **entire narrow riverbed of the Vjosa River and its tributaries within the national park, but under different zoning concepts**, where the middle and upper sections are part of the national park core sub-zone (Zone 1), while the lower section is in the Traditional and sustainable use sub-zone of the national park (Zone 2). The **Narta Lagoon** would also be **part of the national park** (Zone 2), but is listed as a Recreation sub-zone.

Zone 2 of the national park, which is composed of the Traditional and sustainable use sub-zone and the Recreation sub-zone, should be designated along the core sub-zone along the entire course of the river. In these sub-zones, the traditional activities of the local population should be maintained.

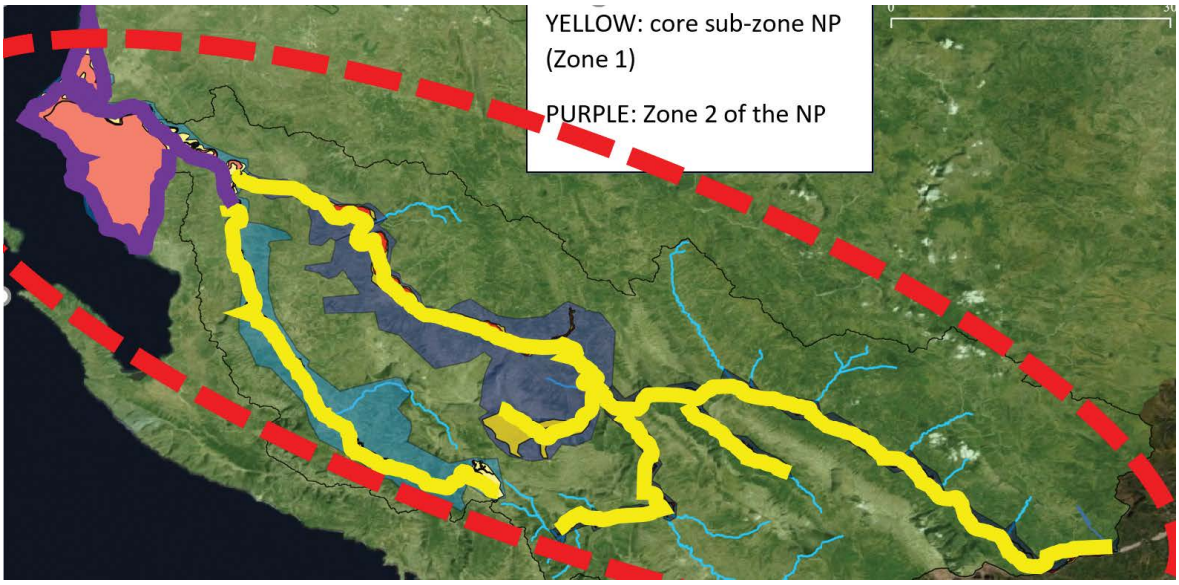



**Figure 9.** Model 2 - Entire river Vjosa River and its tributaries as a national park.
A different zoning concept is applied (upper and middle part: national park core sub-zone (Zone 1); lower part: national park core sub-zone; (Zone 2))
RED: National park
YELLOW: National park core sub-zone (Zone 1)
PURPLE: National park core sub-zone (Zone 2)
Map compiled by the report author.

# MODEL 3: NATURAL MONUMENT (for the upper section) + NATIONAL PARK (for the middle section) + NATIONAL PARK (Zone 2)/LANDSCAPE PARK (protection level B) for the lower part

This model is the same as Models 1 and 2 for the middle and lower sections, but allows for consideration of the establishment of a natural monument in the upper section of the Vjosa River Valley.

1. In all the protection proposals presented above, the buffer zone for the protected area Vjosa River should follow the model of the "national park region" used in some EU countries (Italy, Austria) where the area in the buffer zone provides logistical support and infrastructure for the national park, and where local communities benefit from the protected area by developing tourism, traditional food production and other services used by visitors to the protected area. Heritage and cultural landscape sub-zones should include cultural heritage and monuments within other zones of the proposed protected area. The buffer zone is not intended to be part of the protected area.
2. River and freshwater protected areas must be tailored to fully address the challenges of water abstraction, pollution, cumulative threats and lack of ecosystem connectivity.
3. Threats such as large-scale changes to upstream water regimes (e.g., construction of the large water reservoir) may simply negate the benefits of downstream protected status and contribute to further declines, despite good intentions. Conversely, large scale/industrial gravel extraction or disruptions in sediment transport caused by a large reservoir could lead to increased erosion of the coastal area, but could also affect the upstream water regime and reduce migration routes for different species. Proposed airport development along the Narta Lagoon should be carefully reconsidered, as this area is home to bird species of considerable size (pelicans, flamingos, waterfowl) and birds that fly in large flocks (several wader species), and as such, the likelihood of these birds colliding with aircraft is high.
4. The area proposed for protection is large, especially in the longitudinal profile, so a phased approach by sections of the Vjosa River and its tributaries should be considered where protection status is to be achieved, where protection should first be secured for the most valuable sections.

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