



**Vjosa Wild River National Park
A Management Plan
2024-2033
V 1.0 of the Draft**

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With contributions from other experts (see Introduction)

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Submitted to the Project Coordinators

Disclaimer: The management plan was elaborated by E.C.O. Institute of Ecology, a private consultancy company based in Austria. It incorporates a wide range of studies, inputs of various stakeholders and reflects the current state of knowledge. The authors considered all inputs and feedback to the best possible way. Due to the extremely ambitious timeframe of 6 months for elaboration and the dependency on other study results and decisions delivered shortly before submission, the draft at hand has not yet been fully validated with all stakeholders. Certain parts have been contributed by those listed in the description of the working group.

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Abbreviations

AMBU	Agency for Water Resources Management
ASIG	State Authority for Geospatial Information
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DCM (VKM)	Decision of the Council of Ministers
DGFP	Directorate General of Forest and Pastures
EU	European Union
EUNIS	European Nature Information System
GNSP	General National Spatial Plan
HPP	Hydropower Plant
IBA	Important Bird Area
IMP	Integrated Management Plan
IPA	Instrument for Pre-accession Assistance
IUCN	International Union for the Conservation of Nature
JAXA	Japan Aerospace Exploration Agency
LGP	Local General Plan
MAB	Man and the Biosphere (Program of UNESCO)
MAP	Medicinal and Aromatic Plants
MC	Management Committee
MoFE	Ministry of Finance and Economy
MoTE	Ministry of Tourism and Environment
MP	Management Plan
NAPA	National Agency on Protected Areas
NBSAP	National Biodiversity Strategies and Action Plan
NSDI	National Strategy for Development and Integration
NGO	Non-Governmental Organization
NP	National Park
NPAO	National Park Administration Office
NSWP	National Sector Water Plan
PA	Protected Area
PAA	Protected Area Authority
PAMP	Protected Area Management Plan
PBC	Project Based Costs
RAPA	Regional Agency on Protected Areas
RBMP	River Basin Management Plan
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
VWRNP	Vjosa Wild River National Park
WCPA	World Commission on Protected Areas
WFD	Water Framework Directive

Introduction (MP)

Vjosa Wild River National Park (VWNRP) is the latest national park of Albania. It protects more than 400 km length of Vjosa River and its tributaries Drino, Bënça and Shushica and its aquatic, riverine and terrestrial habitats on a total area of 12,727 ha. The Declaration of one of the last free-flowing rivers in Europe from the Adriatic Sea till the boundary to Greece is one of the major conservation successes in Europe of the recent years.

Following the formal declaration in March 2023 (VKM/DCM 155/2023), the process of development of a management plan to manage and develop the area was started.

Presentation of the working group

VWNRP management plan was prepared by a core team of technical experts from E.C.O. Institute of Ecology (Austria) in close collaboration with the National Agency of Protected Areas (NAPA) and IUCN. In parallel – and in collaboration – (inter)national experts prepared supplementary studies and other elements of the Integrated Management Plan (Part B-E).

Additional experts, stakeholders, and authorities as well as a core working group holding bi-weekly meetings, contributed to the preparation of the management plan through discussions, feedback, meetings, workshops, and complimentary analyses to the preparation of the management plan.

The management plan was coordinated, prepared, and drafted by the following consultants:

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- Blerina Ago (ActiveAlbania)
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In parallel, a working group prepared an interpretation plan:

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- Thiago Beraldo (IUCN WCPA Tourism and Protected Areas Specialist Group)

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- Simon Battisti
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- Olsi Nika & Besjana Guri (EcoAlbania)
- Aleko Miho (University of Tirana)
- Arduen Karagozi (AMBU)
- Adelina Greca (National Agency for Territorial Planning)
- Sofjan Jaupaj (Director General for Economic Affairs and Support Services at Ministry of Tourism and Environment)
- Klodiana Marika (Ministry of Tourism and Environment)
- Ronny Dobbelsteijn (GIS expert)
- Interested stakeholders and representatives of the municipalities of Përmet, Tepelenë, Gjirokastër, Belsh, Vlorë, Këlcyrë, Memaliaj, Selenicë, Fier, Mallakastër, Himarë, Dropull, Libohovë

In addition, the team was supported by a financial team (Emma Crasnier, Patagonia, Ina Janushi, Urban Research Institute Albania) and by a fundraising team (Chus de la Fuente, Patrice Santos, Stone-Soup).

Description of the drafting of the management plan

The elaboration of the management plan started in June 2023, three months after the Declaration of VWRNP. It directly builds on the results and reports of the feasibility study (Greca and Sovinc, 2022) which were elaborated as a basis for the formal declaration of VWRNP.

The technical working group held bi-weekly update meetings from June 2023 until December 2023 to discuss upcoming issues, to coordinate activities and to align contents.

In June 2023, a first major field visit with international experts, responsible for the management plan, the tourism master plan and the interpretation plan took place. During a second major field visit in September 2023, the team inspected situation on site and interacted with municipal and national stakeholders. In September four regional workshops were held (in Tepelenë, Përmet, Gjirokastër and Vlorë). In parallel, several thematic online meetings were held with AMBU, the National Territorial Planning Agency, NGOs, the University of Tirana as well as with NAPA.

In August 2023, the initial chapters were submitted for comments and reviewed by NAPA and the technical working group. In parallel, a comprehensive proposition for allowed and non-allowed activities per zone was elaborated. These regulations were intensively discussed and validated with stakeholders during the stakeholder workshop in September 2023, with the technical working group and individual stakeholders. The table of objectives and actions, the core of the management plan, was elaborated in an ongoing process from June to October 2023 with feedback and inputs from the technical working group, representatives of science and research, NGOs, and various stakeholders.

The proposed regulations as well as the table of objectives and actions were endorsed by NAPA and the Ministry of Tourism and Environment during the final discussion and presentation held online on November 10, 2023.

The model of management and governance was subject to ongoing discussions and negotiations and was not yet fully finalized in March 2023. Thus, the chapter on management reflects the status of discussion as of March 2024.

Description of the structure of the plan

The structure of the management plan at hand follows the structure as prescribed by the Order of the Minister of Environment no. 148, dated 21.02.2013 “On the approval of the standardized structure of the Management Plan of the environmentally protected area”. It consists of seven chapters.

Chapter 1 provides an overall description of VWRNP including the location (Chapter 1.1.), its legal status (Chapter 1.2.). It also summarizes the relevant policies and legislation as well as relevant international obligations and policies (Chapter 1.3.). Furthermore, this chapter provides a description of the major interest groups (Chapter 1.4.), a detailed description of the natural setting (Chapter 1.5), a description of the current protected area including current uses (Chapter 1.6) and the socio-economic system (Chapter 1.7.). It is concluded by a description of the current governing and management structure (Chapter 1.8) and the cultural landscape and heritage (Chapter 1.9). Thus, Chapter 1 describes in detail the current situation and status quo and outlines the overall natural, legal, socio-economic, and managerial context of VWRNP.

Chapter 2 provides an assessment of VWRNP and the institutional framework. Chapter 2.1. describes in detail the main values of VWRNP including ecological values (Chapter 2.1.1.), socio-economic values (Chapter 2.1.2.) and cultural values (Chapter 2.1.3.). In Chapter 2.2. (Evaluation of the institutional framework) the challenges and context of the current governing and management structure are analyzed indicating strengths and weaknesses of the current structure. Chapter 2.3 takes up the values as described in Chapter 2.1. and analyzes in detail the existing threats to these values.

Chapter 3 (Protected area management) describes the main vision and objectives for VWRNP (Chapter 3.1.) and outlines in detail the management areas and related regulations and limitations (Chapter 3.2.). Chapter 3.3. provides an overview of the management actions needed to reach the objectives as identified in Chapter 3.1. and further breaks them down into an action plan (Chapter 3.4).

Chapter 4 describes the related financial plan.

Chapter 5 (Management, Monitoring and Evaluation) describes the management governance system and elaborates how this management will be implemented (Chapter 5.1.). It proposes how and when the plan should be implemented. It also provides management indicators to be used to monitor progress and to evaluate the implementation of the plan (Chapter 5.2.).

Chapter 6 provides a list of references used to prepare this management plan.

Chapter 7 (Annex) lists supplementary information such as the list of stakeholders (Chapter 7.1.), overview of protected natural sites (Chapter 7.2.) and cultural sites (Chapter 7.3.) in the Vjosa river basin and the full planning matrix and action plan (Objectives, actions, action plan, indicators, baseline and target values (Chapter 7.4)

Explanations for plan recipients

As per Art 43 (2) of the Law on Protected Areas elements of the management plan can be realized by any legal person, public or private as well as civil society. However, NAPA/RAPA being the main responsible body for implementation of the management plan, are the main target group and the corresponding protected area authority. This also incorporates the VWRNP Foundation envisaged to be established. The nature of the plan and the included actions takes this into account and indicates the responsibility for individual actions.

The plan provides information for all persons and institutions living or working in the wider Vjosa valley or in charge of managing aspects of the Vjosa Valley. It describes the characteristics of VWRNP and Vjosa valley, relevant challenges, and the objectives of VWRNP. It also serves to inform interested stakeholders and other authorities regarding regulations, allowed or prohibited uses.

Through a comprehensive list of necessary actions to be taken up, it also assists the protected area management and the Foundation in developing annual working plans and to actively fundraise.

It also may serve interested stakeholders (such as NGOs or research organizations) to take up and push certain topics.

The plan follows a stringent logic with an overall vision, thematic mission statements, long-term and short-term objectives, and related actions (see Figure 1).

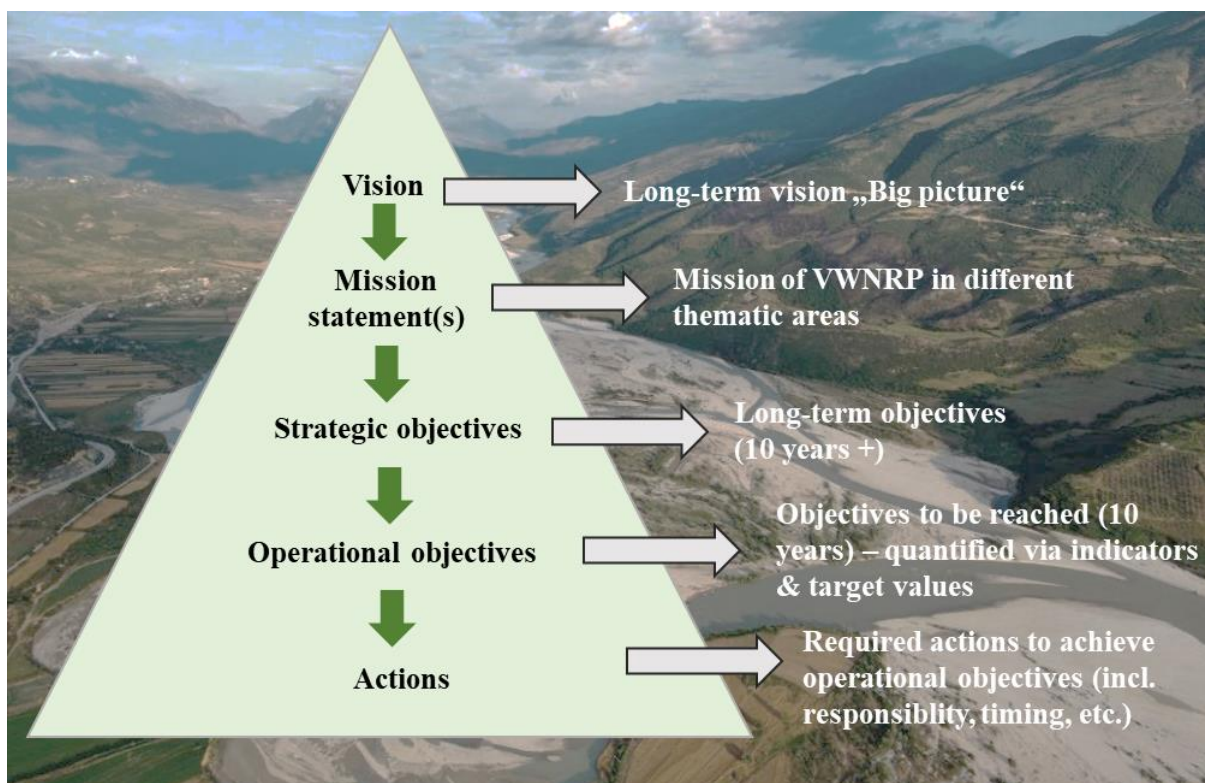


Figure 1: Logic of the management plan

Purpose of the plan

As per Art 43 (1) of the Law on Protected Areas the management plan is the main document for managing the protected area and for specifying in detail appropriate and prohibited uses (Article 42 (5)).

It summarizes the status quo as of 2024 and provides a detailed overview of the current situation, deducts values and threats to determine (development and protection) objectives and related actions.

Thus, the main purpose of this plan is to provide orientation not only for NAPA as implementing and responsible institution but also for all other institutions which are working, planning, and implementing actions in the VWRNP surrounding, for local stakeholders and NGOs.

The comprehensive list of actions indicates a wide range of actions needed for the successful management of VWRNP and the long-term conservation of the Vjosa River and its ecological values. Thus, it strives also to be used to inspire NGOs, municipalities, and donors to address crucial issues. Even this comprehensive list cannot be complete as it is likely that further action needs may appear. VWRNP is a recently established new national park and this management plan is considered a starting point guiding the initial development over the first 10 years.

Duration and planning

The management plan at hand covers the period from 2024-2033 (10 years). As it was elaborated immediately after the Declaration of VWRNP in March 2023, it covers the initial years of establishing the structures and processes necessary to manage VWRNP as an IUCN Category II National Park.

Due to this fact, a mid-term review after five years (2028/29) is highly recommended to evaluate and adjust the implementation of this plan. It is expected that there will be more clarity and dynamic development during the first years of operation requiring adjustments after five years.

The planning is based on the principles of strategic planning including long-term (strategic) objectives, operational objectives for the first 10 years and related necessary actions. All actions have a rough time schedule but according to annual operational planning these can be implemented earlier or later.

Summary

General information and description of the protected area

The Vjosa River, the second largest river in Albania and its surrounding valley are one of the most magnificent riparian ecosystems in the Balkans, exceptional for their natural hydro-morphodynamic fluvial processes. The untouched condition of the Vjosa catchment, characterized by its unobstructed fluvial morphology, continuity of water flow and sediment transport processes as well as related immense biodiversity are outstanding. Vjosa and its tributaries form a functioning natural ecosystem.

The transboundary catchment of Vjosa covers approximately 6,800 km² (4,540 km² in Albania), and the river flows in a SE-NW direction over a length of 272 km (thereof 190 km in Albania) from the Pindus Mountain Range in Greece to the Vjosa Delta, and then the Adriatic Sea. The Vjosa river catchment in Albania crosses into the districts of Gjirokastra, Vlorë, Fier, Korça, and Berat.

The river extends into 13 of Albania's 61 municipalities, located in three regions with more than 130,000 inhabitants (4.6% of Albania's total population) in Southern Albania. The entire Vjosa's basin, since the earliest times, has constituted a very suitable liveable area and is probably the region in Albania with the highest density of cultural heritage sites, of all ages and types.

The population density is lower than the Albanian average and with a decreasing demographic trend. More than 80% of people live in rural areas and the majority lives in the lower section of Vjosa. The main socio-economic activities in this area are agriculture, animal husbandry, light processing industry and tourism. Only 23% of the basin area is agricultural land and only 22 % are forested. A key industry that has experienced extremely rapid growth in recent years is tourism, next to major attractions such as the city of Gjirokastra, particularly rafting in the surrounding of Përmet is constantly increasing.

Vjosa Wild River National Park

The Vjosa Wild River National Park (VWRNP) was established by DCM no. 153 on the 13th of March 2023 as an IUCN Category II (National Park) with the main objective to protect the natural dynamics of river Vjosa from the Greek border, passing through the regions Korçë, Gjirokastër, Vlorë and Fier and eventually ending at the delta area at the Adriatic Sea. The national park comprises the main river Vjosa and three free-flowing tributaries (Drino with Kardhiq, Bënça and Shushica). The source of the Vjosa river is in Greece and protected as Vikos-Aaos National Park. Before entering Albanian territory, the river is called Aaos and currently not part of a transnational protected area.

The VWRNP covers a total area of 12,727 ha, consisting mainly of water surfaces (47.3 %), coastal areas and floodplains (36.1 %), land areas (9.5 %) and river terraces (7.1 %). It protects around 400 km of free-flowing river and the immediate surrounding (such as floodplains, riparian habitats). 11,822 ha (92.9%) of the total surface are strictly protected (Central Sub-Zone). This zone particularly covers the active channel as well as low laying active floodplain and riparian habitats, river belts, canyon slopes and erosive escarpments. 7.1% of VWRNP are established as Sustainable Development Sub-Zone (including forests, agricultural land, and pastures), where traditional activities (low impact activities) can still be carried out (second

degree of protection). For both zones, the Albanian Law on Protected Areas defines allowed and not allowed activities.

There is currently no buffer zone defined according to the DCM for the declaration of the VWRNP or the Law on Protected Areas. Still, a buffer function is crucial to ensure the proper protection of the river especially from threats having their source outside of the VWRNP. As VWRNP comprises mainly the river and its floodplains, and at some points not even reaches a hundred meter of width, the type of use of the adjacent land is crucial to ensure a buffer function and therefore raising the protection of the river. The adjacent land is not an official part of the VWRNP but still the PA authority can influence the development of it by cooperating with other sectors, private landowners/users, and municipalities to ensure protection of it.

Management of VWRNP

NAPA and the RAPAs Fier, Vlorë and Gjirokastrë are the responsible authorities for the management of Vjosa Wild River National Park. However, a specific park authority under NAPA – in close collaboration with a newly created Vjosa WNRPF Foundation – will take over the management of VWRNP in future.

Values and threats

Main value: Natural river dynamics

The corridor of the Vjosa River valley and its surrounding habitats are characterized by high spatial and temporal heterogeneity, continuous habitat change, and vast biotic heritage. The key to the exceptional biodiversity of Vjosa is in its hydro-morphological dynamics, particularly the longitudinal continuity of the water flow (“the natural flow regime”), which remains undisturbed throughout the length of the river representing the main value of VWRNP. The flooding and high sediment transport creates a continued turnover of the landscape. The mosaic structure of floodplain rivers, characterized by a dynamic equilibrium of different habitats responding to water level fluctuations, provides the habitat conditions for a highly specific and diverse biodiversity.

These unique river dynamics, which have remained largely intact in the catchment area, contribute to creating well-adapted biota with very high biodiversity. However, this diversity is vulnerable to changes in the river dynamics. In particular, the terrestrial species of highly dynamic riverine systems are exceptionally sensitive to hydro-morphological changes in discharge, flow regime and sediment budget. Any impacts on these parameters may lead to the decrease or extinction of these highly vulnerable taxa found in Vjosa. This breadth of diversity of species in the Vjosa valley, expressed in the river's natural features, can no longer be found in any other Central European country.

With its largely unobstructed fluvial morphology, longitudinal continuity in water flow, and sediment transport processes from its headwaters to the Adriatic Sea, Vjosa represents a key reference system for dynamic floodplains already lost across Central Europe. As one of the last intact river systems in Europe, Vjosa is a sanctuary for numerous species lost or endangered across the rest of the Continent.

High biodiversity value

Vjosa and its surrounding habitats are of remarkably high conservation value for several interconnected reasons. The mosaic of various habitat types forms a highly dynamic natural river ecosystem of a scale unique in Europe. These habitats harbor viable communities of

animals that have significantly or entirely disappeared from other European rivers. Many of these communities are strongly dependent on the highly dynamic river system.

To date, a total of 1,687 species, thereof 1,034 animals and 653 plants) have been documented in the Vjosa River Basin including 340 arthropods, 157 birds, 37 fish, 24 mammals, 109 mollusks, 19 reptiles, 9 amphibians, 299 vascular plants, and 354 non-vascular plants. Of all the 1,687 species documented so far, 39 of them are on the IUCN Red List and 119 on the Red List of Albania. No less than 15 species of the IUCN Red List and 74 species of the National Red List are classified as "at risk". This only represents the number of species which were assessed on a few stretches or anecdotal studies along the river, mostly during the past six years. Scientists estimate that the current numbers may represent only as little as 5-10% of the total number of species occurring and future research may increase this numbers substantially.

Socio-economic and cultural values

VWRNP protects one of the main lifelines in Southern Albania. The low population density, its rural aspect characterized by small urban centers, traditional agriculture, livestock keeping, and basic industry have had a limited influence on the natural state and biodiversity of the Vjosa. Still the river plays and has always played a role in the lives of residents through manifold uses such as representing a source of water or of raw materials both for domestic, agricultural, and economic uses.

The watershed feeds significant groundwater resources. The aquifers are important for water provision for all major settlements in the basin such as Fier, Vlorë, Saranda, Butrint or Gjirokastra. Tens of natural springs are partly used such as for drinking water supply. In some areas, the water is also used for aquaculture / fish farming. The basin also has agricultural production which depends on the water of Vjosa for irrigation of agricultural land.

Being a biodiversity hotspot and one of the last remaining free flowing wild rivers of Europe, VWRNP represents an exceptional touristic potential complimenting the cultural touristic offer if developed sustainably. Some sections of the river are already being used for commercial rafting whereas other touristic options (e.g. birdwatching, hiking) have not yet been fully exploited. The traditional rural aspect, in combination with tremendous cultural heritage and the natural values of the Vjosa River-system makes the area an outstanding tourism destination.

In the Vjosa River Basin, around 380 species of medicinal and aromatic plants were recorded, thereof around 70 species growing near water courses representing an important social-economic value and potential if used sustainably.

Next to the natural heritage, the Vjosa Basin is also particularly rich in cultural heritage. Out of the dozens of cultural monuments, 10 are located directly within the boundaries of VWRNP (particularly bridges, aqueducts, or a thermal bath). The riverine landscape of Vjosa and its tributaries are important landscape-determining elements and thus being key element of the scenery of the cultural monuments.

Threats

Due to the exceptional shape of VWRNP (very long and often narrow), there are numerous and very diverse uses of the river, often having a negative impact on the river. In addition, it needs to be considered that through the free-flowing river not only ecological connectivity is ensured but also the free-flow of pollutants or other substances added to the river. A specific

characteristic of VWRNP is that many of the prevailing threats are originating from outside the national park rather than from within (e.g. pollution, erosion, agriculture etc.).

Whereas there has been no systematic research on threats, this management plan compiled all available information and relied on experiences from other river ecosystems to assess the threat potential of certain activities. However, there are several, outstanding threats to be addressed by the PA authority of VWRNP:

Threats impacting the hydromorphology of the river

The overarching ecological key value of the VWRNP has been defined to be the “dynamic unobstructed free-flowing river with full representation of all features of a natural river (unobstructed fluvial morphology, natural sediment transport processes, longitudinal continuity in water flow). Thus, all threats targeting the river continuum and the free-flowing character of the river are most critical as these have the potential to destroy the ecosystem sustainably. This includes all transverse constructions (such as dams, hydropower plants, bridges with insufficient permeability or massive flood protection measures). In the area of Vjosa, this particularly includes dams for irrigation / water abstraction, but also future flood protection measures that might be proposed within the frame of the flood protection plan to be prepared in 2024.

Preventing river dynamics

Longitudinal constructions and flood protection infrastructure can impact the river dynamics and therefore the values of the river (e.g. free flowing river, meandering of the river, flow rate). The straightening and narrowing of rivers as a safety measure for areas and structures that run along the river, such as flood protection measures or dams to secure roads along the river are preventing the river from meandering, widening, and flowing freely. Currently, flood protection infrastructures are in place on several locations along the Vjosa river, especially in the lower section close to the delta. These are preventing the river dynamics, should be monitored, their efficiency analyzed, and proper alternatives should be found (e.g. bioengineering methods).

Water extraction

Water is diverted and extracted on several locations along the Vjosa river and its tributaries for different purposes: Irrigation of agricultural fields, drinking water or water bottling. It is not known which amount of water is taken from the river, neither during which period the water is taken. The impact of water extraction on the VWRNPs values has not yet been investigated. However, water extraction may degrade the ecosystem, threatening species, and the river dynamics. All water extraction within the VWRNP and its tributaries needs to be mapped, analyzed and its effects need to be monitored. It needs to be ensured that no new diversion channels are built and that no water extraction takes place in the VWRNP and its tributaries. Considering the continuously ongoing water abstraction projects, such massive negative impacts must be strictly avoided. However, given projected increasing water needs due to climate change, agricultural and touristic development may strongly aggravate the situation in future.

Gravel extraction

Inside VWRNP and along the tributaries of Vjosa river, private and commercial gravel extraction is happening without any regulations. Gravel extraction has severe negative effects on the river and negatively impacts not only hydromorphology, but also species, especially the fish population and marine plants. Currently, there are more than 10 active gravel extraction

sites (according to RAPA monitoring information), which are often continuing operations after the expiry of their licenses. It will be crucial to enforce the closure of all gravel extraction sites and to consider alternatives for gravel supply for (public) infrastructure constructions.

Water pollution

The Vjosa river and its tributaries is used for depositing several unfiltered waste products. Unfiltered wastewater from villages, settlements and single buildings is discharged into the river. Additionally, several industrial sites along the river discharge their wastewater as well as the side products of the production process into the river (e.g. bitumen production, oil industry). Fish farms along the river also discharge their wastewater containing nutrients as well as antibiotics used inside the farm. All these activities pollute the water of the river and impact the water quality.

Even though water quality seems to be still widely good, water pollution is reportedly having already an impact on certain parts of the river (e.g. parts of Drino near Gjirokastra and Tepelenë). Nitrophilous algae indicate high nitrogen and phosphorus content originating from untreated urban waters, pollution from agriculture and livestock. Given the dynamic development of the area – if not addressed – the issue may become more serious in future.

Current and future touristic developments

The interest in the country of Albania as a touristic destination and with that the number of tourists has been increasing during the last years. With an increase of nearly 30% within the first ten months of 2023 compared to 2022, expectations are high for the upcoming years. With the international media coverage presenting the new VWRNP, it is to be expected that the visitor numbers will also rise in the surroundings of VWRNP.

Inside the national park, rafting is currently the main activity offered in a professional way to visitors and locals. Several rafting companies organize short trips (about two to three hours) on the Vjosa river, starting in Përmet and ending close to Tepelenë. Currently, there are no regulations in place dealing with a time limit for rafting, entry and exit points, behavior on the river (the companies often take breaks on the gravel banks) or number of boats on the river per day. Additionally, no minimum requirements are in place when it comes to the training of guides, security measures or standards for equipment. Unregulated water sports activities may lead to loss of vegetation, soil compaction, disturbance in the existing water channels and evidence of use. It may lead to displacement or changing spatio-temporal movement patterns of wildlife and affect reproduction success of ground-breeding bird species which has occurred in the region.

There is currently no evidence on the impact of the rafting activities on Vjosa river, but other studies clearly show that unregulated waters sports similarly as wild camping or swimming may have substantial impact. Thus, regulations need to be put in place and a monitoring of impacts and adherence to regulations must be installed.

Climate change

Albania is amongst the countries in South-Eastern Europe which are most vulnerable to climate change. Projections expect a steep decline in precipitation, an increase in natural disasters such as flooding or droughts as well as rising temperatures. This trend has already been observed in the past 20 years.

This may have severe impacts on Vjosa and VWRNP. Rising (water) temperatures may change the ecological conditions (e.g. for certain fish species, algae reproduction) but also on the changes in the annual discharge affecting natural dynamics. At the same time, it is likely that the public demand to use the water for irrigation, livestock or domestic use may strongly increase. In combination with the rapid development, public water needs keep increasing illustrated by continuously ongoing projects. Due to the increased risk of floodings, it is likely that a discussion about massive flood protection measures adjacent to or within VWRNP may emerge and must be addressed.

Limited institutional coordination

Whereas the formal responsibility for the management of VWRNP is clearly regulated, the challenges, values and objectives also require the coordination with other agencies, ministries, and public institutions. To meet the objectives of VWRNP, solutions need to be developed for flood control and management, afforestation outside VWRNP, improved infrastructures for irrigation or wastewater treatment and general uses of water.

This requires a strictly integrated and collaborative management approach involving several ministries and agencies with different mandates, particularly as some objectives require intersectoral cooperation. However, different institutional traditions and organization complicates coordination.

Beyond that, an increased transboundary coordination and collaboration is needed as the springs of Vjosa are in Greece. Any changes in flows or (detrimental) inputs on the Greek side may have direct impacts on the Albanian side. Even though initial steps were set and some parts in Greece are protected, this requires continuous collaboration beyond the current extent.

Insufficient capacities for management, monitoring, and law enforcement

The current organization of protected area management in Albania foresees that regional RAPAs manage several protected areas with limited human and financial resources. Given the length and size of VWRNP, the manifold challenges and ongoing dynamic development, a capable management body needs to be in place to a) keep the overview of ongoing developments, b) to monitor and enforce regulations and c) to react to unforeseen developments. VWRNP is in the making and thus requires a constant build-up of structures, capacities and adequate information of involved institutions, stakeholders, and the local population. The success of the implementation of the management plan and of VWRNP as a Category II National Park strongly depends on the consequent implementation of the proposed and agreed management system for VWRNP.

Activities & Regulation

comprises two zones, the Central Sub-Zone or Core Zone with the strictest protection regime and the Sustainable Development Sub-Zone, where a sustainable development of traditional activities is possible. Several allowed and not allowed activities and uses for these two zones are listed in the Law on Protected Areas.

However, some activities currently happening inside VWRNP are not listed in the law and therefore regulations for those must be developed in the future and set in the DCM according to the amended Law on Protected Areas, Article 74/5 (adopted in March 2024).

For some of the existing activities within VWRNP, this management plan developed specific regulations for their implementation (according to the Law on Protected Areas, Article 16/5) within the borders of the national park and beyond (see chapter 3.2.3).

Apart from the two zones described above, no other zone is existent in or around the VWRNP, also a defined buffer zone is currently not in place. To still ensure a certain buffer function, this management plan also gives recommendations for certain activities and uses outside of the VWRNP boundaries (according to Article 42/3f of the Law on Protected Areas). These recommendations can be found in chapter 3.2.2).

Vision and objectives

The Vjosa River in Albania is one of the last big, wild rivers in Europe. The river and its tributaries flow freely from the mountains in Greece to the Adriatic coast in Albania. VWRNP is made up of an enormous mosaic of different habitat types, from the narrow gorges in the upper part, to the wide braided river sections in the middle part, to the near-natural delta at the Adriatic Sea. However, dynamic developments, numerous threats and its shape pose large challenges for its conservation.

Accordingly, the overarching long-term vision for VWRNP is:

The Vjosa-Aoös River, from its source to the Sea, including all tributaries, is afforded full national and transboundary protection, to the highest international standards, and is effectively conserved as a living, wild, free-flowing river, to the benefit of people and nature in Albania, Greece, and the world.

Consequently, the main and overarching goal is to conserve the ecological integrity, biodiversity, and natural dynamics of the Vjosa. At the same time, the river is the lifeline for adjacent municipalities and local people. Thus, enhancing of local collaboration with the aim to trigger sustainable local development including finding of solutions for the use of natural resources and the development of sustainable tourism are important elements of VWRNP, probably more strongly than in other Category II National Parks in remote sparsely populated areas. Whereas the conservation of natural dynamics and ecological integrity is the primary objective, recreation, experiencing nature, education and sustainable development of surrounding communities are equally important objectives. These elements are also needed to achieve conservation success. All stakeholders are aware that the protection of whole river, crossing through municipalities and through large parts of Albania, is an ambitious and globally new conservation effort. With VWRNP, Albania thus showcases a new type of a Category II National Park.

In a few words, the primary management objective can be summarized as follows:

Protection of natural biodiversity, together with the basic ecological structure and supporting environmental processes in line with IUCN Category II standards, as well as the promotion of recreational and educational activities compatible with the concept of sustainable tourism, and the promotion of the development of local communities.

In line with international standards, management requirements and the vision, the management plan includes 6 different Fields of Action. For all, a mission, strategic and operational objectives as well as actions and indicators are included in this plan. Table 1 gives a summarizing overview of what VWRNP is about:

	Main fields of action	Mission Statement
1	Monitoring, Research & Conservation	The ecological integrity of Vjosa and all its related natural processes, ecological structures and biodiversity values is fully ensured. The natural dynamics provide optimal conditions for the development of species and habitats. Monitoring and research activities provide sufficient data basis for knowledge-based decision-making and ongoing management for effective conservation. All (scientific) information is available to the PA authority of VWRNP, NAPA and interested stakeholders.
2	Education & Visitor Management	VWRNP offers a wide range of recreational and educational activities compatible with the concept of sustainable tourism and meeting IUCN conservation standards. It allows for cultural experiences to connect people with nature and with Albanian culture and enables visitors to experience the natural beauty and biodiversity of VWRNP without causing significant biological or ecological degradation of natural resources.
3	Community & Local Development	Local communities in and around VWRNP thrive and municipalities are enabled to develop their area in a sustainable way and to use natural resources without compromising the national park objectives. Through collaboration and shared responsibility for sustainable local development and conservation as well as through targeted investments in infrastructure, it is ensured that the whole Vjosa valley benefits from VWRNP and there are additional income opportunities for residents. VWRNP contributes thus to the sustainable development of the Vjosa Valley.
4	Law Enforcement & Patrolling	VWRNP staff consistently monitors activities within the VWRNP boundaries with the intention to minimize negative impacts on the park. Through regular patrolling, VWRNP is visible and present in the area.
5	Tourism & Public Relations	VWRNP represents a main attraction for developing sustainable tourism and supports sustainable tourism development through adding specific offers to the touristic portfolio and through supporting local communities in sustainable tourism development. Local communities are proud to be part of the wider VWRNP area and actively benefit from the national park. The conservation and protection work of the VWRNP is also supported financially through tourism revenues.
6	Organization & Coordination	VWRNP has an efficient PA authority in place which is a capable to implementation the management plan. It has secured funding and staffing and is well integrated into regional development processes. The PA authority is a good practice example for Albania and beyond for how to manage a complex national park, even at a transboundary level.

Table 1: Mission statements and main contents per thematic area

For all these areas, in total 20 strategic long-term objectives, 59 operational medium-term objectives and more than 160 individual actions are defined for implementation during the first 10 years of existence.

1. Description of the protected area

1.1. Location

Vjosa Wild River National Park (VWRNP) was established by DCM no. 153 on the 13th of March 2023 according to national law (based on Article 100 of the Constitution and Articles 8 point 2, and 10 of Law No. 81/2017, "On protected areas" as category II of protected areas) and international standards (Category II, IUCN Protected Areas Category System).

VWRNP is in southern Albania, starting at the Greek border, passing through the regions Korçë, Gjirokaštër, Vlorë and Fier and eventually ending at the delta area at the Adriatic Sea. The national park comprises the main river Vjosa and three free-flowing tributaries (Drino with Kardhiq, Bënça and Shushica). The source of the Vjosa river is in Greece and protected as Vikos-Aaos National Park. Before entering Albanian territory, the river is called Aaos and currently not part of a transnational protected area.

Near VWRNP, several other protected areas are located (e. g. National Park Fir of Hotova-Dangëllia, Natural Management Reserve of Bredhi I Kardhiqit - Rrëzomw and several natural monuments). The main cities along the national park are Përmet, Gjirokaštër, Tepelenë and Vlorë.



Figure 2: VWRNP in the southern part of Albania



Figure 3: VWRNP, main cities and municipalities

1.2. Legal status of the Protected Area

VWRNP was established on the 13th of March 2023 by the Decision of Council of Ministers No. 155 based on Article 100 of the Constitution and Articles 8 point 2, and 10 of Law No. 81/2017, “On protected areas”, upon the proposal of the Minister of Tourism and Environment.

It is a category II national park according to national law and international standards by the International Union for Conservation of Nature (IUCN) (Dudley, 2013). According to national legislation, national parks are unique in national and international values, which are preserved and managed for the protection of the ecosystem, species, for education and recreation, which regulate the sustainable human use of natural resources. In national parks, the degree of environmental protection applied aims to keep the territory in a natural state, to preserve biotic communities, genetic resources, and species, to ensure ecological stability and diversity.

VWRNP is designed, governed, and managed to meet the highest international standards for protected and conserved areas, and align with the criteria for an IUCN Protected Area Category II – National Park designation. A protected area assigned IUCN Category II - National Park protects 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 (Dudley, 2013).

IUCN requires that 75% of the land in a park are managed according to the primary management objective, which in the case of the cat. II site meaning that protection of the natural biodiversity and natural processes has the priority against other objectives. In other words, this means management to the highest standard of protection of nature.

1.3. Policies and legislation for protected areas in the country

As VWRNP is one of the first wild river national parks in the world, several national policies and laws deal with its establishment, its protection, and objectives. Additionally, some international policies should be considered.

In some national policies (e.g. National Energy Strategy 2017-2030) the Vjosa river is not considered as protected area but as possible future development area for several uses, not in line with the Albanian Law on Protected Areas (e.g. future development area for hydropower use). It will be an important task for the VWRNP PA authority to ensure the consideration of VWRNP and its objectives and regulations in all national policies.

1.3.1. Legislation

Law No 81/2017 "On protected areas", as amended through Law No.21/2024 in March 2024, includes the declaration, protection, administration, management, and sustainable use of protected areas and their natural-biological resources, based on the principle of sustainability. Protected areas are created for the protection and preservation of biodiversity, landscapes, and natural and cultural heritage, and are managed based on legal instruments, according to management categories.

The Albanian Law in Protected Areas (No.81/2017; Chapter II, section IV) defines eight protected area categories in Albania, referring to the IUCN protected area category system, including National Park, Category II.

The description and objectives of a national park as well as the respective management plan provisions, under Albanian law are given below:

1. A national park shall 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 preservation of the ecosystems and species, and for education and recreation purposes (leisure, entertainment), and which regulate the sustainable use of resources by humans.
2. In the "National Park", with the exception of infrastructure and hospitality activities, with the highest architectural and environmental standards for supporting tourism of excellence (with 5 stars) and supporting infrastructure for them, it is applied the degree of environmental protection of the area that aims to maintain the territory in a natural state, where biotic communities, genetic resources and species are preserved to ensure ecological stability and diversity and where:
 - a. it is not allowed to use or occupy the land for any other reason;
 - 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;
 - c. construction of urban areas, highways, railways, high voltage power lines and long-range oil and gas systems is prohibited;
 - d. alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited;
3. In the National Park, can be carried out permitted activities defined in the DCM declaring the protected area, as well as those specifically allowed by the provisions of the Protected Areas law, which ensure the creation of spiritual, scientific, educational, recreational opportunities for visitors, in accordance with the environmental and cultural requirements, but only after obtaining the approval of the state institutions, which aim:

- a. to conserve the area in its natural state or as near to its natural state as possible;
 - b. to treasure the ecological and geomorphological values, sacred or aesthetic objects, for which the area is taken under protection;
 - c. to take into consideration the local residents' rights, including fishing, grazing, and [securing] the firewood, to the extent that they do not harm other objectives of management.
4. Upon the written and justified proposal of the protected area authority, if not defined as permitted activities or in support of these activities, the NAPA may approve:
 - a. grazing and passing through of livestock, and construction of light or temporary structures to house them;
 - b. putting up stands, signboards, advertisements, signs, and posters;
 - c. sailing boats, canoes, and other means of non motorized sailing, always in cases where such activities do not require prior investments that would affect the amount of water or water streams flowing in the proposed site;
 - d. non-military flights in helicopters, balloons, delta planes, etc.;
 - e. driving and parking vehicles out of the designated roads and areas;
 - f. mountain climbing, skiing, camping, and lighting of fires outside the designated places;
 - g. collecting plants, fruits, seeds, and fungi;
 - h. performing seasonal tourism activities, that do not require the permanent occupation of the land.
 5. When the park management administration notices that the activities defined in point 4 above, violate the purpose for which the area was declared a "National Park", it can restrict or temporarily stop these activities and request from NAPA the final approval for restriction or prohibition of these activities.
 6. Upon the proposal of NAPA, the Minister shall adopt an instruction on procedures for the temporary prohibition of allowed activities where the purpose for which the area was declared protected, is violated.
 7. The objectives and provisions of the management plans of protected areas shall be considered while drafting policies, related sectoral plans and programs and shall be integrated into the national, regional, and local decision-making process affecting the protected areas.
 8. The management plan, drafted in accordance with the Minister's instructions about its content, shall at least include:
 - a. the management objectives of the protected area;
 - b. mechanisms and governing authority;
 - c. processes and categories of activities that are threatening to the protected area, including the surrounding areas;
 - d. regulatory or administrative measures necessary to avoid or mitigate the identified threats;
 - e. activities allowed within the protected area;
 - f. appropriate activities for the surrounding areas, including those in the buffer zones and beyond;
 - g. conditions for the development of other services;
 - h. information on previous land ownership and rights to use elements of the biological diversity within it, including traditional lifestyle practices of the local community;
 - i. conditions to develop traditional subsistence activities, of the area or of the elements of biological diversity within it, provided they do not contradict the management objectives of the protected area;

- j. conditions to share the benefits from the designation and management of the protected area, particularly with local communities and populations;
 - k. conditions for scientific research, inventory and monitoring;
 - l. financial resources, including those that generate income;
 - m. measures for informing the general public and ensuring participation in the management of the area;
 - n. other special conditions for the area.
9. The National Council of the Territory, when examining specific requests for development/construction permits, adopts through special regulations the rules and technical criteria for the development of the main and the supporting infrastructure of the allowed/permitted activities.

Spatial and territorial planning is governed by **Law No 107/2014 "On territorial planning and development."**, as amended in 2015, 2017, 2019 and 2020. At national level, the main plan in terms of spatial planning instruments is the General National Spatial Plan, Albania 2030 (GNSP), including the Urban Metabolism of Albania, which is supported by sectoral plans and detailed plans of areas of national importance. GNSP is instrumental in supporting and strengthening the importance of areas of national interest, expanding the declared areas for their protection, as well as in proposing other areas that should be protected based on the procedures defined in the legislation. In the GNSP, VWRNP is identified as the new potential green corridor.

The management and protection of water resources are regulated by Framework **Law No. 111/2012 "Law on Integrated Water Management"**, amended by Law No. 6/2018. The law provides for a governance system for the water sector, in which the National Water Council, chaired by the Prime Minister, is the highest body.

Law No. 9817 date 22.10.2007 "On agriculture and rural development" defines the objectives of agricultural policies and rural development programs. Furthermore, it sets out rules on agricultural public services, research, and training. It consists of the following Chapters: (I) General provisions; (II) Programming, implementation and financing of agricultural and rural development policies; (III) Measures on agricultural policies; (IV) Measures on rural development policies; (V) Institutional framework; (VI) Databases and information systems; (VII) Producers' organizations; (VIII) Public services in agriculture and rural development; (IX) Support for research, education and training; (X) Offences and penalties; (XI) Final provisions.

Law No. 10431 of 09.06.2011 "On Environmental Protection" as amended in 2013 and 2020, determines the general principles, requirements, responsibilities, rules, and procedures for guaranteeing a high level of environmental protection and sets forth key environmental principles, such as sustainable development, prevention, preservation of natural resources, and the Polluter pays principle. It emphasizes the need for an integrated approach to protecting all elements of the environment, including air, water, land, biodiversity, and climate change.

Law No. 9587 of 20.07.2006 "On Biodiversity Protection", as amended in 2013, 2014 and 2020) established the legal basis for the conservation and sustainable use of biodiversity and for achieving targets, of the Convention on Biological Diversity. It aims to protect biodiversity through sustainable use, conservation of ecosystems, species protection, and regulation on genetic resources and invasive species. It includes provisions on state institutions involved, planning tools, and emphasizes public participation, as well as provides for the obligation of

the Ministry of Environment that in the framework of Natura 2000 to prepare every six years the report on the implementation of the protecting measures, including the conservation measures, the evaluation of their influence on the conservation of the species and of the natural habitats, plants and animals, as well as the main results achieved.

Law No. 10006, of 23.10.2008 “On the Protection and Conservation of Wild Fauna”, as amended in 2009, 2013 and 2019. This law aims to conserve wild fauna, manage, and control it, ensuring the survival of species, populations, and their habitats, and meet their needs for food, shelter, and reproduction, while also facilitating their migration routes. It emphasizes the national heritage status of wild fauna in Albania, its legal administration and protection in line with international conventions. The law seeks to preserve or restore in favorable conditions the habitats and species of wild fauna of interest to the European Community, assess and monitor biodiversity conditions and establish a legal and institutional framework for the sustainable use of natural resources.

The Parliament of Albania, upon proposal of the Council of Ministers, with Law No.102 of 21.12.2023, approved the that the Republic of Albania adheres to the International Union for Conservation of Nature (IUCN), and its statutes.

1.3.2. Policies on national level

The **General National Spatial Plan Albania 2030**, the document at the highest level of the planning hierarchy, emphasizes the need for increasing natural areas through the expansion of protected areas and natural connecting corridors along river valleys and, in pursuit of this goal, recommends the inclusion of “The Park of Vjosa” in a system of national parks (p.91). As part of the nationally significant areas, VWRNP is defined as a potential tourism development area. The GNSP until 2030 foresees that the river valley should be a tourist attraction and a biodiversity attraction, according to the regional and local management plan (NTPA, 2016).

At a strategic level, the previous **National Strategy for Development and Integration (NSDI)** (2022-2030), adopted through DCM no.88 of 22 February 2023 identified several challenges as follows:

Relevant Challenges identified by the NDSI 2022 - 2030:

Related to environment and nature protection:

With the increase in protected areas, in accordance with the global objectives "post 2020" as well as their integrated management in accordance with the best international standards, they face the challenges related to:

- Insufficient capacities of human resources for the management and field monitoring of these surfaces;
- The need for the management of protected areas, relying not only on national/local capacities, but also as an added value of local actors (central bodies, civil society, private businesses, interest groups, etc.);
- Involvement of local communities in the management process, enabling the promotion of local products;
- The inclusion of protected areas in the economic development of the country;
- Establishment of ecotourism packages of protected areas as tourist destinations, positively influencing the increase in the number of tourists and the country's economy;

Related to water resources management:

The challenge of water management for the environment is to balance the need for different ecosystems with the needs of other water users. Protected areas are of great ecological importance for the country. These areas are under increasing threat due to population migration, increasing demand for industrialization, coupled with increased pollution, habitat fragmentation, biodiversity loss and general environmental destruction.

Related to tourism development:

High seasonality, inadequate access, and connectivity to relevant cultural, natural, faith heritage sites, limited infrastructure access to the sites, lack of signage and in overall of tourist information, poor planning of public services, low penetration, lack of digitalization of urban transport and insufficient use of digital technologies.

Relevant strategic goals, as identified by the NSDI 2022 - 2030 draft:**For nature and environment protection:**

Environmental protection is one of the priority sectors identified in the government's program for the next decade. The environmental subfields contribute to the achievement of the major objectives of this sector.

Review and update of the Biodiversity Strategy and Action Plan for the period up to 2030 and alignment with the legislation of the European Union, mainly referring to the Directives for Habitats and Birds.

Further strengthening of capacities at the national and local level for the practical implementation of the updated legal framework and for the process of setting up the Natura 2000 network in the country, including the strengthening of the National Agency of Protected Areas.

The development of the tourism sector and the realization of important infrastructure works in the country will always take into consideration sustainable development, the protection of natural values and biodiversity, as well as public participation in decision-making.

For the sustainable use of natural resources, special emphasis should be placed on the sustainable management of the national forest and pasture fund as an important resource, which extends to 62 percent of the total surface of the territory, as well as the risk associated with fires in forests, a phenomenon with extremely harmful consequences that has often been encountered during the hot period of recent years.

Targeted objectives for the period up to 2030:

- Full transposition of the EU acquis on nature and biodiversity and its implementation in practice;
- Improving the conservation status of threatened species and habitats to ensure sustainable management of biodiversity components;
- The need to create the Natura 2000 ecological network for Albania and the European Community;
- Introduction of biodiversity and ecosystem services in educational programs in different schools and higher education cycles.

For water resources management:

Regarding Water for the environment, the sustainable use of water must be guaranteed as a very important component of the natural environment and biodiversity, the protection and improvement of the status of water bodies, through the control of discharges, the respect of the ecological flow and the reduction of pressures.

For tourism development:

- Supporting the private sector and investments in sustainable tourism throughout the value chain that is created within the country according to the best international standards;
- Establishing a national tourism education system with contemporary professional curricula;
- Promoting and developing digital networks and services that originate from them, coordinating with the private tourism sector, technology providers and innovators;
- The implementation of investments that turn protected areas into natural parks, with suitable infrastructure for their visitation, where a sustainable economy is created;
- The development of services related to maritime tourism activities and the promotion of the development of holidays and events in destinations;
- Encouraging the preparation and approval of territory development plans, supporting projects for the regeneration of urban territories, implementing investments that improve the connecting infrastructure from urban or rural centers to areas of interest to visit;
- The budgeting of the necessary resources, for the fulfillment of physical security, preservation and protection of health, water supply, energy supply, waste management.

Environment and Tourism Indicators from the NSDI 2030:

- 30 % Protected areas as part of the territory in 2030, compared to 21 % in 2021
- 47 % Forests in the national territory in 2030, compared to 45.6 % in 2021
- 10 million tourists in 2030, compared to 5.7 million in 2021

The planning, coordination, and management of the creation of the national system of protected areas are defined in the **Strategic policies for the protection of biodiversity 2016 – 2020**, adopted by DCM no.31 of 2016. It sets the basis for an increase in the area of protected sites and the development of management plans for the newly proclaimed sites. The document on Strategic Policies for the Protection of Biodiversity 2016-2020, aims to contribute at the national level to the prevention of biodiversity loss and the degradation of ecosystem services. This document deals with the drafting and implementation of management plans for increasing the surface of protected areas and the harmonization and implementation of the legal framework, in accordance with EU standards. According to the NSDI 2022 – 2030, the review and update of the Biodiversity Strategy and Action Plan for the period up to 2030 is to begin during 2023, in line with the Post 2020 global context for biodiversity, the United Nations Convention on Biological Diversity and the European Strategy post 2020 for Biodiversity.

The National Agency of Protected Areas (NAPA) is responsible for the management of protected areas in Albania as well as for flora and fauna monitoring within the protected areas, and for sending this information to the National Environmental Agency (NEA), which then consolidates it into the annual **State of Environment Report (SoER)**.

The **Integrated Water Resources Management Strategy 2017-2027**, adopted by DCM no.72 of 2018, is the framework document for the development of water management in spatial planning, environmental protection, biological and landscape diversity, agriculture, forestry, fisheries, transport, tourism and public health. For the creation of integrated water resources management, Albania aims to establish a legal, economic, institutional, technical, and social framework. The strategy predicts that the country will have 14% less water resources by 2050 due to climate change, increasing temperatures and decreasing precipitation. For this reason, the strategy first prepared a water balance to determine the status of water today and in the future, as well as the needs of the main users (water for agriculture, water for industry and hydropower, and drinking water).

Albania is in the process of becoming a member of the EU. Candidate countries to the Union are obliged to transpose the content of the EU Directives into their legislation prior to accession. Of particular relevance to the management of VWRNP are the Birds Directive, the Habitats Directive (see chapter “Relevant international obligations and policies” for details) and the Water Framework Directive.

In line with the EU Water Framework Directive (WFD), Member States are required to prepare **River Basin Management Plans** (valid for 6 years) (and Programmes of Measures) to protect and restore water bodies to reach good chemical and ecological status. It is the key tool for EU Member States to implement the WFD. The key objectives of the WFD are set out in Article 4 of the Directive. It requires Member States to use their River Basin Management Plans (RBMPs) and Programmes of Measures (PoMs) to protect and, where necessary, restore water bodies to reach good status, and to prevent deterioration. Good status means both good chemical and good ecological status. It includes clear environmental objectives for the water basin and includes a programme of actions.

Within the frame of the EU Accession process, AMBU as responsible institution for water resource management in Albania, has started to prepare and adopt RBMPs for each of its water basins. As of 2023, two RBMPs are already adopted or are in the process of adoption (Ishem, Erzen, Mat water basins). In 2024, AMBU will start to prepare the RBMP for the Vjosa River Basin. Whereas VWRNP includes a narrower territory being an integral part of the RBMP to be prepared, the RBMP includes a wider perspective reflecting the threats and variety of uses of the river. Still the objectives are closely aligned and could provide a suitable vehicle to include VWRNP perspectives that reach beyond its boundaries.

In parallel to the RBMP, AMBU will prepare a **flood risk management plan**, which is expected to be ready by end of 2024. It focuses on major flood risks and related required management actions. No further information is available yet. However, given the fact that hard technical flood control measures are not allowed within VWRNP but could be needed, there are potential conflicts of interest. Thus, close coordination with regards to proposed measures is needed.

The Strategy for Irrigation, Drainage, and Flood Protection in Albania 2019 – 2031, prepared with the World Bank's support, and adopted through DCM no345 of 2019, outlines a comprehensive approach to modernize Albania's water management systems. It addresses the deteriorated state of irrigation and drainage infrastructure, dam safety concerns, and inadequate flood protection measures. The strategy aims to optimize investments to expand sustainable irrigation, improve drainage efficiency, ensure dam safety, and enhance flood protection. It proposes rehabilitation and modernization initiatives, emphasizes the need for participatory

management involving municipalities and Water User Organizations (WUOs), and sets forth financial strategies for sustainable financing. The vision is for a decentralized management system that supports productive, profitable, and sustainable irrigated agriculture, with an emphasis on community involvement, gender equality, and adaptability to climate change. Investment for feasibility studies and project development on rehabilitation of flood protection infrastructure for Erzeni – Ishem, Shkumbin, Seman and **Vjosa** rivers, amounting at USD 6.9 million, are set as priority ones.

Agriculture, Rural Development and Fisheries Strategy 2021-2027, adopted by DCM no.460 of 2022 is a national policy with a cross-sectoral approach. The purposes of this policy are (I) to ensure the sustainable development of the agri-food sector to meet the needs of people facing medium and long-term challenges related to food security, livelihoods, climate change, and biodiversity loss, and (II) to develop rural households and become more competitive in rural areas, based on policies that support sustainable use of natural resources, efficient use of agricultural and fishing inputs, and agricultural knowledge and innovation. The document includes among its Strategic Policies:

Strengthening the sustainable management of natural resources and climate action:
Promoting sustainable and efficient management of natural resources
Protecting biodiversity, enhancing ecosystem services, and preserving habitats and landscapes

It acknowledges that rural areas in Albania have a high potential for sustainable nature-based tourism, which is also being valued and linked to other sectors of the local economy, such as agriculture. The rural tourism sector, which provides attractive employment for young people and women, is a driving force of economic recovery with a focus on increasing standardization and certification to serve the highest expectations of tourists. New requests from residents of rural areas for support of recreational activities and increased appreciation of rural areas are expected.

The document forecasts several financial intervention mechanisms including budget funds, IPA and IPARD funds. It also identifies as a specific objective the following: “Protect biodiversity, enhance ecosystem services and preserve habitats and landscapes”, in which context the expected result indicator is: Following agro-environmental schemes for the protection of pastures (in Ha), the pastures’ surface will reach the figure of 500 Ha by 2024. A budget of 150,000 Euro is forecasted, of which the half is planned to be allocated by the state budget.

The National Strategy of Tourism 2024-2030, is under development, and expected to be finalised in the spring of 2024¹, while the **National Strategy for the Development of Agritourism in Albania** has recently been developed with support from GIZ Albania and has been under consultation until the end of February 2024. This draft, emphasizes agritourism as a key to economic and rural development in response to global challenges, including the COVID-19 pandemic and energy crises. The strategy identifies the potential of agritourism to adapt to changing consumer demands, offering unique and sustainable experiences that highlight local traditions and agriculture. It outlines strategic priorities for enhancing agritourism, including improving service quality, digital access, cooperation between agriculture and tourism sectors, and sustainable development to preserve local resources and

¹ <https://ata.gov.al/2023/04/04/zingraf-strategjia-kombetare-mundeson-turizem-te-qendrueshem/>;
<https://ata.gov.al/2024/01/11/kumbaro-strategjia-kombetare-e-zhvillimit-te-turizmit-perfundon-ne-pranvere/>

promote inclusion. The strategy aims to integrate Albania into global tourism and agricultural trends, while stimulating rural economies and preserving cultural heritage.

The National Strategy for Land Consolidation 2016 - 2030, adopted with DCM no.700 of 2016, sets as its overall objective to create economically successful, competitive and sustainable family farms, which should be done in such a way that it contributes to the sustainable, inclusive and equal development from the gender and social point of view of the rural and agricultural sector, to economic growth, improving food security and reducing poverty, the rational use of natural resources, environmental protection and restoration of natural areas. It determines that among the principles to be observed is environmental protection and sustainability, leading to land consolidation projects that protect the environment and ensure its sustainability and which should not lead to the deterioration of the quality of the environment.

At the local level, the main document is the **Local General Plan**. In the Vjosa River Basin, the Municipalities of Kolonja, Përmet, Këlcyra, Gjirokastra, Libohova, Fier, Vlorë, and Himarë have approved their LGPs, while the LGPs of the Municipalities of Dropull, Tepelenë, Memaliaj, and Selenicë are in the process of being finalized. In the approved LGPs, the idea of the Vjosa River as a protected area and as a powerful potential tourist center is strengthened.

1.3.3. Relevant international obligations and policies

Binding policies and obligations

Water Framework Directive (EU)

Since 2000, the Water Framework Directive is the main law for water protection in Europe applying to inland, transitional, coastal waters as well as groundwaters. It focuses on ensuring good qualitative and quantitative health of water bodies by promoting an integrated approach to water management. It is based on a water-basin wide approach. National implementation is foreseen by means of River Basin Management Plans. Albania has already two RBMPs ready with Vjosa being prepared from 2024 onwards. Given the basin-wide scope, it offers huge synergies for protection of VWRNP.

Habitats Directive and Birds Directive (EU)

The Birds and Habitats Directives form the cornerstones of EU biodiversity policy. They provide a strong legislative framework for all EU countries to protect the most valuable and threatened biodiversity. Together, the two directives have created the Natura 2000 network – which is now the largest coordinated network of protected areas in the world. Its primary conservation objective is focused on species, birds and habitats specified in its annexes. In VWRNP several priority habitats and species occur indicating a high responsibility and importance of Albania.

Convention on Biological Diversity

Albania ratified the Convention in 1994 and adopted all Protocols. Albania also submitted and implemented a first National Biodiversity and Species Action Plan (2000-2015) NBSAP 2000-2015. The 5th National Report (2014) set ambitious targets until 2020, to which VWRNP contributes to (if targets were not yet reached). However, it remains unclear if there is a follow-up plan. With the declaration of VWRNP, Albania made substantial progress towards its biodiversity targets and should include targets related to VWRNP in future NBSAPs. The nature of VWRNP as protected area inherently connected with its surrounding and connection to several other protected areas make it a potentially important contribution to the targets of the Post 2020 Framework of CBD.

Bern Convention

Albania ratified the Bern Convention on the Conservation of European Wildlife and Natural Habitats in 1999. It is a binding international legal instrument in the field of nature conservation mainly in Europe. It is particularly concerned about protecting natural habitats and endangered species, including migratory species aiming to conserve wild flora and fauna, their natural habitats, promote cooperation between states and pay specific attention to endangered, vulnerable species including vulnerable migratory species. Whereas in Europe, corresponding sites are considered in the Natura 2000 sites, in Albania, relevant sites are summarized in the Emerald Network of Areas of Special Conservation Interest (currently 3 candidate sites in the Vjosa river catchment: Vjosa-Narta Protected Landscape, Bredhi Hotoves-Dangelli National Park, Germenj-Shelegure-Leskovic-Piskal Managed Nature Reserve). In Albania, all sites are currently listed as candidate sites for approval by the Berne Convention. Vjosa was not yet nominated but will play a key role either as Emerald Site or Natura 2000 site.

Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention)

This convention of UNECE is an international agreement to improve national attempts and measures for the protection and management of transboundary surface waters and groundwaters. For this, parties of the Convention are obliged to cooperate and create joint bodies. It entered into force in 1996 and was ratified by Albania and Greece. Considering the transboundary aspect and the aspiration to coordinate protection efforts with the Greek side of Vjosa (Aos), this Convention can play a relevant role.

Non-binding policies and obligations

IUCN

The International Union for Conservation of Nature (IUCN) is a membership Union uniquely composed of both government and civil society organisations. By harnessing the experience, resources and reach of its more than 1,400 Member organisations and the input of some 15,000 experts, IUCN is the global authority on nature conservation. Whereas not exactly binding, its standards, guidelines and policies frequently influence national and international legislation. Amongst the most relevant policies, strategies and instruments of IUCN are:

- *IUCN Red List of Threatened Species*: Indicating threatened species and deriving also responsibility of Albania for certain species
- *IUCN Guidelines for applying protected area management categories*: Clearly define the nature of a Category II National Park such as VWRNP. It defines criteria, objectives and minimum requirements representing the internationally recognized standard for a national park.
- *IUCN Green List*: The IUCN Green List is a global campaign for successful nature conservation. Its standard shall provide a global benchmark for good protected area management. It provides valuable guidance for assessing management effectiveness and is becoming increasingly applied globally.

EU Green Deal

In 2019, EU launched its most ambitious flagship policy which strives to reach climate neutrality by 2050 and to decouple economic growth from resource use. For this, the EU has dedicated a huge budget for investments in fields such as Climate Change, energy production, agriculture, or environment. Thus, during the Albanian EU Accession Process, it could provide ample opportunities for VWRNP.

Convention Concerning the Protection of the World Cultural and Natural Heritage

The Convention Concerning the Protection of the World Cultural and Natural Heritage is an international agreement that was adopted by the General Conference of UNESCO in 1972. It is based on the premise that certain places on Earth are of outstanding universal value and should therefore form part of the common heritage of humankind. The countries who ratify the Convention (States Parties) have become part of an international community, united in a common mission to identify and safeguard our world's most outstanding natural and cultural heritage. While fully respecting the national sovereignty, and without prejudice to property rights provided by national legislation, the States Parties recognize that the protection of the World Heritage is the duty of the international community. Albania ratified the convention in 1989.

Although currently VWRNP is not part of an UNESCO site, several ones are in its vicinity (e.g. Historic Centers of Berat and Gjirokastra).

Ramsar Convention on Wetlands

The Convention on Wetlands is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The Convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. Since then, almost 90% of UN member states, from all the world's geographic regions, have acceded to become "Contracting Parties". Albania ratified the convention in 2004, currently having four Ramsar sites. Although VWRNP is currently no Ramsar site, it can be an important area in the future.

Further relevant agreements, strategies and policies are also relevant but are not described here in detail. These include Man and the Biosphere Programme (MAB), CITES, Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), UNFCCC, UNCCD, European Landscape Convention.

1.4. Interest groups

In the course of the establishment of the VWRNP several stakeholder analysis and maps have been created (Qendro, 2019). A further stakeholder analysis was done by EcoAlbania in 2022 as basis for the stakeholder process during the feasibility study and another stakeholder process was implemented during the elaboration of the IMP in 2023. The main interest groups of VWRNP are listed below. A summarized list of the above-mentioned reports and analysis can be found in the annex of this document.

Most important interest groups for VWRNP:

- National authorities
- Regional authorities
- Municipal authorities
- Local communities
- Agricultural interest groups
- Tourism interest groups
- Stakeholders representing industrial/energy sectors
- National NGOs
- Local NGOs
- Universities, research institutions
- Educational partners (e.g. local schools)
- Donors

1.5. Description of the natural PA system

Vjosa is the second largest river in Albania and closes the series of six major rivers entering the Adriatic Sea, which form the entire alluvial coastal plain, beginning in the north with the large Drin-Moraca-Bojana-Buna system, and further down, with Mat, Erzen, Shkumbin and Seman Rivers. Together with Seman (Devoll and Osum), Vjosa forms a huge, connected delta plain.

The transboundary catchment of Vjosa covers approximately 6,800 km² (4,540 km² in Albania), and the river flows in a SE-NW direction over a length of 272 km (190 of which are in Albania) from the Pindus Mountain Range in Greece to the Vjosa Delta, and then the Adriatic Sea. The Vjosa river catchment in Albania crosses into the districts of Gjirokastra, Vlorë, Fier, Korça, and Berat.

Vjosa and its tributaries form a functioning natural ecosystem large enough to mitigate the external disturbances of other altered areas found adjacent to and along the river corridor, without significantly affecting natural hydrological processes. However, the ecosystem is extremely fragile and sensitive, so it can be dramatically altered by any changes to the water regime upstream or downstream (Sovinc, 2021).

In the geological, hydro-morphological, hydrological, and ecological context, the Vjosa River valley can be divided into three subareas:

- *The upper section* of the Vjosa River is characterized by steep gorges among Përmet, Këlcyra, and Dragot, crossed by areas with depositional cones and large gullies. The valley of the Vjosa River expands in the upper reaches of the Dragot area, except for the gorge of Poçem.
- *The middle section*, spanning the stretch which includes the confluence with the Drino River, where the city of Tepelenë is located, is known for the large sand and gravel banks formed by the branching river. Downstream of Selenicë, the river's catchment area shrinks, the valley widens, and the river begins to meander. The floodplains of the Vjosa River are known as one of the most magnificent coastal ecosystems of the Balkan Peninsula, characterized by their natural hydromorphodynamic river processes. The wide branching stream, the large banks and islands, and the pioneer plant species, willows, poplars, and tamarisks give the Vjosa valley an extraordinary character.
- *The lower section* is characterized by the stretch of the Vjosa River and the formation of wide meanders. Between the cities of Fier and Vlorë, the Vjosa River passes through the Myzeqeja lowlands and flows towards the Adriatic Sea. The Vjosa Delta is located north of the Narta Lagoon, where it reaches the sea.

1.5.1. Climate

The Vjosa River Basin is part of the southeastern hilly climate zone, and plays an important role in the region's climate, affecting the temperatures and rainfall. The climate of the Vjosa River Basin can be characterized as Mediterranean, with dry and hot summers, and mild and wet winters. The western part of the Vjosa River Basin is warmer than its eastern part due to the lower altitude and proximity to the sea.

The mean temperature values vary from 10.7°C to 17.5 °C along the river valley, and from 6°C to 10°C in the mountainous areas. The mean maximum temperatures in the upper, middle, and lower parts of the Vjosa catchment range between 26.9°C and 35.8 °C. The hottest months are June, July, and August, with daily mean temperatures between 20°C and 24 °C. The highest mean maximum values are between 26°C and 36 °C, and the observed absolute maximum

values are 41.6°C recorded at Fier (6 July 1988) and 43.5°C at Selenicë (18 July 1973). The coldest months are from December to February, with daily mean temperatures of less than 5°C.

The average annual rainfall in the river basin ranges from 950 to 1,600 mm, while the long-term annual rainfall reaches 1,076.2 mm, of which about 66% rains in autumn and winter. The minimum precipitation typically occurs in the summer months (June, July, and August), while the maximum rainfall is evident in November and December. The number of rainy days ranges from 85 to 100 days a year. Climate data in the area was obtained from Climate 6 Explorer (Wickel et al., 2017). Precipitation in the Vjosa valley ranges on average from less than 1,000 mm in the coastal region and the most northeastern region up to 1,600 mm predominantly in the mountain ridges of Drino catchment. The highest precipitation, dominated by the Mediterranean climate zone, which is subdivided into orographic zones (from coast to high mountains), occurs at the first high ridges towards the Adriatic Sea, where through convection and raising of wet air masses over the winter most of the rainfall can be expected. The wettest month is February, while August-September is the driest period of the year.

1.5.2. Geology

Situated on the southern part of the Albanides, the Vjosa River crosses several geological structures consisting of successive anticlines and synclines affected by a series of active tectonic and neo-tectonic lines. As a result of this unique composition, Vjosa offers a spectacular view of outcrops of rocks, as well as characteristics of geodynamic phenomena. The carbonate formations, under the effect of the karst phenomenon, form groundwater flows draining along the Vjosa valley in 47 permanent water springs (Durmishi et al., 2018). Geologically, the Vjosa river basin is embedded within five tectonic zones, the largest of which is the Ionian zone. These tectonic zones are part of the Albanides Hellenides chain, which, together with the Dinarides, make up the dominant mountain range in the Western Balkans. The complex tectonic structure consists of two domains, the eastern or Internal and the western or External Albanides (Aliaj, 2006; Schiemer et al., 2018).

The Vjosa/Aoös River is divided into three geological sections. The upstream section of the river valley, frozen during the Last Glacial Maximum, drains ophiolites, flysch deposits, carbonate, and limestone deposits. In the middle course section, between Dragot and Poçëm, the river flows mainly over the flysch deposits of the Ionian tectonic zone. The downstream section extends from Poçëm to the Adriatic Sea, with the river flowing over the Ionian tectonic zone and the quaternary deposits of the pre-Adriatic lowland tectonic zone, mainly consisting of gravel, sand, silt, and clay (EcoAlbania, 2021).

As a result of this geological context, channel types display a remarkable variety of geological forms: the river forms gorges and incises the terraces in the upper and middle catchment forms into braiding channel patterns as the valley widens and transitions to a meandering state towards the mouth (Bizzi et al., 2021).

The Vjosa Delta represents the most important area in the Myzeqeja lowlands, 2/3 of which is a result of delta progradation over a period of 500 years (Fouache et al., 2010). Previous archaeological studies show the displacement of the Vjosa mouth south of its actual location in the Vlora Bay (where the Narta Lagoon was created), and to its north, along the foot of the Frakulla structural ridge, less than 1 km southwest of the ancient city of Apollonia. The Vjosa Delta is wave-dominated, characterized by sand banks, mud flats, salt marshes, reed beds, small lagoons, and temporary marshes. Using historical topographic maps from the 19th century to the present, shoreline dynamic analysis indicates the fluctuation of the coastline position, with

the trends of recent years hinting towards future erosion (Durmishi et al., 2018). The catchment is dominated by mountains averaging some 300-1,500 m a.s.l., but reaching peaks of 2,600 m. The relief and slopes are steep and only the big rivers accumulate, and shape terraced or even flat valleys, such as Drino.

The river flows through several neo-tectonic zones (mainly in the Ionian zone), and the river systems can be dated back to the upper Pleistocene (long period of alternating ice ages), some 150,000 years ago, starting erosion and transport of material from the mountains to the sea. Geological formations and features are diverse and originate beginning with the Triassic Period (before 200-250 million years) up to the Quaternary Period today, generating magmatic rocks, carbonates, and terrigenous sediments (flysch and molasse). They are subject to weathering and the subsequent consolidation of alluvial deposits, karst phenomena in the limestone rocks, the movement and sliding of colluviums (unconsolidated sediments at the base of hill slopes), as well as tectonic activity. The mountain ridges are mainly built of limestone rocks, while lower hills persist of flysch rocks. The Drino valley, the field of Gjirokastra, is built of Quaternary deposits of molasses. Along Vjosa, conglomerate deposits can be found in the upper reach, while the delta and the coastal plain are developed by alluvial deposits. Most of the lower hills and foot mountains are built of various materials transported by the rivers in previous times, including all kinds of gravel, sand, silt, and clays. In the high mountains, karst erosion in the limestone produced steep crests and sharp slopes. On the other hand, small karstic depressions, like poljes, can be found (Çajup is the largest one with some 90 ha).

1.5.3. Geomorphology

The geomorphological history of the Vjosa valley can be traced back to the glacial periods, where the limited ice layer that formed over the valley had nevertheless a noticeable influence on the hydro-morphological characteristics of the Vjosa River.

This influence is reflected in two different processes: the clear sectioning of the river in fluvial deposits, indicating that the historical sedimentary stock was higher than today, and as seen in other sections of the river, that those sedimentary stocks are currently equal or higher than during the Ice Age or earlier. The section of Poçëm and Përmet has a linear longitudinal profile, which indicates the stable transport of sedimentary deposits rather than the downstream connection. Previously, such findings were known only from laboratory experiments (EcoAlbania, 2021; Hauer et al., 2021). The Vjosa catchment is characterized by very high annual sediment yields of 20-40 t / ha and year (Hauer et al., 2021) representing a key feature for the natural dynamics.

The geomorphology of the Vjosa basin is distinguished by an NW-SE orientation of the folded structures and tectonic plates, with the valleys and their tributaries aligned along the tectonic lines of the Alpine thrust system. This results in significant fluctuations in the elevation of the mountain ranges surrounding the Vjosa valley. In Greece, the elevation of Aoös varies between 2,636 to 400 meters above sea level, while in Albania, the elevation ranges from 2,500 m to sea level (CNR Ingénierie, 2015). The mountains flanking the middle stretch of the valley vary in elevation from 300 meters in the north to nearly 2,000 m in the south. The Grike Mountain Range, which peaks with Mt. Kudhës (1,907 m), separates Vjosa in the north and northeast from the Shushica valley in the southwest. At Poçëm, the river is situated between two parallel mountain ranges composed of limestone and flysch (Schiemer et al., 2018).

The Vjosa River itself runs through an assortment of landscapes. The mean catchment slope is 28%, while the riverbed slope is about 4%. Low gradients are characteristic of the lower course of the river, surrounded by a wide, flat floodplain with terraces shaped during the Quaternary

Period, roughly 2.59 million years ago. This region includes the Myzeqeja floodplain located near the city of Vlorë, the Kota valley, which forms part of the Shushica River tributary basin, and the Drino valley with the areas of Gjirokastra and Dropull. The gradients of the river in these zones are shallow - up to 5° (CNR Ingénierie, 2015). The river's middle course is characterized by hills of highly fragmented, terrigenous, sedimentary rock, which the Vjosa tributaries have eroded over time. These include areas with very high slopes around the highland of Kurvelesh and the mountains of Nemërçka, Lunxhëria, Bureto, Postnan, and Melesin. Gorges and deep canyons can be found in Bënça, Këlcyra, and Langarica. The river's upper course is surrounded by large mountains, with abrupt crests and very steep slopes resulting from water erosion and limestone terrain (karst). In Greece, the Aoös tributary, Voidomatis, flows through the Vikos Gorge, listed as the deepest canyon in the world (UNDP Albania, 2017).

1.5.4. Hydrology

Discharges in the rivers vary strongly, but the relation of average low to flood water discharges is not as pronounced as for other rivers in the Mediterranean. In the upper course, the mean water discharge has some $60 \text{ m}^3/\text{s}$ in Vjosa, while the lower course has some $175 \text{ m}^3/\text{s}$ multi-year average flow ($200 \text{ m}^3/\text{s}$ in the delta) that fluctuates from $33 \text{ m}^3/\text{s}$ to $237.6 \text{ m}^3/\text{s}$ (Pano, 2015). More important for shaping the active channels is the regular and frequent annual flood discharge of some $900 \text{ m}^3/\text{s}$, while the 100-year extreme flood can reach $3,000 \text{ m}^3/\text{s}$ in the upper course and up to $6,680 \text{ m}^3/\text{s}$ (1% probability), $5,570 \text{ m}^3/\text{s}$ (2% probability) or $5,040 \text{ m}^3/\text{s}$ (5% probability) in the lower course (Pano, 2015). Karst springs are frequent and lead to a good baseflow also during the dry season (e.g., Këlcyra Black Water Spring within the bank of Vjosa).

In Drino, even some water is sinking in the karst underground and appears outside of the catchment towards the coast ("Blue Eye" (Syri i Kaltër) with some $15 \text{ m}^3/\text{s}$ spring yield). The Viroi Spring near Gjirokastra is one of the biggest springs in the catchment with some $25\text{-}30 \text{ m}^3/\text{s}$, and significantly contributes to the discharges of lower Drino, another indicator for the strong groundwater resource in the basin (those aquifers are used for all major settlements in and close to the basin, such as Fier, Vlorë, Saranda, and Butrint along the coast and Gjirokastra).

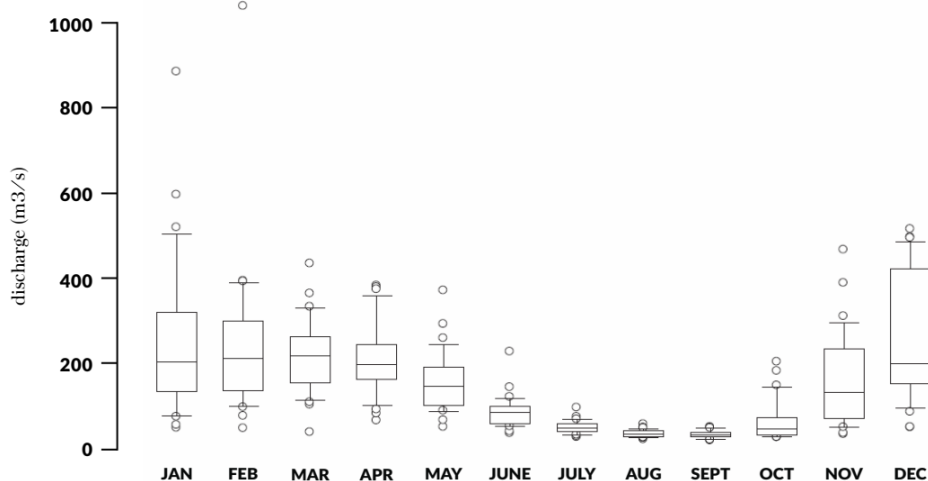


Figure 4: Boxplot of average monthly discharge of the Vjosa in the Dorez region from 1958-1990 (Hauer et al. 2019) in Meulenbroek et al. 2020

1.5.5. Hydromorphology

The Vjosa River and valley are one of the most magnificent riparian ecosystems in the Balkans, exceptional for their natural hydro-morphodynamic fluvial processes. They represent important points of reference for the hydro-morphological characterization of the Balkan rivers and the resulting processes of landscape formation (EcoAlbania, 2021; Hauer et al., 2021).

The channel pattern shows significant variations over the length of the river in Albania (Daja et al., 2018). In the upper section, Vjosa follows a sequence of steep canyons among Përmet, Këlcyra, and Dragot, entrenched in gorges intersected by areas with large alluvial fans and islands. Past Dragot, the river valley widens, narrowing only for the gorges of Kalivaç and Poçem. Near the city of Tepelenë and around the confluence with the Drino River, the fluvial landscape is distinct for its large gravel bars and sandbars formed by the braiding river. The watershed slope of the river decreases after Selenicë, the valley becomes wide, and the river starts meandering.

Valley forms

The afore-mentioned conditions in the Vjosa catchment led to a wide range of valley formations, not always in consecutive order (from up to downstream), but also with breakthrough sections and widenings in the headwaters. Most of the valleys are only partially confined and the canyon reaches, like upper Bënça (Nivica and Lekdush canyons), are limited in length. Long reaches of upper Vjosa and middle Bënça are incised into terraces of conglomerate, and therefore, also bank confined. Aside from the upper Drino plain, large widenings of the Vjosa valley downstream of Memaliaj and upstream of Poçem, with associated breakthroughs (at Kalivaç and Poçem), lead to broad active river channels (Greca and Sovinc, 2022).

Channels

Various channel types from straight canyons and V-shaped valleys of tributaries and breakthroughs over pendular, terrace entrenched river courses, with alternating gravel bars to widenings with braided sections, to anabranching middle and meandering lower courses (only in the case of Vjosa) cover the full spectrum of river systems.

In addition, the karst phenomenon of underground streams, caves, and springs can be found in several places. Channel patterns, width and depth variations, flow velocities, substrate conditions, and the structure and condition of the riparian zones are rather intact in Vjosa and most of the tributaries (Greca and Sovinc, 2022).

Riverbanks

A large variety of bank compositions can be found from the steep canyons along the Langarica and Bënça headwaters in rock or conglomerate, over huge monoliths and boulders in the Shushica breakthrough, to broad gravel channels with alternating river branches delimited only by natural banks and terrace edges towards frequently eroding steep banks in the middle courses, and even shallow banks with fine sediment (sand, silt, and clays) in the lower course and delta.

Floodplains

While floods in the higher sloped upper and middle course are flashy, they take in the lower Vjosa for up to several weeks. The bed-building annular floods regularly cover the entire active

channel and are responsible for the shifting channels and the rejuvenation of young pioneer stands on gravel bars and islands.

Regular but less frequent floods (floods all >1-5 years) are of utmost importance for the ecological conditions in low-lying floodplains. They form and shape floodplains adjacent to the active channel and on major islands. Shrubs of willows, and poplars on the upper courses, and plane trees build the initial vegetation, often stabilizing the land at least up to the next major flood.

On higher elevated areas of the active floodplain (floods all >5-30 years), only remnants of floodplain forests, mainly dominated by poplars, are found. Most of those forests were converted to agricultural land over the years. In the remaining morphological floodplain (floods all >30-300 years), many settlements and a lot of infrastructure can be found.

The intact hydro-morphological dynamics make Vjosa a highly attractive case study for international river science. Over the past 150 years, up to 90 per cent of these floodplains in Central and Eastern Europe were lost because of the development of HPPs (particularly on the Danube, Rhine, and Po). To reverse this trend, restoration measures have been undertaken over the last 25 years or so (Schiemer et al., 2004; Woolsey et al., 2005). The virtually untouched condition of the Vjosa catchment, characterized by its unobstructed fluvial morphology, continuity of water flow and sediment transport processes, can help to understand the connection among the hydrological preconditions, riverbed morphology and distribution of species. This understanding can in turn yield new knowledge for restoration projects of floodplain areas in the Mediterranean (Rössler et al., 2018; Schiemer et al., 2018). The protection of Vjosa is therefore critical not only for safeguarding the river biodiversity of Europe, but potentially serving as a beacon for the future restoration and regeneration of Europe's other river ecosystems.

1.5.6. Land cover

Land cover type	Ha	%
Water surface	6,030	47.3
Coastal areas / lowland active floodplains	4,593	36.1
Land areas	1,199	9.5
River terraces prone to erosion	905	7.1
Total	12,727	100

Table 2: Land cover types within VWRNP (according to Decision NO. 155, dated 13.03.2023 (Declaration of VWRNP))

Vjosa Wild River National Park has a total area of 12,727 hectares, of which: 6,030 hectares or 47.3% are water surfaces; 4,593 hectares or 36.1% are coastal areas, lowland active floodplains, 1,199 hectares or 9.5% are land areas, and 905 hectares or 7.1% are river terraces prone to erosion.

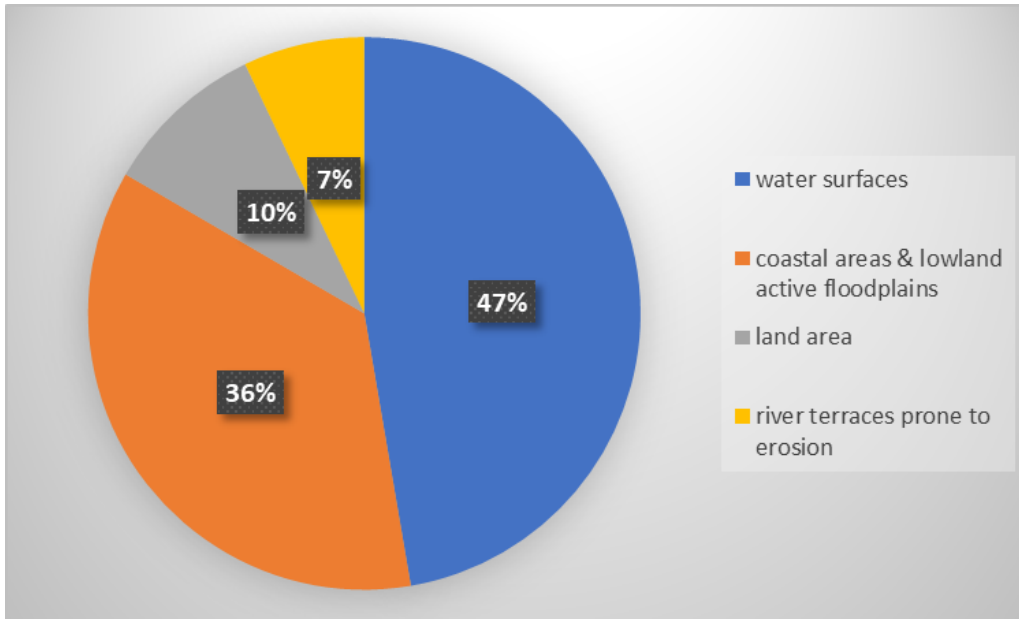


Figure 5: Land cover types in the VWRNP

Given the fact that the high-water mark was the main determinant for the declared boundaries, the area of VWRNP is mostly dominated by the main river and large gravel banks. However, all along the river, there are innumerable micro habitats and patches of different elements such as small ponds, side arms, riparian woodlands, temporary wetlands, pioneer grasslands, sandy cliffs, rock cliffs and dry scrubland and different types of wetlands. In some areas, agricultural land, pastures (active or abandoned) can be found. The combination of a natural flood regime with a natural sediment regime generates extremely high spatio-temporal heterogeneity, continuous rejuvenation, and biotic succession. This leads to a wide range of different specialized habitat types.

A detailed mapping of habitats along the whole river was not yet carried out.

Land cover in Vjosa Valley

The Vjosa river basin looks back to a long history of land use resulting in severe changes of the potential natural vegetation (which would be mostly forest). Deforestation as well as livestock farming led to comparatively low forest coverage, losses in soil productivity and massive erosion. Between 2000 and 2020 the forest coverage of the Vjosa river basin further declined from 24 % to 22% of the total area. Pastures increased from approximately 6,000 ha to 17,500 ha (Hasenauer et al., 2022). These developments are having a constant influence on discharge rate through limited water-retention capacity of eroded slopes, on sediment dynamics and input of eroded soil into the river. Thus, these developments cannot be seen separately from the national park.

1.5.7. Surrounding protected area network



Figure 6: Protected areas in the surrounding of VWRNP

Vjosa is in proximity to several other protected areas. Given proper organization and suitable management structures, these areas, in sync with the Vjosa Wild River National Park, could form a network of protected zones and a comprehensive itinerary of ecotourism in the South of Albania.

The eight protected areas within the Vjosa river basin are listed and briefly described below. More detailed information and maps of the described protected areas can be found online (<http://www.akzm.gov.al>).

A list of all Natural Monument and Protected Areas within the Vjosa river basin can be found in annex 7.3.

The Managed Nature Reserve of Gërmeň, (1,410 ha, Category IV) is in the Korça District on the Kamenik mountain ridge, at an altitude ranging from about 1,000 to 2,043 m and continuing along the state border.

The National Park Bredi I Hotovës-Dangëlli near Përmet (34,361 ha; Category II) is known for its fir forests mixed with oak and, in some parts, with Mediterranean shrubs, and shelters rare and endangered plants and animals.

'Bredhi i Sotirës', (4,927 ha, Category IV) is part of the Gjirokastra District. It lies on the northeastern slopes of Stugara Mountain, in the watershed of the Sotira stream, the left branch of the Drino River.

The Zagoria Natural Park (24,607 ha, Category IV) is part of the southern mountainous region. The mountain ranges are made of Paleogene limestones. The valleys that separate them and the lower parts of the slopes are reveal terrigenous formations and Quaternary deposits.

Syri I Kalter (293 ha, Category III) was declared a nature park in January 2022. The park with an area of 293.30 ha is surrounded by dense and evergreen vegetation.

The Managed Nature Reserve Bredhi i Kardhiqit-Rrezome, (4,303 ha, Category IV) is located in the Gjirokastra District. The nature reserve is placed on limestone substrates and distinguished by various forms of karsts as well as a special flora and rich fauna. It is also ecologically connected with tributaries of the Kardhiqi river (Drino tributary).

The Managed Nature Reserve Bredhi i Zhulatit (936 ha, Category IV), located in the Gjirokastra District. There are many forms of karst relief, of which the Piks Canyon stands out, formed by the collapse of the ceilings of the former underground passage of the Piks River, a branch of the Kardhiq River.

The wetland ecosystem Pishë Poro - Nartë (16,124 ha, Category V) forms the southern part of the Vjosa Delta (Vlorë). It is classified as a Protected Landscape. In addition, Narta lagoon is also an Important Bird Area (IBA) in Albania.

Natural Monuments - Furthermore, Vjosa is home to more than 110 Natural Monuments (Category III) spread throughout the catchment area, some close to river courses or the Vjosa Delta (Shumka et al., 2018). Some of the more prominent Natural Monuments in the region include Postenan, Leskovik, and Bënja Thermal Baths, Langarica Canyon, Carshova canyon, Atos Stone, Stone of Përmet, Bokërima Spring, Black Water Spring, Mezghoran Cave, Piks Canyon in Kardhiq river, the River Terraces of the village of Nderan, the Spring of Nepravishta, the Spring of Libohova, the Spring of Viroi, the Cave of Lekli, the Spring of Tepelenë Cold Water, the Nivica Canyon and erosive terrace of Bënça (near Tepelenë), Buronja, Kuçi (Shushica river, Vlorë), Limopuo Lagoon, Poro Dunes, Zverneci Forest, Zverneci Molasse Hills (in Vjosa delta, in Vlorë, Poro black pine (in Vjosa delta, in Fieri) and the Plane Trees of Vurg, among others.

A full list can be found in Annex 7.2.

Protection status of the Aaos river in Greece

As the source of the Vjosa river is in Greece, beyond the border of Albania, it is important to also ensure the protection there and enforce cooperation with Greek authorities, stakeholders and partners.

Since November 2023, the Aaos river in Greece is protected from the source until the Albanian border by the following protected areas:

- Northern Pindos National Park
- Vikos-Aoös National Park
- Protected Natural Formation and Protected Landscape (between Northern Pindo NP and the Albanian border)

1.6. Description of the existing PA, services and current use by visitors

1.6.1. Description of the VWRNP

VWRNP has a total area of 12,727 ha, covering mainly water surfaces (47.3 %), coastal areas and floodplains (36.1 %), land areas (9.5 %) and river terraces (7.1 %). It comprises two subzones.

The Central Sub-Zone covers an area of 11,822 ha or 92.9% (of the total surface), including the active channel, low laying active floodplain and riparian habitats as well as river belts, canyon slopes and erosive escarpments. In this sub-zone the first degree of protection (strict) is applied.



Figure 7: Core Zone of the VWRNP close to the Greek border (Anna Kovarovics/E.C.O.)

7.1% of the national park are established as Sustainable Development Sub-Zone (including forests, agricultural land, and pastures), where traditional activities can still be carried out (second degree of protection).



Figure 8: Vjosa river (Core Zone) with adjacent agricultural fields and forests (Anna Kovarovics/E.C.O.)

1.6.2. Boundaries and Zonation

The boundaries and zonation of the VWRNP have been established according to two main criteria:

The hydro-morphological criterion was based on the hydrological and morphological processes associated with the active river channels, its banks, and floodplains, considering physical parameters, such as water flows and sediment transport patterns, and their powerful effect on the surrounding land and vegetation at the level of Vjosa and main tributaries. The purpose behind the establishment of VWRNP was to ensure the maintenance of the hydro-morphological and ecological character of the rivers.

The second criterion (or “the land ownership criterion”) was used to identify all public lands that overlap with the components of the “broader river” (consisting of the watercourse and adjacent floodplain), and in general to exclude private lands. Private land was only included where the active floodplain riparian vegetation was replaced with agricultural fields, and where these areas were considered essential for maintaining the ecological integrity of the river ecosystem, thus regularly flooded (once every 1 to 5 years), or in the process of being eroded. In cases where parcel data were not available, developed (urbanized) areas, agricultural lands, and fenced pastures were identified and excluded based on expert opinion. In sections where the river flows within steep valley confines, where no or very limited natural resource use was identified (e.g., areas used only for non-intensive grazing, firewood collection, or non-timber forest product collection), the boundary was defined based on geographical features, such as ridges or canyon edges. Physically visible land parcel contours were used in the final delineation of the national park boundaries to ensure the boundaries would be recognizable in the field, and private land would not be “cut in half” by the VWRNP borders.

With the criteria mentioned above, the following parts were included in the VWRNP:

- Active channel: the shifting main river channel, river branches, and parallel channels, including gravel bars and sandbars that are frequently flooded
- Active floodplain: divided in the regularly flooded riparian zone and valuable riparian habitats
- Erodible slopes: the areas, where the river is eroding high terraces, slopes or valleys at present
- Bank buffer strip: a small strip extended beyond the active channel up to road embankments or hills for example;
- Canyon banks (slopes): the lower part of canyon slopes influence somehow by the river channel (e.g., up to 20 m in height);
- Erosion buffer: areas where the river is eroding agricultural land, typically in the active floodplain expected to be eroded by the river within the next 30 years .

1.6.3. Services and current use by visitors

As the VWRNP mainly comprises of the water body of the Vjosa river, most of the activities carried out by visitors and locals are linked to the water and its floodplains.

At the time of establishment of the national park, several uses were in place which are not in line with the national Law on Protected Areas and therefore need to be regulated and/or prohibited according to the values and threats as well as to ecological and conservation objectives (see Chapter 3.2).

Information on current uses and activities along the river, in its vicinity and in the Vjosa valley has been collected (in the phase of the feasibility study from several Albanian authorities: ASIG, AMBU, AKZM, JAXA; in several stakeholder workshops in 2023) and compiled into a map showing the status as available at the time of the elaboration of this management plan. The information has not been verified and needs to be completed in a comprehensive study (see details in chapter 3.3). However, the created map gives a first overview about activities and surroundings of the VWRNP, showing the pressure on the ecosystem and existing threats/possible threats for the future (see chapter 2.3).

Detailed maps of the VWRNP and its surrounding activities and uses can be found in study B. ZONING OF THE TERRITORY OF THE ENVIRONMENTAL PROTECTED ZONE of this Integrated Management Plan.

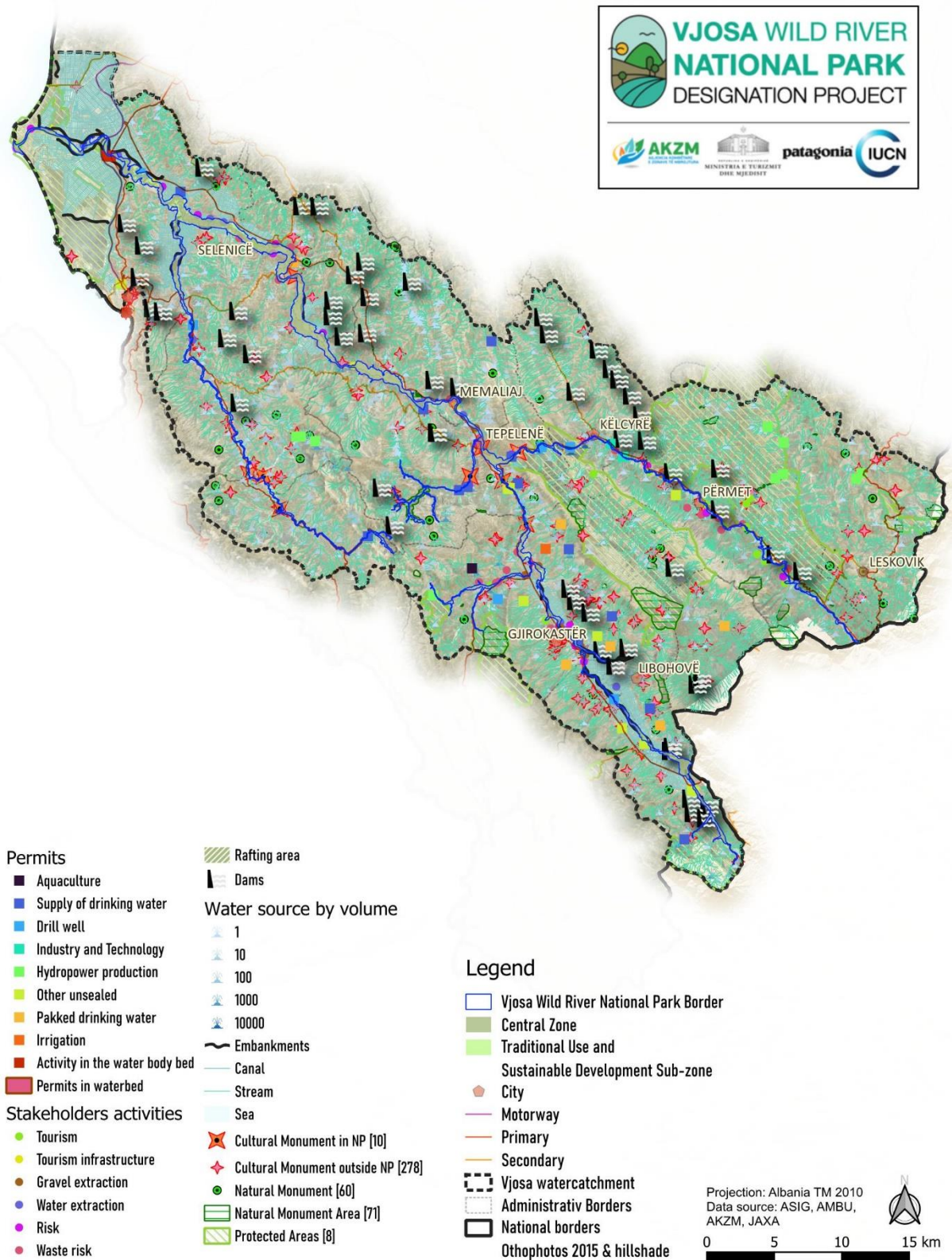


Figure 9: Overview map of the current uses and activities in place within and in the surroundings of VWRNP where information has been available at the time of elaborating the management plan (data source: stakeholder workshops, ASIG, AMBU, AKZM, JAXA). The information is not comprehensive, a mapping of activities needs to be done in the first years after the establishment of the national park.

Touristic activities

Some touristic activities were carried out on the river at the time VWRNP was established. It is to be expected that these activities will be increased in the future due to more visitors and a bigger interest in the river and the national park after its establishment and international media coverage. It is important to monitor all touristic activities happening inside the national park, regulate them to ensure the function of the ecosystem of the river and still allow visitors to experience the park. The implementation of the concrete regulations (see chapter 3.2.) and the information of visitors about the park, its objectives, conservation goals and regulations are the key to protect the river according to national laws and international standards.

Rafting/boating: The river is used for recreational activities, mainly rafting and boating. There are several rafting companies along the river which offer rafting excursions (usually starting in Përmet until Tepelenë). The existing rafting companies are very interested in the protection of the river and should be trained to understand the aim of the national park and the protection of the ecosystem. Additionally, private boats (mainly kayaks) are used on the river by visitors and tourists. At the time of establishment of the park, there were no regulations in place specifying the locations suitable for rafting nor the appropriate behavior within VWRNP (e.g. Code of Conduct). Management approaches have been developed during the elaboration of this management plan and are described in detail in Chapter 3.2.

Swimming: For locals and visitors, swimming in the river is a widespread, but not very intense recreational activity within VWRNP boundaries. Swimming has not yet been regulated, but regulations and recommendations should be developed in the future in case negative impacts occur (according to scientific monitoring results).

Horse riding: There is at least one company (in Gjirokastra) offering horse riding trips along the river for visitors. It needs to be ensured that the very sensitive flora and fauna, particularly on the gravel banks are protected and not disturbed. Therefore, management approaches were developed and are described in detail in chapter 3.2.

Use of natural resources

At the time of establishment of VWRNP the resources of the river were used for several private and commercial purposes. These uses are mostly a threat to the ecosystem and according to the Albanian Law on Protected Areas (Article 16/2) and international standards for national parks (IUCN) not allowed in a national park (alteration of the natural state of water reserves, sources, lakes, and wetland systems is prohibited). It is to ensure that these activities are mapped, evaluated, and eventually stopped/regulated according to their negative influences on the ecosystem of the river. No new sites for water and gravel extraction (from inside the VWRNP) should be established.

Water extraction: The water itself is the main resource used from Vjosa. It is diverted by channels and used for irrigation of agricultural fields along the river and/or as drinking water. The existing water extraction channels are either privately owned or have been implemented and/or were operated by local authorities (municipalities, communities, ministries). The total amount of water taken from the river was neither known nor monitored at the moment of the establishment of the park. Any water extraction is a threat to the values of the national park and its ecosystem (see chapter 2.3.1). The existing channels must be mapped and monitored, alternatives must be developed, and the water extraction must be discontinued. It is essential that no new water diversion/extraction can happen starting from the establishment of the national park and the adoption of this management plan.

Other activities using the water from the Vjosa river are fish farms and a bitumen production site along the river. These activities are not located inside the national park but use the water from the river and/or deposit their wastewater into the river. Both activities pose a threat to the VWRNP and its ecosystem and must be stopped and/or regulated accordingly (see details in chapter 3.2.)

Gravel extraction: Gravel from inside the VWRNP is mainly used for constructions within the regions, but also mined industrially on several sites. The existing mining sites must be mapped and monitored. No new sites can be established, and the existing ones must stop their activities.

Fishing: Fishing with different methods and for different purposes was carried out at the time of declaration of VWRNP. Private fishing was done nearly along the whole course of the river and with various methods (e.g. dynamite fishing). Commercial fishing took place mainly in the lower parts of the river close to the delta of the river (mainly fishing with nets). Commercial fishing and also unregulated private fishing (especially using dynamite) are threats to the ecosystem (see chapter 2.3.1) and need to be stopped/regulated (see chapter 3.2).

Use of the river for the disposal of waste products

The river is used for disposal of waste products nearly along its entire course in several locations and for different purposes. The disposal of waste products is not only a disturbance to the visitors and users of the river for recreational activities but also poses a threat to the ecosystem, the water quality, and the surroundings of the VWRNP. The Law on Protected Areas states in Article 48/2d that the neutralization of waste originating from outside the territory of the National Park is not allowed in the Core Sub-Zone. Therefore, these activities must be stopped.

Wastewater: Wastewater of communities, villages and individual buildings are deposited in the river and cause a potential threat to the river and its flora and fauna as well as to touristic developments along the river. As this activity is carried out mainly outside of VWRNP but directly impacts it, it is important to intensify the communication between communities, responsible authorities and donors and therefore ensure the implementation of new ways to deposit the wastewater and/or implement sewage treatment plants.

Disposal of waste: Nearly along the whole river deposited waste can be found within the VWRNP. The deposit ranges from small plastic bags to old tires and even furniture. This poses on the one hand a threat to the ecosystem of the river and its adjacent ecosystems (e.g. the Adriatic Sea) and on the other hand destroys the image visitors (especially tourists) expect from a wild river national park. Reportedly, community waste deposit sites are often located nearby the river and thus being at risk of being washed away during flooding events.

1.7. Description of the social-economic system

As VWRNP comprises mainly the river and its watershed, no major socio-economic activities are carried out within the national park. Nevertheless, the river and the Vjosa valley form one cultural unit and therefore the socio-economic system of the Vjosa valley is very important for the development of the national park and vice versa. In the following thus the socio-economic system of the Vjosa valley is described, which goes beyond the boundaries of VWRNP.

1.7.1. Demography

The river extends into 13 of Albania's 61 municipalities (defined by Council of Ministers Decision No. 360 of May 29, 2019), located in three regions with more than 130,000 inhabitants (4.6% of Albania's total population). The population density (41 inhabitants/km²) is much lower than the Albanian average (97 inhabitants/km²). More than 80% of people live in rural areas. Eight relatively small urban centres are located within the basin: Gjirokastra, Përmet, Tepelenë, Memaliaj, Libohova, Këlcyrë and Selenicë. About 70 % of the population in the region lives in the lower sector whereas only 30% live in the upper sector.

In the last 30 years, the Vjosa River area has experienced a strong depopulation. In the last twenty years, only in the Gjirokastra region (which includes the municipalities of Përmet, Këlcyra, Tepelenë, Memaliaj, Gjirokastra, Libohova and Dropull), the population has decreased by almost half (47%) (2001-2020) (INSTAT, 2021).

1.7.2. Economy

The main socio-economic activities in this area are agriculture, animal husbandry, light processing industry and tourism. Only 23% of the basin area is agricultural land; the irrigated system was almost destroyed after 1990s, but with some increase recently, as it is for the vineyards, fruit trees and vegetables. The whole area has well-developed traditions in livestock keeping (sheep and goats) and related products. After the 1990s, it declined evidently, but with some recent growing trends. Collecting and cultivating medicinal and aromatic plants is another important activity. River mining and the HPP construction were also important activities in the past.

The drastic population decline in these areas has led to a significant decrease in economic activities and industries in the Vjosa Valley (EcoAlbania, 2021). While the population trend is declining, the municipalities along the Vjosa River nonetheless have remarkable economic potential. Among the municipalities that could benefit from the VWRNP as a catalyst for economic development are the following:

- *Municipality of Përmet:* Currently, the main economic activities include agriculture, agro-processing, services, tourism, and less fishing, construction, etc. Based on the project plan for the development of the territory, the Municipality of Përmet has identified agriculture, agro-processing, and tourism as priorities.
- *Municipality of Këlcyra:* It engages in various activities related to agriculture, production of goods, forestry, and fishing, as well as some industrial activities operating in Këlcyra. Tourism programs are underdeveloped and should be promoted by protecting natural resources and cultural heritage (bridges, churches, etc.).
- *Municipality of Gjirokastra:* Part of UNESCO World Heritage, the primary economic activities in Gjirokastra are tourism, clothing, and footwear production. Tourism in the city of Gjirokastra has grown significantly in recent years. However, there is a need for capacity improvement and promotion. The rural area near the city is known for cattle breeding and high-quality livestock products.
- *Municipality of Tepelenë:* The main economic activity is focused on agriculture, tourism, fishing, and forestry. The collection of medicinal plants also provides income for a section of the population. Significant tourist resources include Vjosa, Ali Pasha Castle, Bënça Canyon, Beçisht Bridge, Nivica Agrotourism, and Cold Water.
- *Municipality of Memaliaj:* The city was known for the coal mine, which has been closed. Many residents have emigrated, while those who still live in Memaliaj deal with services or small businesses. Economic activity is related to agriculture, livestock farming, and services. Other sources of income come from viticulture, medicinal plants, river tourism, and historical and cultural tourism.

- *Municipality of Selenicë*: The municipality lies in a hilly area on the left bank of the Vjosa River and along the Shushica River, a tributary of the Vjosa River. Within the municipality's territory, there is also the historical bitumen mine in Selenicë, where residents of the surrounding villages are employed, and the oil-bearing area of Vlahina. Agriculture, livestock farming, and services are the main economic activity.

1.7.3. Tourism

Tourism as a key industry has experienced extremely rapid growth in recent years. It is considered crucial for the further development of the Albanian economy. A focus on alternative forms of tourism (ecotourism, agrotourism, hiking tours, cycling tours, etc.) could differentiate and expand international tourism in Albania. Vjosa River and its tributaries are free-flowing rivers with biodiversity and landscape quality rare in Europe providing high tourism potential (Metabolism of Albania) (Brugmans et al., 2016). The whole Vjosa Valley is distinguished for its special touristic values. It is not only due to the special natural values, the diversity of riverine and terrestrial habitats and the related biodiversity, but also to the values of the rich tradition, history, culture, folklore, archaeology etc. Tourism is already of great importance to the Vjosa Valley.

Of Albania's approximately 20,000 lodging establishments, about 4,750 lodges or nearly 1/5 of the country's establishments, are in Gjirokastra, Vlorë, and Fier. According to Gjirokastra Municipality, tourism contributed to about 30% of the region's revenues in 2020, and both Përmet and Vlorë benefited from it (Muco, 2020).

VWRNP can complement the already existing touristic offer. Përmet-Gjirokastra-Tepelenë area has about 200,000 registered tourists per year. The number has increased by an average of 15% per year over the last 5 years. While the Vjosa Valley is visited by an average of 5,000 adventure tourists per year, a large part of these tourists also visits Gjirokastra, Tepelenë, or Përmet. The Vjosa River Valley attracts more and more domestic and foreign attention year after year and VWRNP may play an important role in promoting a new sustainable economy (Muco, 2020).

As of now, the main touristic activities related to the river are rafting and boating particularly on the route Kaludh – Polimen (Qilarsh) on an approximately 10 km long stretch of the river. According to information from NAPA, 1,500-2,000 boats are registered per year, mainly during the main season from June-August (Average: 17-22 boats per day).

1.7.4. Agriculture

Agriculture is the most important industry in the Vjosa Valley. There are 15,500 registered farmers who grow mainly cereals. On the other hand, while agriculture is an important driver of the region's economy, it is also a threat to the VWRNP. The impact of agriculture on the Vjosa can be seen in three different aspects: Land use, pollution, and water withdrawals, all of which can have equally negative impacts if not properly managed and controlled. As far as land use is concerned, the lower part of the basin and the lower part of Shushica are the most affected, where agriculture is more intensive.

The Vjosa Valley is important area for agricultural development. In Përmet valley, the agricultural lands are suitable for vineyard and pergola, fruit trees, vegetables, and other agricultural crops. The Tepelenë field of Memaliaj to the Qesarat and the hilly area of Mallakastër area cultivated with olives trees, vineyards, and fruit trees, which continue to grow

in Cakran-Frakull-Levan-Bishan-Novolese administrative units. Reportedly, there is high potential for agricultural development. The area of Dropull with about 5,600 ha is one of the most important agricultural areas in the country having high production capacity. Another field is created in the watershed Shushica River, from the village of Gjorm and expands into the potential agricultural field of Llakatund and the field area until the Shushica out flow into Vjosa (Lushaj and Kacani, 2019).

Livestock keeping is widespread but not highly organized and its productions is mainly for personal consumption. In total there are only 32 dairies in the valley, they are generally small and present a problem for their expansion due to lack of raw materials (Gjirokastra Regional Tax Inspectorate, 2020).

Regarding water extraction, the irrigation system is not effectively managed and does not supply all farmers in the valley. In most cases, especially in the upper part of the river, irrigation occurs on an individual basis, usually with pumping systems.

Due to these activities, the natural vegetation in some hilly parts is transformed; some agriculture land is abandoned and exposed to intense erosion; but in other hilly or mountainous slopes the natural vegetation is restored due to the grazing absence, with positive impact in erosion rate and biodiversity. Nevertheless, the watershed is very large and bare; only 22% of the area of the Vjosa basin is covered by forests (Hasenauer et al., 2022).

In the middle and lower sections, the main irrigation canal is Vjosa-Levan-Fier, which provides water for agriculture in this part of the basin. In the lower Shushica, there is also a large canal used for irrigation.



Figure 10: Irrigation channels on the Shushica River branch (Picture: NAPA)

In addition, agriculture in the Vjosa River is polluted using pesticides and herbicides, as well as water pollution from trout farming.

In some parts of VWRNP agriculture is taking place in the Sustainable Development Sub-Zone.



Figure 11: Agricultural fields inside the VWRNP (Picture: NAPA)

1.7.5. Ownership and land use

The proclaimed national park, watercourse, and riparian land are publicly owned. Private lands were included only where active floodplain vegetation was replaced by agricultural fields and where these lands were considered essential to maintaining the ecological integrity of the river ecosystem, i.e., regularly flooded (once every 1 to 5 years) or currently eroding.

1.8. Governing structure

1.8.1. Current management structure of PAs in Albania

The actual structure of PA management in Albania is organised at national (National Agency for Protected Areas, NAPA) and regional (Regional Agency for Protected Areas, RAPA) levels. Currently, there are no individual managements of individual protected areas but rather a common management of all protected areas within the responsibility of each RAPA.

During the elaboration of this management plan adaptations to the Law on Protected Areas were made. Article 39/1 allows the establishment of National Parks Administration Offices, technical-administrative institutions, subordinated to the ministry responsible for protected areas, organized at the central and regional level, which operate within the geographical territory of a national park, the territory is to be defined in the decision of the Council of Ministers for its creation.

These new regulations allow the establishment of managements for single protected areas (national parks) and shall be used for managing VWRNP (details see chapter 5.1).

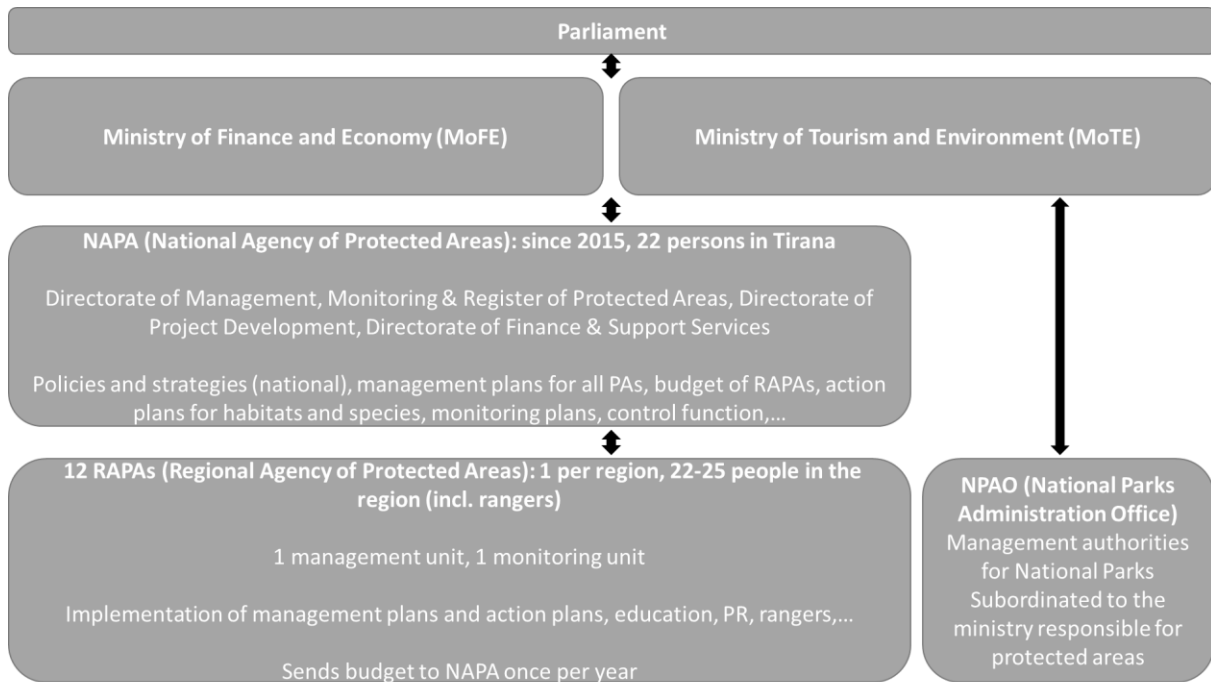


Figure 12: Structure of the current management of PAs in Albania (NPAOs not in place yet)

The main tasks of protected area management are currently carried out by the NAPA and the RAPAs.

NAPA, established by Decision of the Council of Ministers no. 102, dated 4.2.2015, operates at national level with a General Director, a Department of Management and Monitoring and a Department of Finance and Interior Services.

Formally, NAPA's activities include:

- Sustainable financing of PAs
- Communication and awareness raising
- Support to the ministry responsible for PAs
- Design and implementation of management plans for PAs
- Action plans for habitats and species
- Supervising activities in PAs
- Proposals for the improvement of PAs
- Monitoring the implementation of all instruments

RAPAs operate at regional level with usually 22 to 25 staff members. In Albania, there are 12 RAPAs, each with a RAPA Director, a Management Sector, and a Monitoring Sector.

RAPAs carry out the management of all PAs in their region according to plans and regulations of NAPA. They work on various tasks such as monitoring, environmental education, ranger services, stakeholder engagement and visitor information. The staff usually works in several protected areas and regularly reports to NAPA.

1.8.2. Budget for the management of PAs

NAPA manages the finances of protected areas and the RAPAs from several sources:

- State budget
- Revenue from economic activities allowed in PAs

- Special funds (not yet in operation)
- Cooperation agreements with various donors

RAPAs usually report the required budget for their planned activities to NAPA. NAPA collects the budget requests of all RAPAs and forwards them to the Ministry of Tourism and Environment (MoTE), which forwards the request to the Ministry of Finance and Economy (MoFE). The decision on the final budget is made by Parliament. Budgetary authority lies with the NAPA, and budgets for individual activities are allocated to RAPAs according to their actual expenses.

1.8.3. Legal framework

The existing legal framework on Protected Areas (PAs) is recent and its implementation regarding a National Park (NP) has not yet been fully tested in terms of planning, declaration (designation), management and monitoring of a NP.

Management form:

Regarding the PAs management form, the following existing provisions of the PA Law apply:

Art. 3 of the PA Law, provides the definitions of the main concepts used in the PA Law, specifically defining the authorities responsible and involved with the activity of protection and management of PAs: (i) The PA Administration (PAA) – Art.3 (1); (ii) The NAPA – Art 3 (2); (iii) The RAPAs – Art3 (3); and (iv) The Minister and the Ministry responsible for the PAs – Art. 3 (12) and (13).

Art. 8 of the PA Law, determines about the forms of administration/management for the PAs, providing for four (4) such options: (i) state; (ii) private; (iii) municipality; (iv) combined. The form of administration/management for any specific PA is to be defined in the DCM approving its designation, its change of protection category, or its change of surface area, upon proposal of the Ministry after obtaining the opinion of the local community, of private owners and the written approval of the relevant municipality where the area is located. In each form of governance, management and preservation of the area is based on, and implements the same principles, rules and requirements that are specified in the PA laws and by-laws issued thereunder.

Art. 37, 38, 39, 39/1 and 40 of the PA Law (under the Chapter IV – Management structures of the PAs), list and determine who are the partaking institutions in the management of the PAs and lay down their main roles and responsibilities of those institutions, namely at the state/central government level: the Ministry (Art.37), the NAPA (Art.38), the RAPAs (Art.39); NPAOs (Art.39/1) and at the local government level: the municipalities (Art.40).

Art. 42 of the PA Law, is about the PA Management Plan (MP), and provides that the MP is drafted by NAPA and approved by the Ministry for a term of 10 years, by also involving other relevant stakeholder as ministries, municipalities, the public concerned, the environmental NGOs, the private owners whose properties lay within the territory of the PA. The MP drafting should consider the objectives and provisions of policies, related sectoral plans and programs and its provisions should be integrated into the national, regional, and local decision-making process affecting the PA. This Article also provides for the obligatory MP elements that include among others the management objectives of the PA as well as the mechanisms and management authority for the PA. The management plan structure, its content and the review

criteria should be approved by Instruction of the Minister. Currently, there is such an Instruction in place, but it is approved in reference to the old PA Law.

Art 43 of the PA Law, provides that the MP shall be implemented by the respective PAA. It also provides that implementation of elements of the MP may be accomplished through public or private natural or legal persons, and environmental organizations, whether local or foreign, observing the rules and procedures of existing legislation, based on technical criteria approved by Instruction of the Minister referring to the article 42 of the PA Law.

Art 46 of the PA Law, provides among others that management of forest and forest resources, of water and water resources, and other public and privately owned resources located within a PA shall be implemented by the PAA and in accordance with the MP. The PAA shall carry out its duties directly, through the local community and/or through an entity authorised by it. If and where these resources are privately owned, they shall be managed and used by the owner or the legitimate user in accordance with the MP and with the prior approval of the PAA.

Art. 56 of PA Law, provides among others that activities in the protected areas may be exercised only after the environmental permit is issued or after the written approval of PAA is granted, if expressly required by the PA Law. Regulation for the visitors shall be drafted by NAPA and RAPAs and shall be published and displayed in visible places in the PA.

The by-laws of interest for this feature are:

DCM 102 of 2015, as amended in 2016, being the most relevant because of it determining the detailed organisation, roles and responsibilities of NAPA and RAPAs;

DCM 302 of 2019 and DCM 127 of 2020, providing respectively for the conduct of scientific-research activities in the PAs and for the collection of materials and samples from the PAs.

1.8.4. Supervision and coordination

Art.41 of the PA Law, provides that a Management Committee (MC) for the PA is established to supervise the implementation of MP. The MC is composed of representatives from the municipality/ies within the territory of the PA, NAPA, and local government institutions with direct relation to the PA, i.e. of agriculture, tourism, infrastructure, civil society organizations, representatives of forest and pasture. The MC will function in accordance with a self-approved regulation, while the function of Technical Secretariat, which administers all the documents reflecting the work carried out by the Committee, shall be carried out by the PAA. Upon proposal of the Minister, the Council of Ministers shall approve by DCM the duties and responsibilities of the Management Committees of the PAs.

DCM no 593 of 2005, adopted for the Management Committees of the PAs, lays down the roles and responsibilities of the MC as follows:

- a) Supervising the implementation progress of the PAMP and programs drafted in detail, in compliance with its requirements
- b) Engaging in the follow-up of the PAMP drafting process and in the follow up of its component's implementation, in order to ensure its compliance with the strategy and local and sectoral development plans, thus ensuring that the latter respects the area protection criteria
- c) Encouraging the ecological development of area surroundings, under the frame of plan implementation, and with the aim to maintain its quality

- d) Analysing duty and function performance of the PAA, in order to implement the management plan, as well as revenue and expenses statements with respect to plan implementation
- e) Making recommendations on determining the investments approach in the area
- f) Approving the annual report on the state of the PA
- g) Proposing amendments to the area MP, boundary expansion, as well as additional measures on quality improvement and submit them to the minister responsible for the environment and NAPA, should they be based on studies and arguments accounting for the need for amendment. Should the proposal include an area with cultural heritage and landscape values, the proposal must receive the approval of the collegial decision-making bodies of the ministry responsible for cultural heritage
- h) Encouraging project drafting and implementation for the improvement of the area's qualities
- i) Following-up the implementation of the protected area management plan.

1.8.5. Budgetary flow

Regarding the PAs management form, the following existing provisions apply:

Art 5 (6) of the PA Law, provides that the state budget and donations shall finance the costs of establishing, maintaining and managing the national system of protected areas

Art 57 of the PA Law, is about financing sources and their use. It provides that the financing sources are the state budget and income from any other legal source, determining that NAPA is responsible for the administration of all income generated by the economic activity in the territory of PAs. Tariffs and fees for the use of services offered by the PAs are determined by a Minister Instruction, upon NAPA proposal.

Exempt from this provision are cases where parts of the PAs are areas under the management responsibility of the Minister of Culture, that are designated as cultural heritage sites.

Art 58 of the PA Law, determines the categories of incomes generated by the annual fees/tariffs to be paid and the rules for their use. Specifically, the following income categories are provided for:

- i. fees paid by visitors and tourists visiting the area;
- ii. fees paid for carrying out activities within the protected areas
- iii. fines paid as compensation by those that cause damage to the area;
- iv. various donations;
- v. fees paid for transportation within the territory of protected areas; and
- vi. other cases of income not foreseen in the law.

Further on, it is provided that income generated from the fees payable in the protected areas, the extent and the criteria of their use should be determined by a DCM upon proposal of the Minister. The use of such income is not subject to public procurement rules and should be for dedicated for the following:

- i. investments in the PAs;
- ii. expenses of seasonal recruitments for activities carried out within the PAs;
- iii. preparation of MPs and inventory of forests, pastures, wild flora and fauna, and wildfires;
- iv. reforestation projects, improvements, preventing and combating erosion, trails in PAs;

- v. combating diseases and pests;
- vi. measures for prevention and protection from fire;
- vii. breeding, feeding and providing living conditions for the wild fauna;
- viii. construction and maintenance of facilities within the PAs for communication, dikes, fences, buildings;
- ix. acquisitions of means of communication and transport, furnishing and improvement of working conditions of RAPAs;
- x. publications, awareness campaigns, education, and public information;
- xi. rehabilitation of habitats, removal and management of alien and invasive species;
- xii. support traditional activities of local communities.

Art 59 of the PA Law, establishes the Special Fund for the PAs, account to NAPA, with funds arising from revenues and donor contributions, to be used upon approval of the Minister, for emergencies, rehabilitation of the consequences of fires or floods, natural disasters, infections in plants or in wildlife, to mitigate the negative effects of climate change on protected areas and for compulsory interventions against alien species. The amount of the Special Fund, sources of its creation and rules on its use shall be adopted by a DCM upon the joint proposal of the Minister and the Minister of Finance.

In the context of and implementing the above provisions, the relevant by-laws applicable are the following:

DCM no.1156 (24 December 2020) “On the determination of the income generated from the fees payable in the protected areas, the extent and the criteria of their use”

DCM no. 19 (20 January 2021) “On the amount levels of the special fund for environmental protected areas, resources of creation and the rules of its use”

Minister Instruction no.1 (10 February 2021) “On the rules for the use and enjoyment of the services provided by the environmental protected area and the respective tariffs to be paid for them

Minister Order no.129 (23 June 2016) “On approval of procedures for rental of surface within the PAs”

1.8.6. Monitoring & Inspection

Art.60 of the PA Law, provides that NAPA shall be responsible for the management, organization and monitoring of the plan implementation, for the periodical supervision, on annual basis, of the results of monitoring, and for publishing on its official website the relevant data. In implementing the monitoring programs, NAPA may engage scientific research institutions and public or private specialized entities in this field, in accordance with the public procurement legislation in force.

Direct monitoring activities are to be exercised by the RAPAs and by any entities appointed by them for the purpose as well as by entities that engage in permitted activities in the protected areas shall self-monitor their activities according to the requirements specified by NAPA in implementing the monitoring program and shall notify NAPA on the data arising from self-monitoring.

Art.66 of the PA Law, determines the inspection responsibilities, to be carried out by the NAPA and the inspection bodies of the regional RAPAs.

1.8.7. Human Resources

DCM 102 of 2015 about the NAPA and RAPAs, provides that NAPA staff's employment regime is under the Civil Service legal framework, while the RAPAs employees (including the temporary employed ones) are under the Labor Code regime. Recruitment criteria and job descriptions are approved by the Minister, upon proposal of the NAPA General Director.

1.9. Description of cultural landscape and heritage



Figure 13: Cultural monuments in the Vjosa river basin

As the VWRNP mainly consists of the water body of the river, only few cultural monuments are located inside and/or span VWRNP (e.g. ancient bridges). The eight cultural monuments being part and/or spanning the VWRNP are described below.

However, the Vjosa River Basin area is rich in cultural sites (288 in total) and widely known for them. A detailed description of the most important cultural monuments within the Vjosa valley can be found in annex 7.3.

It will be important to cooperate with the cultural sector when it comes to the touristic development of the region as well as to partner up in educational programs (e.g. school programs, trainings for rangers and cultural guides).

Special emphasize must be given to the maintenance of the cultural sites in/close to the river and/or spanning the river (e.g. bridges as cultural sites). A common approach which ensures

the preservation of the cultural sites and the conservation of the river ecosystem at the same time must be found.

1.9.1. General description of the Cultural Heritage situation within the Vjosa valley

The entire Vjosa's basin, since the earliest times, has constituted a very suitable liveable area. The territory where VWRNP lies is probably the region in Albania with the highest density of cultural heritage sites, of all ages and types.

Each development period of human history has imprinted its traces within this region. Shortly mentioning the earliest traces of the opened settlement of Kryegjatë (Fier) that go back until the Middle Palaeolithic age (100.000-30.000 years B.C.); Later on the cave settlements of Goranxi (Gjirokastër) that dates since the Mesolithic age (30.000-10.000 years B.C.); During the Eneolithic age (7000 – 4000 years B.C.) the settlements maps expands with the cave settlements of Bënja (Përmet) and Velçë (Vlorë) and the opened settlements in Kamnik (Kolonjë); the tumular cemetery of Vajzë (Vlorë), Piskovë (Përmet) Cepunë and Vodhinë (Gjirokastër) date since the Bronze age (3000 – 1200 years B.C.) and the Iron age (late of 12th century – beginning of 5th century B.C.).

The Vjosa river basin thrived during the antiquity period (5th century B.C – 4th century A.D.); during this period were established and developed the Illyrian cities such as: Apollonia (Fier), Bylis and Klos (Mallakastër) Amantia, Olympia and Triport (Vlorë), Antigone and Hadrianopoli (Gjirokastër). Also, during this period smaller cities as Këlcyra (Përmet), Mashkjeza (Fier), Matohasanaj (Vlorë) were created.

Due to the creation and expansion of the cities, the roads network was also developed: many cobbled roads and wooden or even stone bridges were constructed during this period. The earliest stone bridge traces are found at the Shushica river, in Brataj (Vlorë), which dates since the 3rd century b.C.

The medieval period is linked to the fortified settlements, such as Tepelenë, and also to the construction of many military castles, such as Gjirkastra's castle, Libohova's castle, Kardhiqi's castle, Paleokastra's castle, etc. This period is linked as well to the construction of many religious objects.

1.9.2. Cultural monuments inside/spanning the VWRNP

As already mentioned above, the maintenance of the cultural monuments described below must be done in a way to not harm the ecosystem. A study should be done which parts of the cultural sites are located inside of the VWRNP and how their maintenance should be organized to ensure their conservation while at the same time not harming the ecosystem of VWRNP.

Brief descriptions of the eight cultural monuments inside/spanning the VWRNP can be found below, a full list of all cultural monuments within the Vjosa river basin can be found in the annex 7.3.

Ura e Bratajt – The Brataj's bridge

The Brataj's bridge dates to late medieval times, 18th century. It connects two sides of the Shushica river, near the Brataj village, Vlorë. The bridge is very well preserved and still in use nowadays for pedestrians.

Këmbët e urës antike nën kalanë e Cerjes – The piers of the ancient bridge below the Cerje’s fortification walls

Near the village of Brataj under the ancient castle of Cerje, also on the Shushica River, there are remains of stone piers from an antique bridge with a wooden deck. Five piers with four-meter-high stone blocks without mortar held up the bridge. The blocks were connected with iron pegs cast in melted lead.

Ujësjiellësi i Vranishtit – The Vranishti’s Aqueduct

The Vranishti Aqueduct dates back in the beginning of the 18th century; it was built by local masters during the Ali Pasha’s period. According to the legend in the Vranishti village, a local villager, Islam Bega, built the water supply system during the second quarter of the 18th century.

Termt antike në Rexhepaj, Gorisht – The ancient thermal baths in Rexhepaj, Gorisht

The ancient thermal baths of Rexhepaj, Gorisht, dates back in the late antiquity period; 6th century AD. It lays on a meadow near the Vjosa river at Gorishti village, Vlorë. The thermal baths plan is a regular rectangular shape; 8.4 x 11.2 m. They are preserved ruins; maximum of the walls fragment height reaches up to a few decimeters.

Ura e Kollorcës – The Kollorca’s bridge

The Kollorca Bridge dates since the beginning of the 19th century. It is in the Dropulli region and crosses the dry branch of the Drinos River near the Gjirokastra’s exit along the national road. It is one of the largest stone bridges built in Albanian territory and was once part of the medieval road connecting Gjirokastra to the other towns (Libohova, Zagoria-Pogoni, Përmet, and Konica).

Ura në Subash – The Subashi’s bridge

The Subashi’s bridge dates since the early 19th century, it is mentioned by Thomas Smart Hughes, a British reverend, scholar and traveler of the 19th century, who traveled within the Balkans during the 30s of the 19th century. This bridge is located over the Drinos River, very close to the road that connects Gjirokastra with Labova-Zhupa. Nowadays this bridge is badly preserved, some ruins of the piers and abutments are visible at both sides of the Drinos River.

Ujësjiellësi i Bënçës – The Bënça’s Aqueduct

Bënça’s water supply system, built by Ali Pasha in the 19th century, was a monumental public work, which received water from the Tepelenë’s Castle. This water supply system, a progressive structure for its time, stretches across a few kilometers between the village of Bënça and the Tepelenë’s Castle. The most important part of this water supply system is the aqueduct located below the village at the Bënça River.

Rrënojat e urës antike e mesjetare në lumin Vjosë, pranë Tepelenës – The ruins of the ancient and medieval bridge over the Vjosa River, near Tepelenë

The bridge under the Tepelenë’s castle, or as it is otherwise known, the Beçishti bridge, has traces of the Roman period, the second half of the first century. It has been later rebuilt by Ali Pasha at the end of the 18th century.

Ura Metalike e Leklit – The metallic bridge of Lekli

The metal bridge is located where the Drino River empties into the Vjosa and the Tepelenë road turns toward Këlcyrë. It is an engineering work built during the period of the King Zog I.

Ura metalike e Dragotit – The Metallic Bridge of Dragot

The metallic Bridge of Dragot was built in 1936, located where the Vjosa River emerges from the narrow canyons of Këlcyrë and gradually widens as it heads towards Tepelenë and Mallakastër. It is a suspension bridge with arched metal trusses (there are no piers over the riverbed), only supported by the two concrete abutments on both sides of the river.

2. Assessment of the protected area and the institutional framework

2.1. Assessment of values

The corridor of the Vjosa River valley and its surrounding habitats are characterized by **high spatial and temporal heterogeneity, continuous habitat change, and vast biotic heritage**. The key to the exceptional biodiversity of Vjosa is in its **hydro-morphological dynamics**, particularly the **longitudinal continuity of the water flow** (“the natural flow regime”), which remains **undisturbed throughout the length of the river representing the main value of VWRNP**. The flooding and high sediment transport in particular create a **continued turnover of the landscape** ((Thorp et al., 2006; Tockner and Stanford, 2002), facilitating the recycling of matter and the specific routing of nutrients and carbon (Decamps et al., 2004; McClain et al., 2003; Pinay et al., 2007). The mosaic structure of floodplain rivers, characterized by a **dynamic equilibrium of different habitats responding to water level fluctuations, provides the habitat conditions for a highly specific and diverse biota** (Decamps et al., 2004; Pickett and White, 1985; Townsend et al., 1997; Ward et al., 1999; Winemiller et al., 2010).

These unique river dynamics, which have remained largely intact in the catchment area, contribute to creating **well-adapted biota with very high biodiversity**. However, this diversity is highly vulnerable to changes in the river dynamics. In particular, the terrestrial species of highly dynamic riverine systems are exceptionally sensitive to hydro-morphological changes in discharge, flow regime and sediment budget. Any impacts on these parameters may lead to the decrease or extinction of these highly vulnerable taxa found in Vjosa. This breadth of diversity of species in the Vjosa valley, expressed in the river's natural features, can no longer be found in any other Central European country (Greca and Sovinc, 2022; Schiemer et al., 2020).

2.1.1. Ecological values

The biodiversity values of the Vjosa River valley as a whole were assessed during the feasibility study for VWRNP based on the range of its habitats and the richness of its species, through various assessment criteria and instruments (national red lists of endangered species, Bern Convention appendices, Appendices of EU Habitats and Birds Directives, IUCN global red lists) (Greca and Sovinc, 2022).

Key value: Free-flowing river ecosystem

With its largely unobstructed fluvial morphology, longitudinal continuity in water flow, and sediment transport processes from its headwaters to the Adriatic Sea, Vjosa represents an exceptional key reference system for dynamic floodplains already lost across Central Europe (Schiemer et al., 2018).

VWRNP is exceptional for its still largely natural hydro-morpho dynamic fluvial processes as also described in Chapter 1.5. Thus, VWRNP represents an important point of reference for the hydro-morphological characterization of the Balkan rivers and the resulting processes of landscape formation (EcoAlbania, 2021; Hauer et al., 2021). The channel pattern shows significant variations over the whole length of the river in Albania (Daja et al., 2018) covering steep canyons, deep gorges, areas with large alluvial fans and islands as well as large gravel and sand bars and a meandering river before it enters Adriatic Sea at the Delta. Even though, VWRNP does not cover all tributaries and elements of the Vjosa watershed, it still preserves all features of a natural river. Fully protecting all ecological elements of a natural river ecosystem including its biodiversity is not only unique to Albania, but at a global level.

As one of the last intact river systems in Europe, Vjosa is a sanctuary for numerous species lost or endangered across the rest of the Continent. In addition, Vjosa was identified as a “no-go” (i.e. no development, high conservation priority) river stretch according to the criteria as presented in the Eco-Masterplan for Balkan Rivers due to its high ecological value and widely intact tributaries and significant wetland systems (Chamberlain, 2018).

According to the scientific consensus, Vjosa and its surrounding habitats are of remarkably high conservation value for several interconnected reasons. **The mosaic of various habitat types forms a highly dynamic natural river ecosystem of a scale unique in Europe.** These habitats harbor viable communities of animals that have significantly or entirely disappeared from other European rivers. Many of these communities are strongly dependent on the highly dynamic river system.

Biodiversity – An overview

To date, a total of **1,687 species, thereof 1,034 animals and 653 plants) have been documented in the Vjosa River Basin** (Egger et al., 2019; Fontes et al., 2019; Meulenbroek et al., 2021; Miho et al., 2018; A. Miho et al., 2023; Schiemer et al., 2018; Shumka et al., 2018), including **340 arthropods, 157 birds, 37 fish, 24 mammals, 109 mollusks, 19 reptiles, 9 amphibians, 299 vascular plants, and 354 non-vascular plants. Of all the 1,687 species documented so far, 39 of them are on the IUCN Red List and 119 on the Red List of Albania. No less than 15 species of the IUCN Red List and 74 species of the National Red List are classified as "at risk"** (CR - critically endangered, EN - endangered, VU - vulnerable). This only represents the number of species which were assessed on a few stretches along the river, mostly during the past six years. Scientists estimate that the current numbers may represent only as little as 5-10% of the total number of species occurring.

Living groups	Species	Source
Non vascular plants: algae	354	(Meulenbroek et al., 2021; Miho et al., 2018)
Vascular plants	299	(Meulenbroek et al., 2021)
Invertebrates: arthropods	340	(Meulenbroek et al., 2021)
Invertebrates: mollusks	109	(Meulenbroek et al., 2021)
Fish	37	(Meulenbroek et al., 2021)
Amphibians	13	(Meulenbroek et al., 2021)
Reptiles	32	(Meulenbroek et al., 2021)
Birds	257	(Meulenbroek et al., 2021; Miho et al., 2018)
Mammals	70	(Meulenbroek et al., 2021; Miho et al., 2018)
Total:	1687	

Table 3: The species number of major living groups known to date along the Vjosa riverscape and its tributaries (data from various sources).

According to the IUCN Red List, globally threatened species in the Vjosa Valley include:

- one amphibian (*Pelophylax shqipericus* - EN),
- two birds (*Neophron percnopterus* - EN and *Streptopelia turtur* - VU),
- seven fish 4 CR (*Acipenser naccarii*, *Acipenser stellatus*, *Acipenser sturio*, *Aphanius iberus*), 2 EN (*Anguilla anguilla*, *Gobio scadarensis*) and one VU (*Oxynoemacheilus pindus*),
- one mammal (*Myotis capaccinii* - VU),
- two molluscs (*Unio crassus* - EN, *Vertigo moulinsiana* - VU), and
- two vascular plants (*Aesculus hippocastanum*, *Galanthus reginae-olgae*, both VU).

The presence of the above endangered and vulnerable species on the IUCN Red List indicates the international importance of the Vjosa River.

Moreover, around **150 species of previously identified flora and fauna are listed in the Appendices of the Bern Convention**, including three species of higher plants, nine insects, five amphibians and reptiles, 107 birds, and 17 mammals (Shumka et al., 2018). 41 are found in the *Appendix of the Birds Directive*, and 78 in the *Habitats Directive*. Annex I of the Birds Directive lists 36 bird species, and Annex II of the Habitats Directive lists one amphibian, three arthropods, 12 fish, ten mammals, three mollusks, and five reptiles. Two species of fish and two mammals found in the Vjosa River Basin and listed in Annex II of the Habitats Directive are considered priority species and of very high conservation importance at the EU level. At the national level, the National Red List includes five arthropods (VU); 30 birds (6 CR, 6 EN, 18 VU), six fish (5 RR, 1 VU), six mammals (2 RR, 4 VU), and three reptiles (CR).

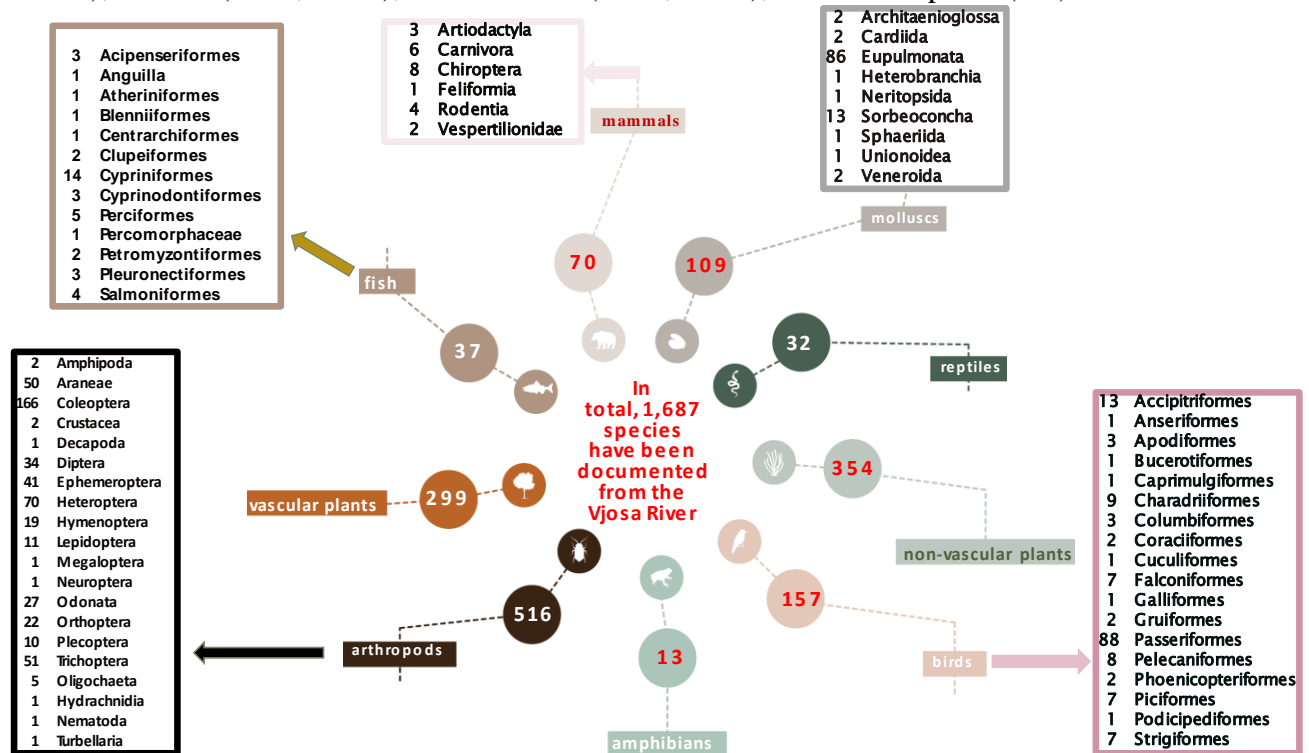


Figure 14: Biodiversity of Vjosa WRNP (Meulenbroek et al. 2020; updated by Shumka et al. 2018 and (L. Miho et al., 2023))

Remark: Due to the large longitudinal extension, the dynamic change of habitat patterns a full habitat and species inventory is a major challenge and has not yet been carried out. There is abundant information given the large number of anecdotal case studies and large investigations covering the whole Vjosa Valley beyond its declared boundaries. This supports the identification of main ecological values (species & habitats). The information provided here is a compilation of existing information, but it sometimes remains unclear whether a species or habitat occurs within the NP boundaries or outside.

It will be one of the most needed key tasks for the management of VWRNP to coordinate the collection of viable and complete information regarding key species and habitats inside the declared VWRNP within the first management period. The subsequent management plan thus should deliberately update the information provided here.

Habitats & ecosystems

The mosaic structure of the habitats of Vjosa is characterized by a dynamic equilibrium of different habitats responding to water level fluctuations. This provides the habitat conditions for a highly specific and diverse biota (Decamps et al., 2004; Pickett and White, 1985; Townsend et al., 1997; Ward et al., 1999; Winemiller et al., 2010).

More than 15 priority habitat types of European interest have been identified (EU Habitats Directive – NATURA 2000), including seven types (EUNIS, IPA) with a high floristic value. However, given the highly dynamic and constantly changing environment, the exact location and extent of individual habitat types frequently changes and yet remains unknown. The habitats with highest conservation values are listed in Table 4:

Habitat type	Code	Priority
<i>Alpine rivers and herbaceous vegetation along their banks</i>	3220	
<i>Mediterranean rivers with the constant flow with Glaucum flavum (yellow poppy)</i>	3250	1.8 % of European coverage
<i>Alpine rivers and woody vegetation with Myricaria germanica (German tamarisk)</i>	3230	1.2 % of European coverage
<i>Alpine rivers with woody vegetation with Salix eleagans</i>	3240	
<i>Southern coastal corridors and thickets (Nerio-Tamaricetea and Securinegion tinctoriae)</i>	9200	
<i>Semi-natural dry grasslands and scrubland areas on calcareous substrates</i>	6210	
<i>Alder forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)</i>	9130	
<i>Platanus orientalis and Liquidambar orientalis (Platanion orientalis) forests</i>	92C0	

Table 4: Most important habitat types of VWRNP

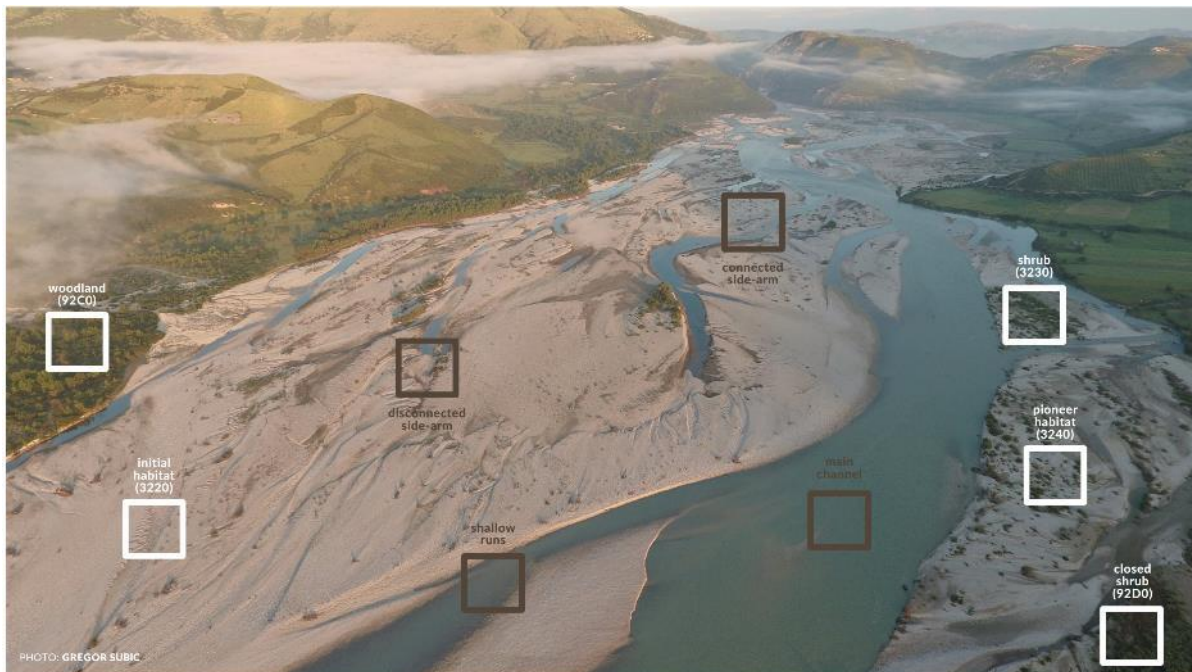


Figure 15: Schematic overview of main aquatic (brown boxes) and (semi-)terrestrial habitats (Meulenbroek 2020)

Species (Flora)

Due to the lack of extensive studies, it is difficult to pinpoint the precise number of higher plant species found across the Vjosa catchment or within the boundaries of the National Park. However, experts confirm that it **could be more than 1,500 taxa** of higher plants for the whole Vjosa riverscape (Shumka et al., 2018). Experts confirm that the current numbers are most likely underestimated. In the Gjirokastra region, 700 higher plant taxa are reported (Malo, 2010), of which 12 taxa are new for Albania, 40 taxa are sub-endemic, and 30 are rare or endangered species (Shumka et al., 2018; Tan et al., 2011). Meulenbroek et al. (2020) documented more than 350 species (10% of the total Albanian plant species on 0.1% of the Albanian territory) only on one single part of Vjosa near Tepelenë underpinning the importance of Vjosa as a biodiversity hotspot. Others report about 650 species of plants (354 algae and 299 vascular plants) for the river Vjosa (A. Miho et al., 2023) with a particular high diversity of diatoms which also serve as indicators for water quality.

Species	Status
<i>Aesculus hippocastanum</i>	IUCN Red List (vulnerable)
<i>Galanthus reginae-olgae</i>	IUCN Red List (vulnerable)
<i>Solenanthus albanicus</i>	IUCN Red List (endangered)

Table 5: List of key plant species endangered according to IUCN Red List

Moreover, three additional threatened species on the IUCN Red List, *Aesculus hippocastanum*, *Galanthus reginae-olgae*, and *Solenanthus albanicus*, which are categorized as Vulnerable C2a(i), Vulnerable B2ab(iii,v), and Endangered B1ab(v) +, 2ab(v), respectively, are found in the riverbanks and on the rocky faces along the tributaries, as well as the alpine limestone grasslands of the watershed. The dunes or wetlands are also home to several rare or relict species, including *Anacamptis morio ssp. caucasica*, *Ephedra distachya*, *Narcissus tazetta*, *Nymphaea alba*, *Nuphar lutea*, *Nymphoides peltata*, and various species of *Orchis*, *Ophrys*, *Limonium*, and *Scilla*. Other species with a more restricted range can also be found there (Shumka et al., 2018). *Typha minima*, a Europe-wide threatened species bound to wetland habitats was frequently observed in the area of VWRNP (Fontes et al., 2019).

In addition, about **380 species of MAPs (Medical and Aromatic Plants)** have been recorded within the watershed, 330 of which are wild species (Miho & Shuka, 2017). About 46 of these species are designated as endangered, threatened, or protected, and yet continue to be harvested in the wild, while roughly 70 species grow near water courses. Some of these species belong to the National Red List of species, e.g., *Adiantum capillusveneris* (VU A1b), *Dryopteris filix-mas* (LC), *Alnus glutinosa* (Vu), *Capparis spinosa* (VU A1b), *Galanthus reginae-olgae* (CR B1), *Populus alba* (VU A2b), *Quercus robur* (VU A1b), *Salix fragilis* (VU A1b), *Sambucus nigra* (VU A1b), *Symphytum officinale* (VU A1b), *Ulmus minor* (VU A2b), *Anacamptis morio* (EN A1b), *A. pyramidalis* (EN A1b), *Colchicum autumnale* (EN A1b) (Meulenbroek et al., 2018).

Species (Fauna)

The Vjosa River Basin is home to a vibrant and extensive diversity of fauna and includes many endemic species of great national and international importance in terms of conservation. The diverse populations of fauna in the Vjosa River Basin include:

- More than 150 species of winged insects (*Pterygota*) from different aquatic and terrestrial habitats in the IUCN Category V (protected landscape/ seascape) in the Vjosa-Narta zone (Cuvelier et al., 2018; Papparisto, 2001; Shkëmbi et al., 2018, 2015).

- About 60 mollusk species were reported in the coastal habitats of the Vjosa Delta to the Narta wetlands among them, 27 gastropods (snails), 29 bivalves (mussels), and four cephalopods (octopus, squids, and cuttlefish). Of these, 42 species originate from marine habitats, 12 from freshwater, and six from terrestrial sites (Beqiraj, 2004, 2001; Beqiraj et al., 2002; Dhora, 2002).
- At least 31 species of fish inhabit the river system, 27 of which are native, including eight species endemic to the Balkan and four non-native species (Shumka et al., 2018). The Vjosa River, its delta, and the Narta Lagoon make the more general area important for fish diversity, fishing, and aquaculture (Marková et al., 2010; Shumka, 2014; Shumka et al., 2010; Snoj et al., 2009). The Vjosa River provides ideal aquatic habitats for a variety of migratory fish species, as well as certain critically endangered species, such as the European eel (Jacoby and Gollock, 2014).
- At least 32 of the 37 reptile species occurring in Albania have been documented in the Vjosa Valley.
- A total of 257 recorded bird species across the various ecosystems and habitats of the Vjosa River Basin (MoE, 2009; Bego, unpublished data). Recent studies indicate already numbers of up to 295 bird species (Bino et al., 2023). Amongst others, VWRNP is essential for the large colonies of Sand Martin (*Riparia riparia*) (up to 14,000 breeding pairs), the Stone Curlew (*Burhinus oedicanus*) and Little Ringed Plover (*Charadrius dubius*) (26-42% of all breeding pairs in Albania) (Bino et al., 2023).
- The area also harbors around 70 of the 86 registered terrestrial mammal species in Albania (MoE, 2009; Bego, unpublished data), including the European otter, which is significant for the entirety of the Vjosa River system, as well as large carnivores, such as the brown bear and the wolf. Large mammals in the Vjosa watershed also include the Chamois (*Rupicapra rupicapra balcanica*), the roe deer (*Capreolus capreolus*), and the wild boar (*Sus scrofa*). The area is also a welcoming habitat for both cave-dwelling and forest bats; 29 out of 32 bat species recorded in Albania are present within the Vjosa watershed (Meulenbroek et al., 2018)

The Vjosa River Basin holds some of the largest national habitats of species or those not found anywhere else in Albania, while studies carried out so far have also discovered the existence of several new species. The fauna of Vjosa comprises typical elements of highly dynamic large rivers, all of which have lost large areas of their former distribution in Europe. These riverine faunal elements are highly sensitive to changes in the natural hydro-morphology. These points attest to the national (and international) importance of the Vjosa River Basin in terms of species conservation, and emphasize the necessity of its protection (EcoAlbania, 2021).

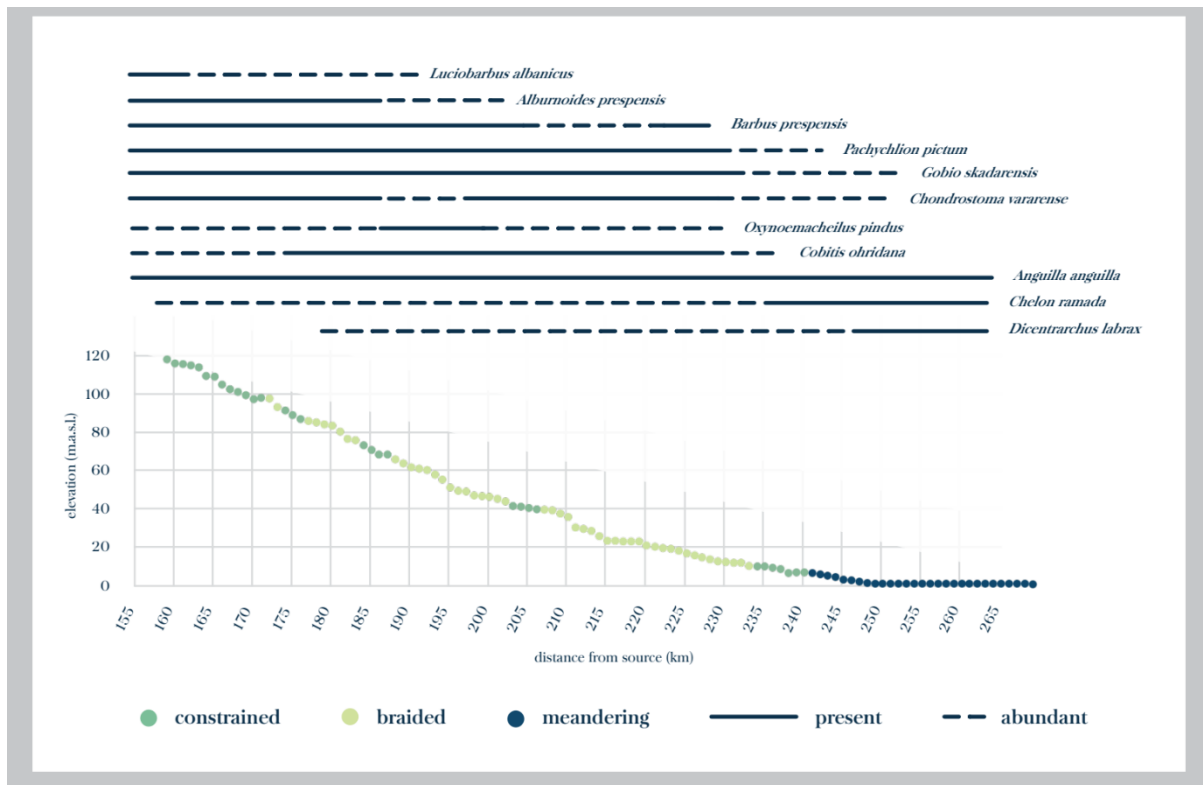


Figure 16: Distribution of selected fish species downstream of Tepelenë (Meulenbroek et al. 2020)

Ecological connectivity

Vjosa is an important ecological corridor as various protected areas are connected by the Vjosa River and its tributaries (see also Chapter 1.5). As VWRNP extends from the Adriatic Sea, surrounded by the wetland complex of the Vjosa Delta - Pisha Poro-Narta lagoon Protected landscape) all the way to the Greek Border, the national park represents a key element for ecologically connecting most of the protected areas in Southern Albania. Given its unobstructed longitudinal connectivity, the national park is also essential for the conservation of migratory fish species.

Of relevance is the Vjosa Delta, which shelters up to 18 Natura 2000 habitats, thereof 6 priority habitats. It is the second most important site for bird biodiversity in Albania and acts as a wintering site for water birds such as the Greater Flamingo, Audouin's Gull, and the Dalmatian Pelican (Shumka et al., 2018). Even though it is not located within the boundaries of VWRNP, it is an integral and interconnected ecological part of the Vjosa watershed and the river system. After the most recent finding it is considered as the most important on the whole Mediterranean region (Schwarz, 2023). The Narta Lagoon (41.5 km²) is among the largest and most important wetland ecosystems, not only along the Albanian coast, but in the whole Eastern Adriatic. About 2,300 species have been known to date in various habitats of the Delta area (1350 plants, 70 fungi and 880 animals) (data after AKZM/NAPA, 2022b, Bego, 2023; Beqiraj et al., 2023; Beqiraj, 2001; 2004; Bino, 2023; Meço et al., 2023; Miho et al., 2013; 2023; PPNEA / EURONATUR, 2021; Topi et al., 2013). Based on existing literature, an exact separation between biodiversity data for the Vjosa Delta and VWRNP cannot be made. Thus, species occurring in the Delta may not occur in VWRNP or vice versa. However, it underpins the ecological connection of the overall Vjosa ecosystem and network.

Summary of key ecological values

#	Value	Conservation objective
1 Overarching ecological key value		
1.1	Dynamic unobstructed free-flowing river with full representation of all features of a natural river (unobstructed fluvial morphology, natural sediment transport processes, longitudinal continuity in water flow) (River Continuum)	<ol style="list-style-type: none"> Maintain unobstructed flow Ensure continuity in sediment transportation processes Maintain natural flows²
1.2	Large-scale, uninterrupted ecological corridor connecting a large number of protected areas enabling the migration of species and ensuring functional and structural connectivity	<ol style="list-style-type: none"> Maintain unobstructed natural flow Strengthening of ecological corridors in the vicinity of VWRNP Extension of VWRNP to include further tributaries and adjacent, ecologically valuable areas
2 Geology/Morphology		
2.1.	Mosaic of different patterns illustrating the full spectrum of different morphological and hydrological features of a natural river (i.e. sequence of canyons, gorges, alluvial fans, terraces, islands, large gravel, and sand bars, meandering in the lower part)	<ul style="list-style-type: none"> Maintain unobstructed natural flow Ensure continuity in sediment transportation processes Minimize human interventions (i.e. extraction of natural resources; development of river boundaries)
2.2	Diversity of karst phenomena such as underground streams, karst springs and caves.	
3 Habitats*		
3.1.	Alpine rivers and herbaceous vegetation along their banks	<ul style="list-style-type: none"> Maintain unobstructed natural flow Ensure continuity in sediment transportation processes Minimize human impacts (e.g. grazing, deforestation, waste deposit, introduction of neobiota)
3.2.	Mediterranean rivers with the constant flow with <i>Glaucum flavum</i> (yellow poppy)	
3.3.	Alpine rivers and woody vegetation with <i>Myricaria germanica</i> (German tamarisk)	
3.4.	Alpine rivers with woody vegetation with <i>Salix eleagans</i>	
3.5.	Southern coastal corridors and thickets (Nerio-Tamaricetea and Securinegion tinctoriae)	
3.6.	Alder forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)	
4 Species *		Justification
4.1.	European Otter (<i>Lutra lutra</i>) (mammal)	Important species for the Vjosa ecosystem
4.2.	<i>Pelophylax shqiperus</i> (amphibian)	critically endangered frog in coastal habitat; occurrence within the boundaries unclear
4.3.	Plecoptera (guild) (e.g. <i>Marthamea vitripennis</i> or <i>Xanthoperla apicalis</i> (macrozoobenthos)	important indicator species for natural dynamics (Schiemer et al. 2018)
4.4.	Ephemeroptera, e.g. <i>Prosopistoma pennigerum</i> (macrozoobenthos)	important indicator species for natural dynamics (Schiemer et al. 2018)
4.5.	<i>Oxynoemacheilus pindus</i> (fish)	endemic to Northern Greece / Southern Albania; high habitat demand, declining population, vulnerable (Schiemer et al. 2018)
4.6.	<i>Anguilla Anguilla</i> (European Eel); (fish)	global priority species; strong decline, viable population in Vjosa, migrating species (Shumka et al. 2018)
4.7.	<i>Acipenser sturio</i> (European sea sturgeon) (fish)	migrating species, critically endangered, potential habitat;

² The “natural” flow regime summarizes the natural interaction and dynamics of all ecologically relevant components, including magnitude, frequency, duration, timing, rate-of-change of flow conditions, interannual variability and predictability of flow events (Poff et al., 1997). E-Flow concepts are also rooted in this concept.

		potentially important umbrella species; further studies needed (Shumka et al. 2018)
4.8.	<i>Acipenser naccarii</i> (Adriatic sturgeon) (fish)	migrating species, critically endangered, potential habitat; potentially important umbrella species; further studies needed (Shumka et al. 2018)
4.9.	<i>Typha minima</i> (vascular plant)	pioneer plant species, disjunct habitats; viable stands; endangered in Europe; (Fontes et al. 2018)
4.10.	<i>Riparia riparia</i> (Sand Martin) (bird)	Up to 13,000 breeding pairs (previously assumed for total Albania: 5,000-8,000 breeding pairs (Bino et al., 2023)
4.11.	<i>Charadrius dubius</i> (Little Ringed Plover) (bird)	150-200 breeding pairs (25-42 % of the total population of Albania) (Bino et al., 2023)
4.12.	<i>Burhinus oedicanus</i> (Stone Curlew) (bird)	40-60 breeding pairs (about 50% of total population in Albania) (Bino et al., 2023)
4.13.	<i>Neophron percnopterus</i> (Egyptian Vulture) (bird)	Documented in 9 locations; seven territories (Bino et al., 2023)
4.13.	Further birds: Large number of birds as potential target species such as kingfisher, bee-eaters, peregrine falcon, snake eagle or black stork	(Bino et al., 2023; Fontes et al., 2019)
4.15.	Bats	Completely unclear

Table 6: Key ecological values *Remark: The main species and habitats listed as key values are all related to river-bound ecosystems. Exact location, conservation status, population or area size remain widely unknown and may be subject to change once more solid ecological data is available)

2.1.2. Social-economic values

VWRNP protects one of the main lifelines in Southern Albania. The low population density, its rural aspect characterized by small urban centers, traditional agriculture, livestock keeping, and scarce industry have had a relatively limited influence on the natural state and biodiversity of the Vjosa.

Vjosa is (was) a major source of raw materials (e.g. gravel). It also provides water for domestic, commercial, and agricultural use. At the same time, it provides an invaluable touristic and recreational asset. The following section outlines some of the main social-economic values linked to ecosystem services. Given the high diversity of uses and benefits of Vjosa provided at the different sections of the river and due to the absence of a study on ecosystem services, this section is only indicate highlighting the most obvious and important benefits.

Water provision

Vjosa provides a huge amount of water for different uses all along the river. The watershed also feeds significant groundwater resources. The aquifers are important for water provision for all major settlements in the basin such as Fier, Vlorë, Saranda, Butrint or Gjirokastra. Tens of natural springs are partly used such as for drinking water supply. In some areas, the water is also used for aquaculture / fish farming.

The basin also has extensive agricultural production which depends on the water of Vjosa for irrigation of agricultural land. In the past, it was used more extensively for irrigation. However, most former pumping stations are not used / not functional anymore – similarly there are abundant former irrigation infrastructures such as reservoirs, draining and irrigation channels

which was used before the 1990ies for irrigation and fishing. Similarly, water of Vjosa is used all along the river for domestic use through the extraction via pumps or channels.

The exact amount of water abducted as well as any thresholds for sustainable quantities have not been set due to missing data and a lack of a coherent needs study. Whilst there is a need for regulation, water provision is key value at present as well as in future as it is an essential resource for the whole water basin.

Touristic potential

Being a biodiversity hotspot and one of the last remaining free flowing wild rivers of Europe, VWRNP represents an exceptional touristic potential complimenting the cultural touristic offer if developed sustainably. Some sections of the river are already being used for commercial rafting whereas other touristic options (e.g. birdwatching, hiking) have not yet been fully exploited.

The traditional rural aspect, in combination with tremendous cultural heritage and the natural values of the Vjosa River-system makes the area outstanding, near-to natural state, the largely undisturbed hydro-morphic dynamics, its very special hydromorphology and sediment transport, and its unique biodiversity, as it is often mentioned for the Vjosa River.

Sediments

The massive sediment load of the river - also due to the strong erosion of surrounding area - has provided gravel and sediments for domestic and commercial use as well as for large infrastructure projects. However, having substantial impact on the natural dynamics this use will be no longer possible in future.

Natural flood control

Due to its large variability of annual flows, its large gravel body, and the wide riverbed, Vjosa provides an important function for flood control moderating larger floods to a certain extent. However, due to several causes such as the intensive exploitation of river gravel, the economic development, high deforestation rates (only 22% of the watershed is forested (Hasenauer et al., 2022)) with resulting degradation and erosion as well as the destruction of embankments, major floods increasingly occur, particularly at the lower section of Vjosa. Major flood events are becoming more frequent and were recorded in 1937, 1956, 1962-1963, 1968, 1970-1971, 1980-1981, 1983, 1996, 1998, 2005, 2010, 2015, 2017 and March 2018 (Lushaj and Kacani, 2019). For natural flood control, the Vjosa Delta (as naturally flooded area) already partly provides a natural retention area for floods despite its intensive agricultural use. However, the full potential for natural flood control can only unfold if riparian forests are established and degraded slopes are afforested to absorb precipitations (Lushaj and Kacani, 2019). be harnessed, riparian forests along the river as well as afforested slopes in the watershed (to reduce superficial flows) already partly provide – but have a major potential in future to contribute to natural flood control.

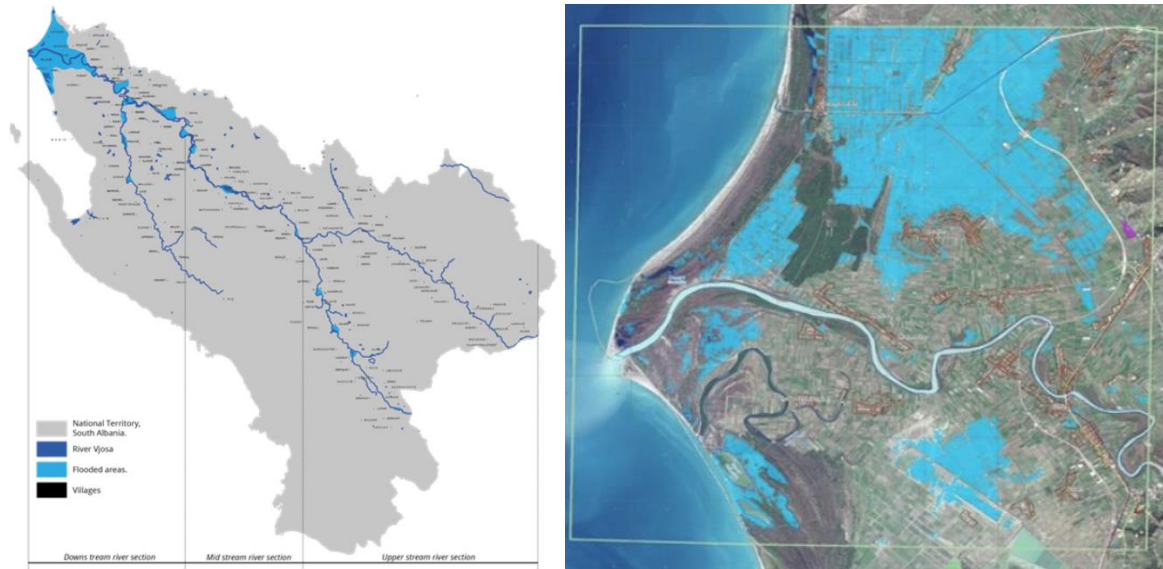


Figure 17: Flooding map of the flood 2015 (Lushaj and Kacani, 2019) (left); flooded area in the delta 2015 (right)

Diversity in medicinal and aromatic plants (MAPs)

In the Vjosa River Basin, around 380 species of medicinal and aromatic plants were recorded, thereof around 70 species growing near water courses (Miho and Shuka, 2017). As of 2015, 36 companies have exported MAPs including *Salvia officinalis*, *Origanum vulgare* or a wide range of medicinal plants (Miho and Shuka, 2017). Thus, whereas these species represent an important social-economic value and potential, there is limited control and frequent overexploitation. It remains unclear to which extent harvest takes place within VWRNP or in the river basin.

Summary of key social-economic values

#	Value	Conservation objective
Water provision		
1	Provision of (ground) water resources for livelihood, commercial activity, agriculture, and settlements	7. Maintain the provision of water for the needs of local residents in the Vjosa valley whilst minimizing ecological impacts 8. Limitation / strict regulation of water provision for use outside of Vjosa Valley
Tourism & Recreation		
2	Highly attractive landscape with unique features such as biodiversity, diverse habitats, side channels. Attractive areas for rafting or water-related activities.	9. Enable touristic and recreational development along clear criteria on certain spots with minimizing negative ecological impacts 10. Strictly limit gravel extraction, waste disposal and wastewater discharge into the river (negative aesthetics)

Table 7: Key social-economic values

2.1.3. Cultural values

The entire Vjosa’s basin, since the earliest times, has constituted a very suitable area for settlement. The territory where the Vjosa WRNP lies is probably the region in Albania with the highest density of the Cultural Heritage sites, of all ages and types. Most of the valuable cultural sites are in the Vjosa Basin, at most in the vicinity of VWRNP some, particularly bridges inside and/or spanning the VWRNP. Still, the riverine landscape of Vjosa and its tributaries are important landscape-determining element and thus being key element of the scenery of the cultural monuments.

There are ten cultural monuments located directly within the boundaries of Vjosa Wild River National Park (see also Chapter 1.9) comprising stone and metal bridges, aqueducts, and an ancient thermal bath:

- Ura e Bratajt – The Brataj’s bridge
- Këmbët e urës antike në kalanë e Cerjes – The piers of the ancient bridge below the Cerje’s fortification walls
- Ujësjiellësi i Vranishtit – The Vranishti’s Aqueduct
- Termat antike në Rexhepaj, Gorisht – The ancient thermal baths in Rexhepaj, Gorisht
- Ura e Kollorcës – The Kollorca’s bridge
- Ura në Subash – The Subashi’s bridge
- Ujësjiellësi i Bënçës – The Bënça’s Aqueduct
- Rrënojat e urës antike e mesjetare në lumin Vjosë, pranë Tepelenës – The ruins of the ancient and medieval bridge over the Vjosa River, near Tepelenë
- Ura Metalike e Leklit – The metallic bridge of Lekli
- Ura metalike e Dragotit – The Metallic Bridge of Dragot



Figure 18: Cultural monuments within VWRNP (Picture: Anna Kovarovics/ECO)

Summary of key cultural values

#	Value	Conservation objective
Integral element in the scenery of cultural sites		
1	Integral element of the scenery / setting of numerous cultural sites	<ul style="list-style-type: none"> • Maintain and restore the areas in immediate surrounding of the monuments • Establish waste management • Keeping the areas free of built infrastructures to preserve the scenery

Ancient, medieval and other bridges of cultural value		
2	Historic crossings of the Vjosa and its tributaries	11. Maintain and conserve bridges and crossings of historic value

Table 8: Key cultural values

2.2. Evaluation of the institutional framework

The existing institutional framework poses several challenges for the management of protected areas overall and for the management of VWRNP in particular. Some of these challenges have already been described in the feasibility study in 2022 (Greca and Sovinc, 2022). Additional challenges have been identified during the process of elaboration of this management plan.

For the future management of VWRNP it is crucial to establish structures, responsibilities and procedures allowing the protection of the ecosystem of VWRNP and further development of the national park, its conservation targets, actions, and regulations according to new studies and knowledge gathered within the first years after establishment of the park. These are demanding tasks, which need to be addressed by trained, experienced experts understanding the management of such a complex protected area as VWRNP.

It is therefore from uppermost importance to tackle the challenges described below accordingly and enable a professional management for VWRNP able to manage the area properly and protect the values of the national park effectively.

VWRNP is an especially challenging protected area to manage. Due to its size, its shape, its zonation, and the increasing interest by visitors, it needs new approaches, ongoing adjustments and a team of trained staff to manage and protect it.

To enable such a professional management, the following challenges must be analyzed, discussed with all parties involved and addressed as quickly as possible:

2.2.1. Intersectoral communication

The Albanian rivers, the water bodies, and resources, the Vjosa valley, the Vjosa river and/or the VWRNP are addressed in several national strategies, policies and legislations (see chapter 1.3). All of them addressing different aspects, serving different purposes, and setting individual objectives. Currently VWRNP and/or its area is mentioned in several national plans. The General National Spatial Plan Albania 2030 for example mentions the area of VWRNP as a potential tourism development area. Additionally, currently several plans and strategies are in preparation (e.g. River Basin Management Plan by AMBU). It is important to coordinate the development of these national strategy papers with the management of the national park and ensure that the regulations and interests of the VWRNP are considered already during the preparation of these documents.

It is also important to take advantage of the positive impact that national strategies and plans can have on VWRNP. Deforestation as one of the threats mentioned in chapter 2.3 is topic of the Strategy for the Development of the Forestry and Pastures Sector in Albania which can be an important tool for the national park and its surroundings when it comes to reforestation and sustainable forestry.

2.2.2. No individual PA management

Until February 2024, there was no legal basis to enable individual managements for certain protected areas. Until the amendment of the Law on Protected Areas, NAPA was responsible for the overall management of PAs in Albania, being supported by the RAPAs implementing national regulations and monitoring certain aspects (e.g. rafting, gravel extraction sites). With the new Law on Protected Areas, the legal base for the establishment of individual protected area managements (NPAOs) was created (Article 39/1) and should be used for VWRNP in the future.

As mentioned above VWRNP is a very challenging PA to manage, it is to be ensured that necessary human resources will be available (see recommendation in chapter 5).

Several approaches how a future management of VWRNP could be organised were elaborated in 2022 for the study carried out for the declaration of the national park.

2.2.3. RAPAs manage many (types of) PAs

RAPAs must manage all PAs in their region. Usually there are several types of PAs in a region, e.g. natural monuments, protected landscapes, nature parks, national parks present. Each type of PA requires different approaches to management and monitoring.

Furthermore, the number of staff involved in protected area management does not correlate with the number of PAs in a region. If there are many PAs in a region, the staff must manage them accordingly with the resources available.

For VWRNP, there are currently six persons available to manage the national park, which is not enough to ensure a proper protection of the river, especially keeping in mind the immense pressures and threats which are likely to increase soon.

2.2.4. Budget flow is slow

Once a year, the budget for all RAPAs is discussed and set. Therefore, it must be decided in several steps (RAPA→NAPA→MoTE→MoFE→Council of Ministers→Parliament). It usually takes until March each year for the budget to be effective.

Additionally, the RAPAs do not have a budget that they can decide on themselves. The money is converted according to actual expenses. This means that even for small investments such as office equipment, RAPAs must inform NAPA and wait for their decision until the expenses are approved and the needed equipment can be bought. This process can take up to weeks or months.

In several meetings and discussions, the need for a financially independent PA authority (with its own budget) was emphasised by the stakeholders.

2.2.5. Cooperation of RAPAs

Usually, the RAPAs manage all PAs within their region. PAs located in two or more regions are therefore managed by more than one RAPA. Currently, there are no structures in place where the RAPAs that jointly manage a PA meet, share their expertise, and coordinate their activities within the PA. It is up to the RAPAs involved in transboundary PAs to organise the communication themselves.

Currently there are some examples of transboundary PAs, where the RAPAs cooperate, especially when it comes to reporting to NAPA, but usually each RAPA reports on its part of the PA and the activities there.

For VWRNP, three different RAPAs are responsible for the management. In case the management will be organised within the existing structures, it is to be ensured that structures will be implemented which support and allow a regular exchange of the RAPAs and to appoint a coordinating body/person, aligning the work of the three RAPAs.

2.2.6. Park management and law enforcement

As the RAPAs usually must manage many PAs, the workload for the available staff is enormous. PA management nowadays requires working on a broad range of tasks (e.g. branding of PAs, monitoring of values and development of regulations accordingly, education, visitor information). These cannot be addressed with the current number of staff and the budget available for the RAPAs.

Additionally, the enforcement of laws and regulations that come with the establishment of VWRNP is crucial to protect the ecosystem. Locals need to be informed about and understand new regulations, what activities can still be carried out within the VWRNP, which ones should be done elsewhere and what cannot be done any longer. Same applies to the tourists and visitors of the region.

2.2.7. Cooperation with Greece

As the Vjosa river has its source in Greece, it is from uppermost importance to enhance the protection of the river in Greece and cooperate with authorities and managements on the Greek side in regard of management, regulations along the river and the protection of it.

Currently no structures are in place to support this communication and/or ensures an exchange with the management(s) of the protected areas along the river on the Greek side.

2.2.8. Conclusion

For this management plan more than 160 actions have been developed which should be implemented within the next 10 years to ensure a proper protection of VWRNP (see annex 7.6). The available personnel, budget and structures need to be adapted to these actions and the VWRNP, as this is a unique PA, which brings new challenges and needs new approaches to be developed soon.

2.3. Threat assessment

During the preparation of this management plan several stakeholder meetings, meetings with experts and literature research were done to identify the most important threats, assess them and address them. An overview table (see Table 9) was created showing current and expected threats, their origin (inside/outside the VWRNP), the threatened values (ecological, socio-economic, cultural values) and the expected trends (decreasing, stable, increasing). Additionally, the most important threats are described in detail below the table.

For most of the listed threats, no studies or research has been done along the Vjosa river so far, so this management plan must rely on studies and research done for other rivers. To ensure that the threats can be addressed according to their impact on the Vjosa and the national park, the

existing data gaps must be closed as quickly as possible and management activities must be adapted or developed to counteract the threats according to the knowledge gained.

For a first impression of the existing threats (mainly linked to existing activities during the time of elaboration of this management plan), an overview map (see Figure 9) was created showing the current situation according to existing data collected during the feasibility study for VWRNP and the elaboration of this management plan. The information has not been validated and is not comprehensive. A separate study must be done within the first years after the establishment of VWRNP (see chapter 3.3).

Threat	Impact		Origin		Values threatend			Trend		
	Poten- tial	Cur- rent	In- side	Out- side	Eco- logical	Socio eco- nomic	Cultu- ral	Decrea- sing	Stable	Increa- sing
Tourism		X	X	X	X		X			X
Touristic Infrastructure	X			X	X		X			X
Transport Infrastructure	X			X	X		X			X
Urbanization	X			X	X	X				X
Energy use		X	X		X	X	X	X		
Water pollution		X		X	X	X	X			X
Air pollution	X			X	X	X	X			X
Solid waste		X		X	X	X	X			X
Fishing		X	X		X					X
Aquaculture/fishfarming		X	X	X	X				X	
Land conversion	X			X	X	X	X			X
Livestock farming/grazing		X	X	X	X			X		
Agriculture		X		X	X			X		
Subsistence wild plant collection		X	X		X			X		
Subsistence hunting	X		X		X			X		
Forestry/wood production	X		X	X	X					X
Deforestation		X	X	X	X				X	
Mining		X	X	X	X					X
Oil and gas production		X		X	X					X
Bitumen production		X		X	X				X	
Water extraction		X	X	X	X	X	X			X
Temperature change	X			X	X		X			X
Drought	X			X	X	X	X			X
Erosion		X	X	X	X					X
Invasive Alien species		X		X	X					X
Institutional framework		X		X	X	X			X	
Low level of knowledge		X		X	X	X	X		X	

Table 9: Overview of threats, their origin, threatened values and trends (structure and threats based on the Periodic Reporting by UNESCO, adapted for VWRNP)

2.3.1. Detailed description of most important threats

The most important threats, their related activities (currently and/or potentially) happening inside and/or outside of the VWRNP and their potential effects on the ecosystem and the VWRNP according to research and studies are described below.

Threats impacting the hydro-morphology of the river

As the overarching ecological key value of the VWRNP has been defined to be the “dynamic unobstructed free-flowing river with full representation of all features of a natural river (unobstructed fluvial morphology, natural sediment transport processes, longitudinal continuity in water flow) (River Continuum)” (see details in chapter 2.1.1), threats targeting

the river continuum and free flowing character of the river are the ones which have the potential to destroy the ecosystem sustainably (Poeppl et al., n.d.).

This includes all **transverse constructions** which prevent the natural flow of water and represent insurmountable barriers for animals and aquatic organisms. These include, for example:

- dams,
- hydropower plants,
- bridges with insufficient permeability and
- flood protection measures of roads or other infrastructures that hold back the gravel to a high degree and thus disturb the natural runoff of the river.

Transverse constructions threaten all ecological values of the VWRNP such as habitats & ecosystems, species and the ecological connectivity of the river (Lin, 2011).

Preventing river dynamics

As mentioned above, transverse construction can destroy the natural river flow and therefore impact the ecosystem sustainably. Beyond that, also longitudinal constructions and security measurements can impact the river dynamics and therefore the values of the river (e.g. free flowing river, meandering of the river, flow rate) (Seele-Dilbat et al., 2022).

The straightening and narrowing of rivers as a safety measure for areas and structures that run along the river, such as flood protection measures or dams to secure roads along the river are preventing the river from meandering, widening, and flowing freely.

While regular floodings are part of the natural dynamics of a river ecosystem, they can cause severe danger to the surrounding areas if not managed properly. Currently, a Flood Protection Management Plan is under development by AMBU. It is important to understand the dynamics of the river and define the areas most prone to flooding outside the national park (will be finished until the end of 2024). With this knowledge, nature-based solutions must be developed, which minimize the damage outside the national park and at the same time ensure the natural river dynamics. Additional to the development of nature based solutions (see examples Figure 27), it is important to ensure the proper management of the adjacent area and the whole Vjosa valley (see chapter 3.2.3). Maps of the last major floodings are to be found in study B Zoning of this Integrated Management Plan.

Currently flood protection measures are in place on several locations along the Vjosa river, especially on the lower parts close to the lagoon. They are preventing the river dynamics, should be monitored, their efficiency analyzed, and proper alternatives should be found (e.g. bioengineering methods).



Figure 19: Flood protection measures along Vjosa river close to the lagoon (Source: Google maps)

Extraction of natural resources

The extraction of natural resources is ongoing inside VWRNP and along the tributaries of the Vjosa river, directly impacting the main river.

Water extraction

Water is diverted and extracted on several locations along the Vjosa river and its tributaries for different purposes: Irrigation of agricultural fields, drinking water, water bottling. It is not known which amount of water is taken from the river, neither when the water is taken. The effects of the water extraction on VWRNPs values have not been investigated yet. However, water extraction can degrade the ecosystem, threat species and the river dynamics. All water extraction within the VWRNP and its tributaries need to be mapped, analyzed and its effects need to be monitored. It is to be ensured that no new diversion channels are built and that no water extraction takes place in the VWRNP and its tributaries.

At the time of elaboration of this management plan, several projects were in development which have the potential to threaten the main values of VWRNP, especially the main value of the free-flowing river, its habitats and species. Examples for such developments are the construction of a new irrigation channel at the Kardiqhi tributary (see Figure 21) and of a new water extraction channel at the Shushica tributary (see Figure 20, both tributaries being part of VWRNP).



Figure 20: Construction site for a water supply channel at the Shushica tributary (Picture: Riverwatch/Ulrich Eichelmann)



Figure 21: Construction of a new irrigation channel at the Kardiqi tributary (Picture: Riverwatch/Ulrich Eichelmann)

Gravel extraction

Inside the VWRNP and along the tributaries of the Vjosa river, private and commercial gravel extraction is happening without any regulations. Gravel extraction has several negative effects on the river and negatively impacts not only the hydro-morphology, but also the species, especially the fish population and marine plants (Boudaghpour and Hashemi Monfared, 2008).



Figure 22: Gravel extraction site (Picture: NAPA)

Water pollution

The Vjosa river and its tributaries is used for depositing several unfiltered waste products. Unfiltered wastewater from villages, settlements and single buildings is discharged into the river. Additionally, several industrial sites along the river discharge their wastewater as well as the side products of the production process into the river (e.g. bitumen production, see Figure 23). Fish farms along the river also discharge their wastewater containing nutrients as well as antibiotics used inside the farm. All these activities pollute the water of the river and impact the water quality.



Figure 23: Aerial view of a bitumen production place in Selenica

Even though water quality seems to be still widely good, water pollution is reportedly having already an impact on certain parts of the river (A. Miho et al., 2023).

The Drino River was the richest in species (up to 87 species in the sample at Cold Water, Tepelenë, September 2022). Worth noting the finding for the first time of the endemic diatoms of Lake Ohrid: *Amphora sancti-naumii* (Tre Urat & Sajmola, in Vjosa River, May 2022), and *Gomphonella ohridana* (Cold Water Spring, Tepelenë). The red algae *Bangia atropurpurea* was a new finding in abundance in Bënça waters (in Jeil, May 2022). Based on the diatom community in the periphyton, the IPS values corresponded to 'Good' or 'Very Good' quality class in almost all river stations and springs. Worth to note the ecological quality 'Bad' class for the water baths of Benja thermal springs (IPS=3.01, May 2022). IPS was relatively low for the Drino waters in Gjirokastra, although of the 'Good' class.

Large amount of filamentous green algae, *Cladophora glomerata* (Bënça, in Tepelenë, and Kardhiq, at Kardhiqi Bridge, in May and September 2022 and at Tre Urat in July 2023), and *Enteromorpha intestinalis* in Vjosa River mouth in April 2023. *Spirogyra* species were found abundant in the Benja main bath (Përmet), Hotel Waterfall (Cold Water, Tepelenë). Filamentous algae of the genera *Cladophora*, *Spirogyra*, and filamentous cyanobacteria (*Oscillatoria* and *Phormidium*) were also abundant in the waters of the Drino. All of these are known as nitrophilous algae, which develop rapidly in waters with high nitrogen and phosphorus content. It is an evidence of the impact from the untreated urban waters, or polluted waters from agriculture, livestock, or other services in the area (A. Miho et al., 2023).



Figure 24: Algae development in Green nitrophilous filamentous algae easily observed in Bënça river in Tepelenë (Picture: Aleko Miho)

Current and future touristic developments

The interest in the country of Albania as a touristic destination and with that the number of tourists has been increasing during the last years. With an increase of nearly 30% within the first ten months of 2023 compared to 2022, expectations are high for upcoming years (according to a social media post of Mirela Kumbaro, Minister of Tourism and Environment). With the international media coverage presenting the new VWRNP as well as important and unique additional touristic offers in the Vjosa valley (e.g. UNESCO World Heritage Site Girokastra), it is to be expected that the visitor numbers will also rise in the surroundings of VWRNP.

Some touristic activities are already happening inside the national park and outside of it. However, it is the aim of this document to enable touristic experiences in the VWRNP and especially its surroundings while ensuring the protection of the ecological values of the national park. This means that certain management approaches should be implemented to ensure visitors can experience the national park without threatening its ecosystem.

Inside the national park, **rafting** is currently the main activity offered in a professional way to visitors and locals. Several rafting companies organize short trips (about two to three hours) on the Vjosa river, starting in Përmet and ending close to Tepelenë. Currently, there are no regulations in place dealing with a timeframe for rafting, entry and exit points, behavior on the river (the companies often take breaks on the gravel banks) or number of boats on the river per day. Additionally, no minimum requirements are in place when it comes to training of guides, security measures or standards for equipment.

Unregulated water sports activities reportedly may lead to loss of vegetation, soil compaction, disturbance in the existing water channels and evidence of use on popular rafting sites (Liddle, 1991). Trampling eliminates vegetation cover, which reduces inputs of organic matter and percolation into the soil. It may lead to displacement or changing spatio-temporal movement patterns of wildlife and reportedly affect reproduction success of ground-breeding bird species (Taylor and Knight, 2003).

There are no studies on the impact of the current rafting activities on the Vjosa river itself but an international study from 2011 aims that rafting might take the shape of chronic disturbance if corrective measures are not taken (Pala et al., 2011). Therefore, regulations should be put in place and a monitoring must be installed, which examines the impacts of the ongoing rafting offers and a definition of the number of boats, the area where rafting can take place, the timeframe when the rafting can happen and other criteria (see chapter 3.2.3) must be adapted accordingly.

The same applies for other touristic activities in the VWRNP as swimming, kayaking and wild camping.

Climate change

Albania is amongst the countries in South-Eastern Europe which are most vulnerable to climate change. Projections expect a steep decline in precipitation, an increase in natural disasters such as flooding or droughts as well as rising temperatures. This trend has already been observed in the past 20 years.

This may have severe impacts on Vjosa and VWRNP. Rising (water) temperatures may change the ecological conditions (e.g. for certain fish species, algae reproduction) but also on the changes in the annual discharge affecting natural dynamics. At the same time, it is likely that the public demand to use the water for irrigation, livestock or domestic use may strongly increase. In combination with the rapid development, public water needs also keep increasing as already visible at the Shushica water abduction project. Due to the increased risk of floodings, it is likely that a discussion about massive flood protection measures adjacent to or within VWRNP may emerge and must be addressed.

3. Protected Area Management

3.1. Vision and Objectives

Prior to the formal declaration of VWRNP, a feasibility study described a preliminary vision as well as general conservation and management objectives (Greca and Sovinc, 2022) emphasizing the wild and free-flowing character of Vjosa whilst deliberately considering the benefits of local communities. The related management objectives and goals are closely reflecting the objectives as defined by the IUCN standards for national parks (Category II).

Objectives as presented in the Feasibility Study (2022)

Primary management objective

Protection of natural biodiversity, together with the basic ecological structure and supporting environmental processes in line with IUCN Category II standards, as well as the promotion of recreational and educational activities compatible with the concept of sustainable tourism, and the promotion of the development of local communities

Other objectives include:

- Managing the area in such a way that representative examples of physiographic regions, biological communities, genetic resources, and intact natural processes are maintained and preserved in as natural a state as possible;
- Maintaining populations and functional ecological collections of native species at a sufficient level of density to guarantee the protection of the integrity and long-term resilience of the ecosystem;
- Specific contribution to the protection of species, ecological processes and migration routes;
- Preserving visitor areas for inspirational, educational, cultural, and recreational purposes at the level to not cause significant biological or ecological degradation of natural resources;
- Addressing the needs of local communities, including the use of livelihood resources, when the main objective of management is not compromised;
- Contribution to the local economy through tourism.

Based on the feasibility study, national legislation, and international standards the vision for VWRNP is:

The Vjosa-Aoös River, from its source to the Sea, including all tributaries, is afforded full national and transboundary protection, to the highest international standards, and is effectively conserved as a living, wild, free-flowing river, to the benefit of people and nature in Albania, Greece, and the world.

Consistent with the vision, the three main goals are:

1. Conserving ecological integrity of the VWRNP to IUCN Category II standards
2. Offering recreational activities and cultural experiences to connect people with nature and with Albanian culture
3. Promoting collaboration and shared responsibility for sustainable local development and protection of the VWRNP.

Primary management objective

Protection of natural biodiversity, together with the basic ecological structure and supporting environmental processes in line with IUCN Category II standards, as well as the promotion of recreational and educational activities compatible with the concept of sustainable tourism, and the promotion of the development of local communities.

3.1.1. Underlying planning logic

Based on the underlying vision, the legal and regulatory framework and international standards, specific and connected objectives and actions were elaborated and are structured as follows:

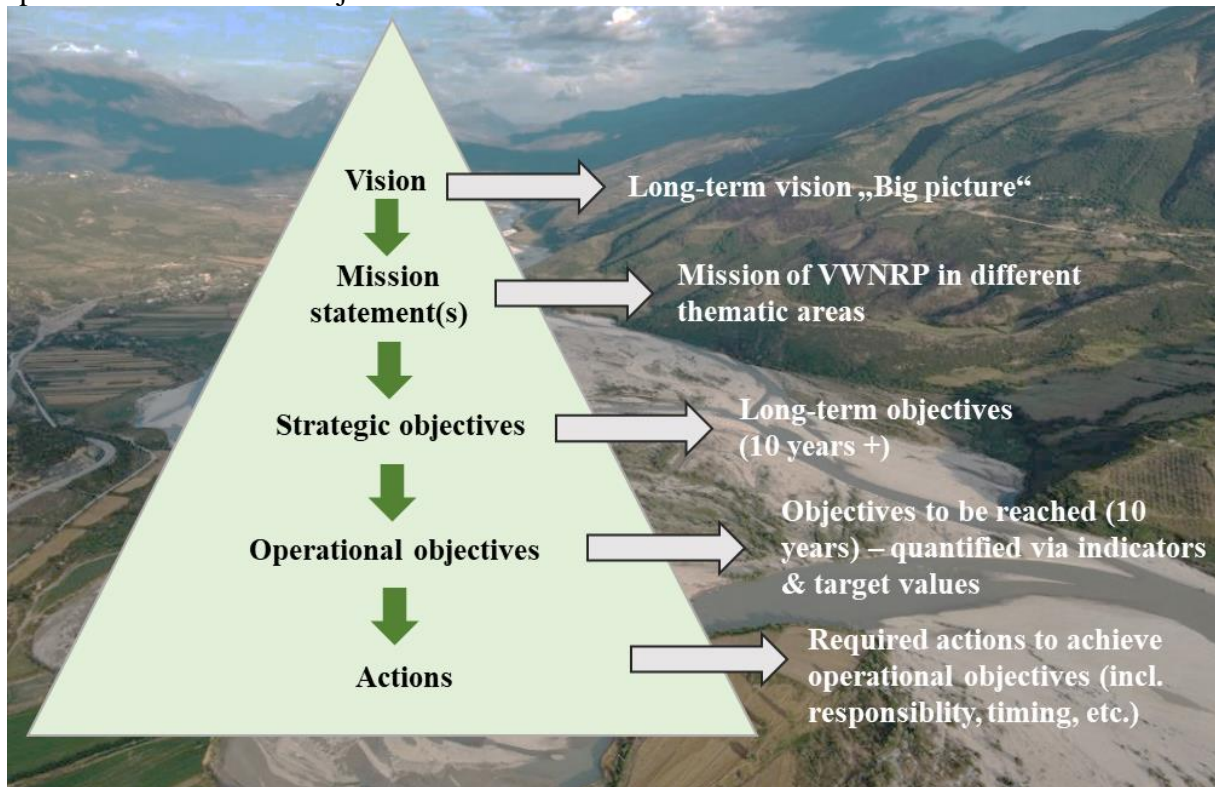


Figure 25: Underlying planning logic - Structure and elements

Main fields of action and mission statement

In line with international standards, management requirements and the vision, the management plan includes 6 different fields of action. For all, a mission, strategic and operational objectives as well as actions and indicators were elaborated and discussed with NAPA, stakeholders and experts.

	Field of Action	Mission Statement
1	Monitoring, Research & Conservation	The ecological integrity of Vjosa and all its related natural processes, ecological structures and biodiversity values is fully ensured. The natural dynamics provide optimal conditions for the development of species and habitats. Monitoring and research activities provide sufficient data basis for knowledge-based decision-making and ongoing management for effective PA authority of VWRNP, NAPA and interested stakeholders.
2	Education & Visitor Management	VWRNP offers a wide range of recreational and educational activities compatible with the concept of sustainable tourism and meeting IUCN conservation standards. It allows for cultural experiences to connect people with nature and with Albanian culture and enables visitors to experience the natural beauty and biodiversity of VWRNP without causing significant biological or ecological degradation of natural resources.

3	Community & Local Development	Local communities in and around VWRNP thrive and municipalities are enabled to develop their area in a sustainable way and to use natural resources without compromising the national park objectives. Through collaboration and shared responsibility for sustainable local development and conservation as well as through targeted investments in infrastructure, it is ensured that the whole Vjosa valley benefits from VWRNP and there are additional income opportunities for residents. VWRNP contributes thus to the sustainable development of the Vjosa Valley.
4	Law Enforcement & Patrolling	VWRNP staff consistently monitors activities within the VWRNP boundaries with the intention to minimize negative impacts on the park. Through regular patrolling, VWRNP is visible and present in the area.
5	Tourism & Public Relations	VWRNP represents a main attraction for developing sustainable tourism and supports sustainable tourism development through adding specific offers to the touristic portfolio and through supporting local communities in sustainable tourism development. Local communities are proud to be part of the wider VWRNP area and actively benefit from the national park. The conservation and protection work of the VWRNP is also supported financially through tourism revenues.
6	Organization & Coordination	VWRNP has an efficient PA authority in place which is a capable to implementation the management plan. It has secured funding and staffing and is well integrated into regional development processes. The PA authority is a good practice example for Albania and beyond for how to manage a complex national park, even at a transboundary level.

Table 10: Main fields of action and their corresponding mission statement

Main fields of action: Summary of strategic and operational objectives

The following section describes the long-term and operational objectives for VWRNP per field of action. The related necessary actions are described in chapter 3.3.

Field of Action 1: Monitoring, Research & Conservation

The overall vision and primary management objective clearly indicate the conservation of Vjosa as a living, free-flowing and wild river as primary objective. At the same time, this represents also the most outstanding ecological value.

To ensure the ecological integrity and effective conservation of Vjosa and of its related natural processes, ecological structures and outstanding biodiversity, this management plan defines eight strategic objectives and related 24 operational objectives.

Above all, the natural processes and river dynamics need to be conserved (Objective 1). This includes next to strictly avoiding the construction of any new infrastructures (O. 1.1.) also the gradual removal of existing physical barriers (O 1.1). As Vjosa and the development of the Vjosa Valley is subject to different responsibilities and mandates, it will be crucial to align all relevant national and local plans and strategies with the objectives of VWRNP (O 1.3.).

Amongst the key objectives of any national park according to international standards is the conservation of ecological values, particularly its key habitats and species (Objective 2). This includes a good ecological status of species (O 2.1.), habitats (O 2.2.) and sensitive areas (O 2.3.). In line with the current process of EU accession, particular emphasis needs to be placed on the conservation status of valuable Natura 2000 habitats and species (O.2.4).

As outlined also in Chapter 2.3 (Threats), degraded habitats within the watershed pose a significant problem due to limited natural water retention and large-scale erosion. Thus, the restoration (Objective 3) of habitats outside the national park (e.g. afforestation of degraded

slopes) (O. 3.1.) and the restoration of degraded habitats within the VWRNP boundaries (O 3.2.) is important to be tackled within the next 10 years.

Amongst the most prominent challenges for the management of VWRNP is the appropriate management of the manifold threats and pressures (Objective 4). Given the numerous uses of river resources, the large longitudinal extension of VWRNP and the large number of adjacent municipalities, the appropriate management of threats is a most demanding task. This includes the improvement of water quality (O 4.1.), the improvement of waste management along the river (O 4.2.) as well as the termination of extractive uses such as gravel extraction (O 4.3.) and the reduction of existing water abstraction (O 4.4.). In addition, fishery needs to be clearly regulated due to its direct impact on fish populations and due to current inappropriate fishery practice (e.g. use of explosives) (O 4.5).

Vjosa WRNP is embedded into a network of different protected areas, often connecting these. Furthermore, the lengthy but narrow delineation of the national park maximizes edge effects (i.e. external impacts directly on the central sub zone without spatial buffer). Consequently, the ecological connectivity needs to be preserved and improved even beyond the current boundaries (Objective 5). Within the next ten years this needs to be supported by improving the quality of the immediate adjacent areas (O 5.1.) and as well proactive lobbying for a future extension of the VWRNP area (O 5.2.).

The appropriate management of the manifold uses and pressures requires a solid basic knowledge. Knowledge and information about biodiversity as well as ongoing uses needs to be constantly collected and updated. Consequently, VWRNP needs reliable datasets with regards to main ecological values (Objective 6). Being a new national park, existing information and research needs to be made available (O 6.1.) as well as targeted research be carried out to gradually close knowledge gaps (O 6.2.). Specific emphasis needs to be placed on making existing research available for management and further research (O 6.3.).

Given the dynamic environment of a free-flowing wild river, continuous monitoring of biotic and abiotic features is a core task (Objective 7). This includes the development of a consistent monitoring concept and plan (O 7.1.), the building-up of internal capacities of the managing authority/RAPA for carrying out monitoring (O 7.2.) and the monitoring of climate change impacts on the Vjosa River Basin and national park (O 7.3.).

Vjosa is a prominent and attractive place for research. At the same time, the data and research need to appropriately manage VWRNP is tremendous. Thus, building and maintaining a wide academic partnership network will be a key objective (Objective 9). This includes the structured establishment of cooperations with national and international research institutions (O 9.1) and the establishment of “monitoring partnerships” to implement the ecological monitoring as required (O 9.2.).

	Strategic objective		Operational objective
Conservation of natural processes			
1	Natural processes and river dynamics are maintained and preserved in as natural a state as possible as a foundation for a healthy and functional ecosystem	1.1	Removal of physical barriers wherever possible within VWRNP boundaries
		1.2.	Ensuring that no new infrastructures are built within VWRNP boundaries
		1.3.	Align all relevant national and local policies, plans and strategies with VWRNP objectives and regulations
Conservation of ecological values			
2	Populations and functional ecological collections of native species are maintained at a sufficient level of density and guarantee the protection of the integrity and long-term resilience of the ecosystem	2.1	Ensure good ecological status of key species (e.g. IUCN / National Red List Species)
		2.2	Ensure good ecological status of priority habitat types of national and European Interest
		2.3	Ensure good ecological status of sensitive areas of the VWRNP
		2.4	Ensure conservation of valuable habitats as Natura2000 sites
Restoration			
3	Degraded habitats with a direct impact on river dynamics are restored and in good ecological condition.	3.1	Afforestation/Reforestation of degraded and exposed slopes of the watershed outside and inside the VWRNP boundaries
		3.2	Improvement of ecological status of degraded habitats adjacent to the rivers (e.g. riverine forests, natural grassland)
Management of pressures and threats			
4	All external pressures and infrastructures affecting the natural dynamics, habitats, and species of WVRNP are minimized, well managed or are halted completely.	4.1	Improvement of water quality and reduction of river pollution (input of fertilizers, wastewater, industrial pollution)
		4.2.	Improvement of waste management along the river
		4.3	Termination of extractive uses of river-related resources (e.g. gravel extraction)
		4.4.	Reduction of (existing) extractive water uses (particularly irrigation)
		4.5.	Clear regulation of fishing activities and fishery along Vjosa
Conservation beyond current area			
5	Ecological connectivity between natural areas within the VWRNP and outside the park boundaries (National Park Region) is maintained.	5.1	Improvement of the ecological quality of the adjacent area along the river
		5.2.	Setting viable conditions for an ecologically useful future extension prioritizing an increase of the buffer and better connectivity with other protected areas
Research and biodiversity inventory			
6	A comprehensive overview and reliable datasets of the main ecological values of VWRNP are available and can be used for management.	6.1	Establishment and maintenance of a database for spatial and quantitative biodiversity data (as collected during mappings)
		6.2	Continuously enable and actively initiate research to close existing knowledge gaps and to enable knowledge-based decision-making and management

		6.3	Ensure availability of relevant scientific research, publications and datasets as an enabling condition for targeted research
Ecological monitoring			
7	Main biotic and abiotic features are consistently monitored.	7.1	Setting up a viable monitoring plan incl. sample points, frequency, methodology, indicators for habitats, species, water outtake and inputs, illegal activities, visitors and recreational activities
		7.2	Increase internal capacities of RAPA for monitoring
		7.3	Monitoring of impact of climate change on VWRNP and the Vjosa Valley
Coordination with reasearch institutions			
8	A wide academic partnership network and cooperation with research institutions supports the work of VWRNP.	8.1	Establish a permanent partnership with Albanian and international universities and research institutions
		8.2	Establishment of "monitoring" partnerships to coordinate monitoring

Table 11: Thematic area 1 (Monitoring, Research & Conservation): Strategic and operational objectives

Field of Action 2: Education & Visitor Management

Amongst the key goals of a national park is to enable visitors and residents to experience nature. However, being an ecologically sensitive space, this requires active management of visitation. Consequently, to ensure access for recreational purposes (Objective 9) requires to systematically plan and manage visitation (O 9.1.), a clear regulation of watersports as primary recreational activity (O 9.2.) and broad communication and promotion of areas suitable for recreation (O 9.3).

A key element for managing visitation is the establishment of visitor infrastructure (Objective 10). This also serves to guide visitors or guide them to specific, desired places. This includes the establishment of basic visitor infrastructures (O 10.1.) such as a visitor center or info points but also consistent signage to guide visitors and to make VWRNP visible (O. 10.2.). Being located mostly along roads, vehicles will be the primary mean of transportation for visiting. Thus, in cooperation with responsible authorities, a clear transportation infrastructure plan and infrastructure (e.g. access points, parking, public transportation) needs to be established within the first ten years (O 10.3.).

(Environmental) education is a key element of any national park to increase regional acceptance and regarding environmental issues. Given the big challenges in Albania regarding waste, wastewater, climate change, as well as biodiversity loss this is particularly important. Consequently, to increase the knowledge about VWRNP, its ecology and sustainable development is a key objective of VWRNP (Objective 11). During the first 10 years, it is necessary to develop school programs to include VWRNP-related contents into primary and secondary education in the schools' adjacent municipalities (O 11.1) and to establish a specific educational program for visitors including guided excursions (O 11.2).

No.	Strategic objective	No.	Operational objective
Visitor management & monitoring			
9	Access to selected areas for inspirational, educational, cultural, and recreational purposes in a sustainable manner without negative ecological impacts is ensured.	9.1	Actively and systematically manage visitation and recreational uses of the river
		9.2	Transparently regulate water-related sports within VWRNP (particularly boating and rafting)
		9.3.	Actively communicate and promote areas suitable for recreational or touristic purposes
Visitor infrastructure			
10	VWRNP has an up-to-date infrastructure to allow for a unique visitor experience when visiting VWRNP	10.1.	Develop NP tourism infrastructure distributed throughout the Vjosa River Basin
		10.2.	Establish clear and consistent signage of VWRNP
		10.3	Improve traffic infrastructure (incl. parking, access points, public transport) in line with conservation objectives.
Education			
11	Residents and visitors have broad knowledge about the national park, nature conservation and sustainable development.	11.1	Systematically include VWRNP and its objectives into primary and secondary education (in schools)
		11.2	Development of an educational program with guided excursions (within VWRNP, e.g. at visitor center)

Table 12: Thematic area 2 (Education & Visitor Management): Strategic and operational objectives

Field of Action 3: Community & Local Development

Vjosa WRNP is not only a conservation effort but shall also open new sustainable development perspectives for local communities as the river Vjosa is and has always been a part of local communities. However, sustainable development needs to take place without compromising the objectives of VWRNP and the ecological integrity of the river ecosystem.

Consequently, VWRNP needs also to support the sustainable development of the wider Vjosa valley (Objective 12) through proactive collaboration with municipalities (O 12.1.) and by increasing the knowledge and awareness of local communities (O 12.2.). Furthermore, those economic activities that take place and depend on river resources such as fish farming (aquaculture) need to be maintained as a source of income whilst ensuring that it occurs in line with VWRNP objectives (O 12.3.).

No.	Strategic objective	No.	Operational objective
Support of community development			
12	Sustainable development of local communities is fully supported and enables local communities to improve their livelihoods and to benefit from VWRNP	12.1	Strengthening the collaboration with municipalities
		12.2	Increase knowledge and awareness of local communities regarding options to benefit from the VWRNP
		12.3.	Enable sustainable fish farming (aquaculture) as local source of income and in line with NP-regulations and guidelines

Integrated water management			
13	The limited water resources within the Vjosa basin are well managed and are used in a sustainable manner.	13.1	Promote an agricultural and regional development capable of satisfying economic and national needs without negative impacts on VWRNP (particularly regarding water extraction and pollution).
		13.2	Actively support integrated water management according to the River Basin Management plan

Table 13: Thematic area 4 (Community & local development): Strategic and operational objectives

According to the EU Water Framework Directive and the related river basin management plans, water resources need to be well managed and used in a sustainable manner (Objective 13). This is also in line with the objectives of VWRNP. The reasonable and ecologically viable use of water is indispensable to ensure both the wild nature of river ecosystem as well as satisfying the needs of local communities. This is likely to aggravate in future due to climate change. Consequently, VWRNP needs to proactively promote an agricultural and regional development with a focus on minimizing the abduction of water resources (O 13.1.) and closely collaborate with AMBU and other relevant institutions to develop and implement the River Basin Management plan (O 13.2.).

Thematic area 4: Law Enforcement & Patrolling

Along the whole VWRNP numerous activities occur as outlined in chapter 1.6.3. This includes gravel extraction, fishing, depositing of waste, irrigation amongst others. Due to the new protection regime, it is necessary that VWRNP staff continuously monitors and reports illegal activities to minimize negative impacts on the park (Objective 14). Given the size of the national park an effective law enforcement system needs to be established (O. 14.1.) and requires adequate equipment of rangers to carry out their duties (O. 14.2.). Next to an ongoing monitoring and patrolling as a key task (O 14.4.), it is also crucial to improve the process of following-up reported violations (O.14.3.) with the final objective to reduce or halt violations completely.

No.	Strategic objective	No.	Operational objective
14	Effective law enforcement and patrolling processes as well as the monitoring of activities ensure that illegal activities are halted.	14.1	Establishment of a viable and effective law enforcement and patrolling system
		14.2	Ensure adequate equipment for RAPA / rangers to carry out their duties
		14.3.	Improvement of the process of law enforcement in the case of reported violations
		14.4.	Ensure consistent monitoring of threats, pressures, and illegal activities

Table 14: Thematic area 4 (Law Enforcement & Patrolling): Strategic and operational objectives

Thematic area 5: Tourism & Public Relations

VWRNP represents a main attraction for developing sustainable tourism next to the already existing cultural attractions. Through adding specific offers to the touristic portfolio and through supporting local communities in sustainable tourism development, local communities will have the opportunity to directly benefit from VWRNP. This will be also crucial for the general acceptance of VWRNP amongst the local population.

Whereas VWRNP only has a very limited role in actively developing tourism, it is still a key objective to participate in shaping touristic development through the coordination with the tourism sector (Objective 15), promoting sustainable tourism practice (Objective 16) and by widely communicating and promoting VWRNP values (Objective 17).

The development of a broad portfolio of touristic activities (Objective 15) should be supported by providing support to local communities (O 15.1.), by providing training to park staff (O 15.2.), the development of specific, NP-owned offers (15.3.), a constant exchange with tourism operators (O 15.4) and by a specific branding and marketing campaign (O 15.5). It will be vital for VWRNP to actively become engaged in shaping the tourism development to ensure the integration of VWRNP objectives and values.

Consequently, tourism in Vjosa Valley shall widely adhere to sustainable tourism practice (Objective 16). This needs to be supported by nurturing a deeper understanding and awareness amongst tourism stakeholders through targeted trainings (O 16.1. as well as the support of the development of sustainable tourism practices (O 16.2.). Representing a major local touristic attraction, a model should be developed to allow also for financial benefits for conservation (O 16.3.).

A permanent objective, not only restricted to tourism operators, but to the public, is to ensure that VWRNP is widely accepted and supported (Objective 17). Next to concrete benefits (e.g. from increased tourism revenues), this also requires constant communication of VWRNP values (O 17.1.) as well as the promotion and communication of good practice examples to make the benefits tangible to a wider public (O 17.2.).

	Strategic objective		Operational objective
Coordination and interaction with tourism sector			
15	A broad portfolio of different touristic activities and network of service providers is available and represents a sustainable and ecologically viable touristic offer to experience VWRNP	15.1	Support local communities and service providers in developing sustainable touristic offers and NP-related activities in line with NP regulations
		15.2.	Training for park staff to understand tourism and how to manage tourism within and near to the park (model concession, permit and tourism management documents as well as risk management plan)
		15.3.	Development of specific NP-activities distributed throughout the Vjosa River Basin
		15.4.	Frequent exchange with tourism operators and stakeholders in charge of implementing the tourism master plan
		15.5.	Branding and marketing campaign for VWRNP and Valley
Sustainable tourism practice			
16	Sustainable tourism practice and environmental conservation is broadly accepted and embraced by the local tourism sector and local communities. It mutually benefits conservation and tourism.	16.1	Nurture a deeper understanding of sustainable tourism practices and the importance of environmental conservation among local communities and visitors, promoting a sense of stewardship and responsibility towards Vjosa WRNP and Valley
		16.2.	Develop and implement sustainable tourism practices that minimize the environmental footprint and promote responsible resource management within the VWRNP and valley
		16.3.	Development of a model to use tourism revenues to support NP activities

Promotion and communication of NP values			
17	VWRNP is widely accepted and supported at local and national levels	17.1	Promote the natural and cultural values of the area and its importance for nature conservation, locally and internationally, to attract visitors and mobilize support.
		17.2	Promotion of good-practice examples and lighthouse projects illustrating the benefits of VWRNP

Table 15: Thematic area 4 (Tourism & Public Relations): Strategic and operational objectives

The expressed objectives are further detailed and complemented with additional actions outside VWRNP boundaries in a separate tourism master plan.

Thematic area 6: Organization & Coordination

As of 2024 after the official designation of VWRNP, the national park is managed by the rangers of three different RAPAs, which is insufficient for the complex tasks and challenges that are related to the establishment of VWRNP. Consequently, there is the imminent need to establish an efficient PA authority capable to implement the management plan.

Within the first ten years of existence, the building up of such a PA authority is a key objective (Objective 18) as well as the establishment of a functional governance system involving the manifold stakeholders and municipalities (Objective 19). This is of outstanding importance given the shape and extent of VWRNP stretching across many municipalities.

The watershed extends towards Greece. To permanently secure the wild river character of the national park, it is essential to strengthen transboundary cooperation and conservation by jointly work towards the protection of the whole river (Objective 20).

The related actions to the operational objectives are found in Chapter 3.3 and 3.4.

No.	Strategic objective	No.	Operational objective
18	VWRNP has an adequately staffed, effective and functional PA authority for ongoing management	18.1	Adaptation of the RAPA-based management towards a special PA authority /unit capable to implement the management plan
		18.2	Establishment of a viable working environment for actively managing VWRNP
		18.3.	Enhance the qualification and competencies of VWRNP staff
		18.4.	Ensure transparent and efficient management of VWRNP
		18.5.	Ensure diverse long-term funding for implementation through a diversity of funding sources
Governance			
19	A functional and broadly accepted governance system involves all relevant authorities, municipalities, and other stakeholders	19.1	Establishment of functional governance structures at regional level
Transboundary cooperation			

20	The whole Vjosa-Aoos river system is effectively protected through transboundary conservation efforts.	20.1	Establishing a basic formal transnational cooperation with Greece
		20.2	Coordination of transboundary conservation measures and joint actions

Table 16: Thematic area 6 (Organization & Coordination): Strategic and operational objectives

3.2. Determination of Management Areas

As described in chapter 1.6, VWRNP comprises two zones, the Central Sub-Zone or Core Zone with the strictest protection regime and the Sustainable Development Sub-Zone, where a sustainable development of traditional activities is possible. Several allowed and not allowed activities and uses for these two zones are listed in the Law on Protected Areas.

However, some activities currently happening inside the VWRNP are not listed in the law and therefore regulations for those must be developed in the future and set in the DCM (within 18 months) according to the amended Law on Protected Areas, Article 74/5 (adopted in March 2024).

For some of the existing activities within the VWRNP, this management plan developed specific regulations for their implementation (according to the Law on Protected Areas, Article 16/5) within the borders of the national park and beyond (see chapter 3.2.3).

Apart from the two zones described above, no other zone is existent in or around the VWRNP, also a defined buffer zone is currently not in place. To still ensure a certain buffer function, this management plan also gives recommendations for certain activities and uses outside of the VWRNP boundaries (according to Article 42/3f of the Law on Protected Areas). These recommendations can be found in chapter 3.2.2).

3.2.1. Management areas inside the VWRNP

There are two different management areas inside VWRNP with different degrees of protection and regulations:

- Central Sub-Zone/Core Zone
- Sustainable Development Sub-Zone

The main management area of the national park comprises the **Central Sub-Zone**, with an area of 11,822 ha or 92.9% (of the total surface), including the active channel; low laying active floodplain and riparian habitats as well as river belts, canyon slopes and erosive escarpments. In this sub-zone the first degree of protection (strict) is applied.

7.1% of the national park have been established as **Sustainable Development Sub-Zone** (including forests, agricultural land, and pastures), where traditional activities can be carried out. In this sub-zone the second degree of protection is applied, which provides a territory with low impact and control of economic activities.

These two sub-zones represent the national park and therefore will be managed by the respective authorities (see description of management in chapter 5). For both zones, the Albanian Law on Protected Areas defines allowed and not allowed activities.

As the Law on Protected Areas does not give specifications for all activities happening within the VWRNP at the time of declaration and expected activities in the future, additional regulations for both zones of the VWRNP must be set in the DCM (within 18 months after the adaption of the amended Law on Protected Areas in March 2024).

3.2.2. Important areas outside of the VWRNP

There two additional areas impacting VWRNP which should therefore be considered by the VWRNP PA authority even though it is beyond the formal mandate of NAPA:

- Adjacent land
- Vjosa valley

Article 42/3f of the Law on Protected Areas notes that the management plan of protected areas shall at least include appropriate activities for the surrounding areas, including those in the buffer zones and beyond.

There is currently no buffer zone defined according to the DCM for the declaration of the VWRNP or the Law on Protected Areas, but still a buffer function is crucial to ensure the proper protection of the river especially from threats having their source outside of VWRNP (see Table 9 for details).

Scientific findings (summarized in the literature study by Sweeney and Newbold (2014) and several international and national policies confirm a substantial filtration capacity (e.g. regarding nutrients) if there is an area with (riparian) forest vegetation along a water body. Consequently, the protection of VWRNP could be increased by establishing a forest strip along the river.

Since VWRNP comprises mainly the river and its floodplains, and at some points not even reaches a hundred meter of width, and no buffer zone exists, the **adjacent land on both sides of the river** along the whole length of VWRNP should be managed according to conservation interests and objectives. This adjacent land is not officially part of VWRNP and therefore not in the responsibility of the managing authorities. Still, the PA authority can influence the development of it by cooperating with other sectors, private landowners/users and municipalities.

To evolve the best buffer function of the adjacent land, a natural forest (with a minimum width of 30 m) is recommended. This means, that soon, the PA authority must organize mapping the areas bordering the water body/gravel banks inside and outside the national park, define the not forested areas inside and outside the national park and develop concepts of how to afforest these areas according to potential natural forest types and species.

To also ensure the minimization of threats from the **Vjosa valley and to consider an integrated management philosophy which is most appropriate for the specific situation of VWRNP**, recommendations for the whole valley have been developed as well. Again, stressing that the PA authority has no authority there but should try to influence the development of the valley positively and according to the protection needs of VWRNP.

3.2.3. Regulations and recommendations

This section presents management approaches for activities and uses within the boundaries of VWRNP as well as recommendations for them in the adjacent areas and the whole Vjosa valley.

All management approaches listed and described below have been developed to avoid threatening the defined values (see chapter 2.1) of VWRNP and therefore ensure the proper protection of them.

Activities allowed/not allowed according to the Law on Protected Areas

Article 33 of the Law on Protected Areas lists the **allowed activities** in protected areas as follows:

- The activities defined in the DCM of the declaration of the protected area and implemented in accordance with the criteria approved by special regulations of the National Council of the Territory.
- Activities developed as accommodation structures of excellence, 5 stars or more, in the field of tourism and any other supporting activity/infrastructure or in their function, regardless of whether this is defined in the DCM declaring the protected area.
- Activities developed in agritourism accommodation structures and any other supporting activity/infrastructure or in their function, regardless of whether this is determined in the DCM declaring the protected area.
- Activities aimed at monitoring the environmental condition, ecosystem, habitats and flora and fauna species.
- Any activity related to necessary or urgent interventions for the improvement regeneration or health of biodiversity, or any other activity for this purpose.
- Military activities, which can be exercised after having been provided with an environmental permit.

Article 16/2 states: In a "National Park", with the exception of infrastructure and hospitality activities, with the highest architectural and environmental standards for supporting tourism of excellence (with 5 stars) and supporting infrastructure for them, in accordance with the provisions of Article 33 of this law, apply the degree of environmental protection of the area that aims to maintain the territory in a natural state, where biotic communities, genetic resources and species are preserved to ensure ecological stability and diversity and where:

- a) it is not allowed to use or occupy the land for any other reason;
- 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;
- c) construction of urban areas, highways, railways, high voltage power lines and long-range oil and gas systems is prohibited;
- d) alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited;

According to the Law on Protected Areas (Article 48/2), the following activities are **prohibited in the Core Sub-Zone** of national parks in Albania:

- use of chemicals and chemical fertilizers;
- extraction of minerals and turf, except for stones and sand for the maintenance of the park;
- starting fires;
- hunting;
- neutralization of waste originating outside the territory of the "National Park";
- distribution of non-native animals and plants, when they bring changes in the area's biodiversity;
- intensive reproduction, with the exception of rescue reproductions;

- construction of highways, railways, urban areas, hydropower plants and long-range oil and gas systems;
- washing and spraying the roads with chemicals;
- planting monoculture forests;
- the movement of means of transport outside certain roads;

In the **Sustainable Development Sub-Zone**, these activities are prohibited according to the Law on Protected Areas (Article 49/1):

- alternation of the natural state of water reserves, resources, lakes and wetland systems;
- dumping of chemicals;
- driving and parking vehicles out of the prescribed public roads and parking spaces;
- intensive collection of plants, minerals, paleontological discoveries and stones;
- placement of stands, signboards, advertisements, signs and posters, without prejudice to those that provide data on the reserve protection objectives;
- mountain climbing, skiing, camping and lighting of fires outside the designated spaces.

Additionally, Article 16/4 lists several activities, NAPA may approve (if not defined as permitted activities) these activities:

- grazing and passing through of livestock and construction of light or temporary structures to house them;
- putting up stands, signboards, advertisements, signs and posters;
- sailing in boats, canoes and other means of sailing (not motorized);
- non-military flights in helicopters, balloons, delta planes etc.;
- driving and parking vehicles out of the assigned roads and spaces;
- mountain climbing, skiing, camping and lighting of fires outside the defined spaces;
- collecting of plants, fruits, seeds and fungi;
- performing of seasonal tourism activities, that do not require the permanent occupation of the land.

As this amendment of the Law was approved after the DCM of VWRNP has been elaborated and during the elaboration of this management plan, the current DCM of VWRNP does not list allowed activities yet. These activities need to be developed within 18 months after the adoption of the amended Law (February 2024).

Additionally, to the activities listed in the Law of Protected Areas, this management plan gives management approaches

- for activities not prohibited by the law,
- for activities that potentially harm the values of VWRNP and therefore should not be allowed within the national park, and
- for the adjacent land and the broader Vjosa valley.

Management approaches for tourism activities inside VWRNP

According to the Law on Protected Areas, recreational activities can be exercised within a national park. As the main objective of a national park is to protect its values, habitats, and ecosystems, still some regulations need to be put in place to ensure the conservation of VWRNP.

Therefore, to make an experience of VWRNP possible, several management approaches for potential and current activities have been developed in accordance with scientific findings and in cooperation with NAPA being responsible for the management of protected areas in Albania as well as regional and national experts.

The table below shows management approaches for touristic activities and whether they should happen within VWRNP and its sub-zones according to the threat analysis and scientific findings. Additional management measures for the adjacent land (description see above) and the whole Vjosa valley can be found at the end of this chapter (Table 24).

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Tourism			
Motorized boating	<p>Motorized boating is a threat to values 3 Habitats (especially at the entry and exit points) and 4 Species within VWRNP.</p> <p>Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing undisturbed natural areas. Motorized boating is a disturbance (noise, pollution) and should therefore not happen in VWRNP.</p>	Not allowed	Not allowed
Commercial and private rafting, kayaking, canoeing and stand-up paddling	<p>Non-motorized boating can be a threat to values 3 Habitats and 4 Species if not regulated. If regulated, the threat can be minimized.</p> <p>Article 16/4c of the Law on Protected Areas states that sailing in boats, canoes, and other means of sailing (non motorized) can be approved by NAPA. Article 16/5 states that the activities listed in Article 4 can be restricted by NAPA (see restrictions and regulations on the right side and below this table).</p>	Allowed in specific areas / with special permission	Allowed in specific areas/ with special permission
		<p>Inside the VWRNP, non motorized boating should only happen in the set rafting area (see map below the table). Entry and exit points have been defined (see map below this table) and must be used by all rafting companies and private non motorized boaters. A ticketing system shall be implemented for individual boats (according to maximum number of boats per day), rafting companies need to fulfill the criteria to get a concession (on a yearly basis). The rules of behavior must be complied with. A monitoring system is to be implemented along the boating routes and the entry and exit points and number of boats/areas need to be adapted on a yearly basis according to monitoring outcomes.</p> <p>A detailed description of the areas for unmotorized boating, the number of boats, criteria for companies & guides and rules of behavior can be found in the management plan of the VWRNP below this table.</p>	

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Canyoning	<p>Canyoning usually happens in steep and narrow parts of the river (e.g. gorges) where very sensitive vegetation and species occur. It therefore threatens values 3 Habitats and 4 Species.</p> <p>Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing undisturbed natural areas. Canyoning is a disturbance to usually ver undisturbed areas of the river and should therefore not happen.</p>	Not allowed	Not allowed
Swimming	Swimming currently happens at rather populated places and therefore poses not additional disturbance to the values of VWRNP.	Allowed	Allowed
		Swimming is currently done at some points along the river without any infrastructure and/or commercial purpose. This type of activity must be mapped/monitored and in case there are negative impacts on the river, regulated. New touristic infrastructure (including infrastructure for commercial swimming activities) is not allowed inside VWRNP. Changes to the river and/or its gravel banks (e.g. dams to create deeper areas for swimming) are not allowed inside the VWRNP.	
Educational excursions (with a national park ranger or private guide)	Accredited tours with a maximum number of visitors and using the routes to be developed by the management authority of VWRNP does not pose a threat to VWRNP now.	Allowed	Allowed
		Educational excursions can be done by private companies and national park guides/rangers. Private guides must be accredited by the VWRNP management (criteria see below this table). A monitoring must be set up to evaluate the impacts of the excursions and routes. The routes and number of visitors must be adapted according to the outcomes of the monitorings (ideally on a yearly basis).	
Walking, biking, horse riding on trails	Walking, biking and horse riding on existing trails is not a disturbance to the values of the national park. New trails should not be built.	Allowed (only on existing trails)	Allowed

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Walking, biking, horse riding on terrain	Walking, biking and horse riding on terrain (e.g. on the riverbanks) is a disturbance and therefore a threat to values 3 Habitats and 4 Species . Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing undisturbed natural areas.	Not allowed	Not allowed
Walking, biking, horse riding on gravel banks	Gravel banks of rivers are very sensitive areas, any activity on them is threatening values 3 Habitats and 4 Species . Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing undisturbed natural areas.	Not allowed	Not allowed
Camping on gravel banks	According to Article 48 of the Law on Protected Areas, starting fires is not allowed in the Core Sub-Zone, Article 49 states that camping outside designated areas is not allowed in the Sustainable Development Sub-Zone.	Not allowed	Not allowed
Other activities on gravel banks (e.g. camp fires, motorcycling...)		Not allowed	Not allowed

Table 17: Management approaches for tourism related activities inside VWRNP

Regulations for commercial and private rafting, kayaking, canoeing and stand-up paddling

As commercial non-motorized boating has been carried out on the Vjosa river for several decades already and the existing rafting companies have developed rafting along the river and in the Vjosa region, it can be a good opportunity to use these ongoing activities for educational purposes of VWRNP. Still, regulations are necessary to ensure the non-motorized boating is not harming the values of the National Park and its ecosystem. Therefore, it is recommended to only have companies offering commercial tours along the Vjosa river which apply certain criteria and set routes and a maximum number of boats per year.

Concessions and tickets

It is recommended to create a concession and ticketing system for commercial and private non-motorized boating activities (compared to the system in place for the concessions along the beeches in Albania). Ideally, this system is organized online, and companies and private boaters can apply digitally.

Commercial as well as private boaters need to apply the respective criteria described below and must confirm that they will behave in accordance with the rules of behavior (also described

below). Only then, they are allowed to offer tours inside the VWRNP and/or use the Vjosa river for boating.

Tickets for private boating should be given for one day, concessions for commercial companies for one season.

Companies which have successfully applied for a concession get a license plate for each of their boats which needs to be attached to the boat throughout the whole season. Private boaters with tickets need to get them either analog and/or digitally and must have them with them when entering the river until they exit it.

All settings, criteria and regulations have been developed according to the existing knowledge and situation at the time of the elaboration of this management plan. It is of utmost importance to set up a monitoring scheme along the rafting routes and at the defined entry and exit points to identify and evaluate negative impacts on the flora, fauna, and ecosystem. If such negative impacts are monitored, adoptions to the developed regulations, criteria and/or routes/entry/exit points need to be made immediately by the PA authority of VWRNP.

The regulations and criteria described below only become effective when possibilities to get concessions (for rafting companies) and tickets (for private boaters) are existing and the PA authority of the park is enabled to issue them.

Numbers of concessions and private non-motorized boats

For commercial companies, a maximum number of 2.000 boats (rafts with 6 guests and one guide) are allowed per season in total. The companies can apply for a certain number of tours per year. The maximum number of boats per season should not be exceeded.

For private non-motorized boaters, a maximum number of 20 tickets per day should be issued (only for boats of maximum 2 persons, no bigger rafts).

The number of boats is to be adopted according to the monitoring already mentioned above.

Criteria for commercial rafting companies offering tours inside VWRNP

Companies wanting to offer trips in non-motorized boats inside VWRNP should meet the following criteria and provide the relevant evidence when applying for a license:

- VAT-number,
- Documentation for using equipment according to the standards of the European Union (CEC-certified equipment)
- Only offering tours with contracted certified guides (according to Albanian and/or EU standards (class 4))
- Once a year all guides need to participate in a training provided by the VWRNP PA authority giving information about the national park, its flora, fauna and the rules of behavior inside its borders
- The rules of behavior for non-motorized boaters are applied during all tours
- Rafting tours are only conducted along the set routes (see below), exits and entries to the river are only done at the defined and officially marked entry and exit points
- License plates for boats are clearly visible on the boat during all tours and shown to the authorities upon request

Criteria for private non-motorized boaters inside VWRNP

Private persons wanting to use their unmotorized boats inside the VWRNP must apply for a day ticket approving the following criteria:

- They use the river for their non-motorized boats at their own risk
- They need to be informed about the rules of behavior along the river and must confirm to take them into account
- They are only using the set routes (see below), exits and entries to the river are only done at the defined and officially marked entry and exit points
- Tickets are carried during all tours and shown to the authorities upon request

Rafting routes, entry and exit points

According to the Law on Protected Areas, non motorized boating can be approved within a national park. However, a certain area (where rafting is mainly done already) has been developed during the elaboration of this management plan and therefore sets the route which can serve for private and commercial unmotorized boating.

The defined entry and exit points (shown on the map below, coordinates can be found in the annex) have been set according to the current situation along the river and the procedures which are in place currently.

As already described above, the routes and entry/exit points must be monitored according to the fauna, flora, and ecosystem of the river and in case of negative impacts adopted according to the results.

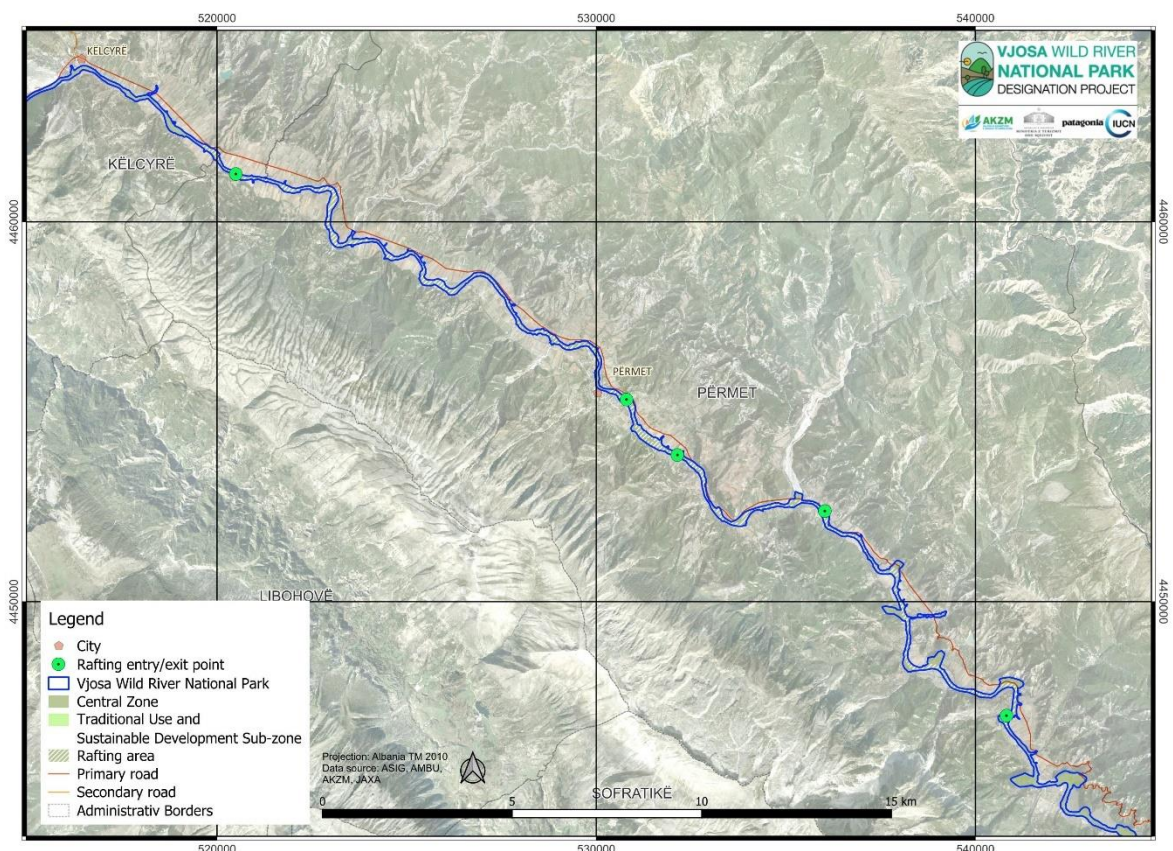


Figure 26: Rafting area with entry and exit points (coordinates can be found below)

X	Y	North	East
520498	4461260	40,285519	20,241046
530799	4455322	40,231725	20,361897
532143	4453861	40,218522	20,377616
540821	4446997	40,156327	20,479122
536029	4452384	40,205061	20,423187

Table 18: Coordinates of rafting entry and exit points

Rules of behavior

The rules of behavior shown below have been set according to the standards used in another national park (Gesäuse National Park, Austria) where also rafting is possible within the core zone of the protected area:

1. It is the aim of the VWRNP to ensure the natural development and dynamics of the river and protect the natural parts with their characteristic flora and fauna on a long term. Everyone must ensure that this objective is met. To protect and preserve the habitats in the area of the national park, access to these areas away from marked paths and trails or designated areas is prohibited. However, entering these areas in emergencies is exempt from this provision.
2. Therefore, refrain from entering shallow water areas (spawning areas) and from approaching shore areas or entering shore areas outside the designated access, entry and exit points. In addition, avoid gravel, sand, and mud banks (breeding and resting places for birds) as well as riparian woodland. Keep a sufficient minimum distance from the riverbanks. Navigate the river in the current - where the water is deepest. Do not approach the banks of the Vjosa from land.
3. Rafting on the Vjosa and its tributaries within the VWRNP is only permitted for companies with official concession (seasonal concessions are given according to criteria). The license plates must be clearly visible on all rafts.
Rafting is permitted from May 1st to October 15th of each year - daily from 9.30 am to 5.30 pm.
4. In the area of the national park, it is strictly forbidden to disturb animals or interfere with their reproduction. Therefore, please behave quietly and refrain from making noise - especially the widely audible "paddle clapping".
5. Littering the banks and the water is not allowed. Therefore, please help keep nature clean. Waste does not belong in the water. Take your waste back with you and dispose of it in an environmentally friendly manner.

Management approaches for Swimming

Swimming is currently carried out at several locations but only privately and on a small scale. There are no commercial swimming sites along the river, no permanent infrastructure is available.

According to the Law on Protected Areas, swimming is not prohibited in a national park and can therefore happen inside VWRNP. To minimize its impact, it should only be done in a non-commercial way and on a small scale. No facilities for swimming should be established inside the core zone of the VWRNP.

It is recommended that the swimming spots are mapped, monitored and in case negative impacts are found on flora, fauna and/or habitats, new regulations should be developed immediately by the PA authority.

Management approaches for educational excursions

Educational excursions are very important for visitor guidance, information of visitors and communication of the values and objectives of a national park. Therefore, they are allowed in all zones of the national park (according to the Law on Protected Areas, Article 16/3) if they are in accordance with the environmental and cultural requirements.

The topics, routes and numbers of excursions should be developed by the PA authority and ideally, implemented by the staff and the rangers employed by the national park.

In case, private guides want to do educational excursions inside the VWRNP, it should be ensured that

- they have an official guiding license,
- only use the official routes (developed by the PA authority) and
- participate in a training at least once a year, offered by the PA authority dealing with new developments/findings of the VWRNP, routes for excursions, topics, and behavior inside the park.

Management approaches for the use of natural resources inside VWRNP

According to Art 16 (2d) of the Law on Protected Areas, a national park aims to keep its territory in a natural state and the alternation of the natural state of water reservations, sources, lakes, and wetland systems is prohibited. Art 48 (2) of the Law on Protected Areas states that the extraction of minerals not allowed in the Core Zone (except for the maintenance of the park) is and the neutralization of waste originating from outside the territory of the national park are also prohibited.

This means, the use of natural resources (e.g. water, gravel) as well as the input of waste material from industrial sites outside the national park (e.g. bitumen production) is not allowed and needs to be stopped according to the Law on Protected Areas.

Currently, several sites exist where different types of natural resources from VWRNP are used and/or further processed for sites outside the national park. There are gravel extraction sites, a bitumen production site, a gas extraction site, and many channels, diverting the water of the Vjosa for irrigation purposes and as source for drinking water. Currently, the information about how many channels exist, how much water is extracted from the river, what it is used for or where the water is used is gathered for the whole river and analyzed regarding the impact on the river. Above that, the effectiveness of the existing water extraction channels is not known and should be mapped and monitored.

As the use of natural resources affects the whole region (e.g. irrigation of agricultural land, drinking water), regulations for existing uses and sites have been developed (see table below) and a time frame has been set to end the current uses of natural resources and find alternative ways for irrigation and drinking water in the region (see table in chapter 7.6.).

However, no new industrial sites and/or infrastructure with the aim to use the natural resources of VWRNP should happen (according to Article 16/2 it is not allowed to use or occupy the land for any other reason).

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Use of natural resources			
Non-commercial traditional fishing (no dynamite, nets, electricity)	Fishing can pose a major threat to value 4 Species when not regulated and done according to the objectives of a national park. Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing undisturbed natural areas. This biodiversity is threatened by non-regulated fishing activities.	Allowed	Allowed
Commercial fishing		Not allowed	Not allowed
Collecting of plants, minerals, stones	Collection of plants, minerals and stones are threats to values 3 Habitats and 4 Species . The Law on Protected Areas (Article 49/1) states that the intensive collection of plants, minerals and stones are not allowed in the Sustainable Development Sub-Zone.	Not allowed	Not allowed
Water extraction (private irrigation)	Water extraction is a threat to all ecological values having been defined in this management plan: overarching ecological key values, geology/morphology, habitats and species.	Not allowed (existing channels/diversion/pumps must be stopped within 15 years)	Not allowed (existing channels/diversion/pumps must be stopped within 15 years)
Water extraction (water bottling)	Article 16/2 of the Law on Protected Areas states that the alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited in a national park.	Not allowed (existing channels/diversion/pumps must be stopped within 15 years)	Not allowed
Water extraction (commercial irrigation)	Article 3/35 of the Law on Protected Areas states that the First Level of Protection aims at the overall conservation of biodiversity and guaranteeing	Not allowed (existing channels/diversion/pumps must be stopped within 15 years)	Not allowed (existing channels/diversion/pumps must be stopped within 15 years)

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
	<p>undisturbed natural areas.</p> <p>Water extraction is disturbing the natural areas of VWRNP and should therefore not happen in VWRNP.</p>	<p>According to the Law on Protected Areas, alternation of the natural state of wetland systems (as the Vjosa river) is prohibited in all zones. As there have been existing irrigation channels in place at the time of declaration of VWRNP, a monitoring must be set up to understand the impact of the existing irrigation activities on the river ecosystem. According to the monitoring results, the irrigation shall be modernized and adapted. However, all water extraction should be stopped within 15 years after the establishment of VWRNP.</p>	
<p>Water extraction (private and commercial) shall be stopped inside the VWRNP within 15 years after establishment of VWRNP.</p>			
Mining (e. g. bitumen)	<p>Oil & gas mining are threatening values 2 Geology & Morphology, 3 Habitats and 4 Species of VWRNP.</p> <p>Article 16/2 of the Law on Protected Areas states that the use of land with intensive technologies, means and manners that cause changes to its biodiversity, structure, and functions of the ecosystem or that damage irreversibly the land surface, are prohibited.</p>	Not allowed	Not allowed
Oil and gas mining	<p>Oil & gas mining is a disturbance, drilling oil wells usually requires clearing an area of vegetation and should therefore not happen in VWRNP.</p>	Not allowed	Not allowed
Gravel extraction (commercial)	<p>Gravel extraction is a threat to all ecological values of VWRNP.</p>	Not allowed	Not allowed
Gravel extraction (private)	<p>According to Article 48/2b of the Law on Protected Areas, the extraction of minerals is not allowed in the Core Zone of a national park.</p>	Not allowed	Not allowed
Gravel extraction (for infrastructure projects)	<p>No gravel extraction should happen, also not for the maintenance of the park.</p>	Not allowed	Not allowed

Table 19: Management approaches for the use of natural resources in VWRNP

Management approaches to stop disturbances to the river

Several disturbances to the river are happening currently. Especially the inputs from industrial sites (e.g. bitumen production), neozoa (from the fish farms along the river) and unfiltered wastewater are threats to the flora, fauna, and the entire ecosystem of VWRNP.

The Law on Protected Areas (Article 48/2) states that in the core zone of a national park the

- use of chemicals and chemical fertilizers,
- neutralization of waste originating outside the territory of the national park, and
- the distribution of non-native animals and plants (when they bring changes in the area's biodiversity)

are not allowed.

It is to be ensured that no inputs are dumped into VWRNP from inside and/or outside the national park. Therefore, stakeholder and decision makers must be informed about the new situation and regulations and existing inputs into the river need to be stopped immediately.

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Disturbances			
Use of fertilizers	The use of fertilizers inside the national park as well as the input of it from the outside threatens values 3 Habitats and 4 Species of the national park. Article 48/2 of the Law on Protected Areas states that the use of chemicals and chemical fertilizers is not allowed in a national park.	Not allowed	Not allowed
Input of neophytes and neozoa (e. g. rainbow trout from fish farms)	Input of neozoa is a threat to values 3 Habitats and 4 Species . Article 48/2 of the Law on Protected Areas states that the distribution of non-native animals and plants is not allowed in the core zone of a national park when they bring changes in biodiversity.	Not allowed	Not allowed
Inputs from oil wells and bitumen production	Inputs from outside pose a threat to values 3 Habitats and 4 Species as they can bring in dangerous materials and pollute the water.	Not allowed	Not allowed
Input of sandy materials (e.g. from bitumen production)	According to Article 48/2 the neutralization of waste originating outside the territory of the national park is not allowed.	Not allowed	Not allowed
Depositing waste		Not allowed	Not allowed

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Input of untreated wastewater		Not allowed	Not allowed

Table 20: Management approaches for disturbances to the river

Regulations for agriculture inside VWRNP

As the Core Zone of VWRNP is only the water body and no land area is included, no agriculture can happen in this zone. In the Sustainable Development Sub-Zone, traditional activities are allowed (see Article 3/36). However, it is proposed to not encourage such activities within the current boundaries, as mainly areas likely to be flooded regularly are part of VWRNP now.

Greenhouses are not allowed in a national park: Article 16/2a states that it is not allowed to use or occupy the land for any other reason. Currently existing greenhouses should be moved outside the national park within 10 years from the Declaration of VWRNP.

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Agriculture			
Greenhouses	Greenhouses are infrastructure which can harm values 3 Habitats and 4 Species when established inside VWRNP. According to Article 16/2 of the Law on Protected Areas, the land cannot be used or occupied for another purpose. Therefore, no Greenhouses should be located inside the national park.	Not allowed (existing ones should be put outside the national park within the next 10 years)	Not allowed (existing ones should be put outside the national park within the next 10 years)
Agriculture	Agriculture inside VWRNP means the conversion of natural areas (e.g. floodplains) into arable land and therefore threatens values 3 Habitats and 4 Species. In the second level of protection traditional use shall be possible (see Article 3/36), therefore organic agriculture can be done in the sustainable development sub-zone. Article 3/35 states that in the first level of protection undisturbed natural areas shall be guaranteed.	Not allowed	Allowed (only organic agriculture)

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Grazing (on gravel banks)	<p>Grazing on gravel banks harms the values 3 Habitats and 4 Species of VWRNP as the grazing animals are a disturbance to animals and threaten the natural reproduction of plants.</p> <p>In the second level of protection traditional use shall be possible (see Article 3/36), therefore grazing can be done extensively in the sustainable development sub-zone.</p> <p>According to the Law on Protected Areas (Article 16/4&5), park management can restrict grazing when it violates the purpose of the protected area.</p>	Not allowed	Allowed

Table 21: Management approaches for agriculture inside VWRNP

Management approaches for the construction of new infrastructure and the maintenance of existing ones inside VWRNP

Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park and Article 3/35 says that in the first level of protection undisturbed natural areas shall be guaranteed, which would not be the case if new infrastructure is constructed.

As also the Sustainable Development Sub-Zone is likely to be flooded regularly, no new constructions should be done there.

The maintenance of existing infrastructure is allowed, but only out of safety reasons (e.g. bridges) and/or for modernizing out of ecological reasons. All infrastructure (especially hydropower plants, dams, and irrigation channels) should be moved outside the park as soon as possible, latest within 15 years.

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Infrastructure			

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
Residential housing	<p>Residential housing means the conversion of land and therefore threatens all ecological key values of VWRNP.</p> <p>According to Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park.</p> <p>Article 48/1 of the Law on Protected Areas states that residential buildings are not allowed in the core zone of a protected area.</p>	Not allowed	Not allowed
Construction of shelters for grazing/animals	<p>Shelters for animals are most likely to be built on gravel banks inside VWRNP and therefore threaten values 3 Habitats and 4 Species.</p> <p>According to Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park.</p>	Not allowed	Not allowed
NEW irrigation channels taking water out of the VWRNP	<p>Construction of new irrigation channels means the conversion of land and therefore threatens all ecological key values of VWRNP.</p> <p>According to Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park.</p> <p>Additionally, Article 16/2 of the Law on Protected Areas states that the alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited in a national park.</p>	Not allowed	Not allowed
Maintenance of EXISTING irrigation channels	Existing irrigation channels are a threat to VWRNP and should therefore be closed within 15 years after establishment of VWRNP	Allowed	Allowed

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
	<p>(see table on use of natural resources). Until then, for safety/ecological reasons existing ones can be maintained.</p> <p>Article 16/2 of the Law on Protected Areas states that the alternation of the natural state of water reservations, sources, lakes and wetland systems is prohibited in a national park.</p>		<p>The maintenance of irrigation channels which existed already before the declaration of the VWRNP is allowed but only for modernizing out of ecological/safety reasons. An enlargement/expansion of the water outtake out of the river is not allowed and all water extraction should be stopped within 15 years after establishment of VWRNP.</p>
Touristic infrastructure	<p>Construction of new touristic infrastructure means the conversion of land and therefore threatens all ecological key values of VWRNP.</p> <p>According to Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park.</p> <p>Article 3/35 states that in the first level of protection undisturbed natural areas shall be guaranteed, which would not be the case if new infrastructure is constructed.</p>	Not allowed	Not allowed
Transport infrastructure (e. g. roads)	<p>Construction of new transport infrastructure means the conversion of land and therefore threatens all ecological key values of VWRNP.</p> <p>Article 48/1 of the Law on Protected Areas states that the construction of highways is not allowed in the core zone of a national park.</p> <p>Article 3/35 states that in the first level of protection undisturbed natural areas shall be guaranteed, which would not be the case if new infrastructure is constructed.</p>	Not allowed	Not allowed
Hydropower plants taking water out of the VWRNP	Construction of new hydropower plants and dams means the conversion of land	Not allowed	Not allowed

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
	and therefore threatens all ecological key values of VWRNP.	Existing ones (private ones along the Kardici tributary and in the area of RAPA Permet/Girokastra/Tepelene) should be gone within 15 years, existing licenses should not be renewed)	
Dams using water of the VWRNP	According to Article 16/2 of the Law on Protected Areas states that it is not allowed to use or occupy land for any other reason in a national park. Article 3/35 states that in the first level of protection undisturbed natural areas shall be guaranteed, which would not be the case if new infrastructure is constructed.	Not allowed	Not allowed

Table 22: Management approaches for the construction of new infrastructure and the maintenance of existing one in VWRNP

Management approaches for scientific research inside VWRNP

Scientific research and closing knowledge gaps will be one of the main activities to be done/coordinated by the PA authority. To do so, funding projects should be aimed for but also cooperations with national and international researchers, universities and master students should be set up to ensure the necessary resources are available for organizing all research and studies which will be needed to ensure the protection of the park and increase the management effectiveness.

Research (especially non-destructive methods) is therefore one of the most important tasks VWRNP but must be coordinated thematically (what is needed) and spatially (where is it needed) according to the table of actions (see chapter 7.6).

Therefore, all planned research within VWRNP should be announced and discussed with the PA authority of the park to ensure the most effective use of resources.

Management approaches for forestry activities inside VWRNP

The new Law on Protected Areas does not prohibit cutting of trees in a national park but still states that in the first level of protection undisturbed natural areas shall be guaranteed (Article 3/35). Cutting of trees is a disturbance for the ecosystem and should therefore not happen inside VWRNP. Additionally, Art 48 (3) does not allow the planting of monocultural forests in the core zone. The overall goal for VWRNP will be to stop the ongoing deforestation and reestablish a functioning riparian forest. Cutting of trees and forestry is not supporting these objectives of VWRNP.

Activities	Values threatened by activity and information given in the Law on Protected Areas	Central Sub-Zone (Core Zone)	Sustainable Development Sub-Zone
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Forestry			
Cutting of trees/shrubs	Cutting of trees and shrubs as well as firewood collection is a disturbance to values 3 Habitats and 4 Species .	Not allowed	Not allowed
Firewood collection	Article 3/35 states that in the first level of protection undisturbed natural areas shall be guaranteed.	Not allowed	Not allowed
Aforestation with nonnative species	Non native species can influence values 3 Habitats and 4 Species . Article 48/2 states that the distribution of non-native animals and plants, when they bring changes in the area's biodiversity is not allowed in the core zone of a national park.	Not allowed	Not allowed
Aforestation with native species	Aforestation of the riparian floodplains is one of the main objectives of VWRNP and should therefore be done according to studies and in a coordinated way.	Allowed (only with the approval of the national park management)	Allowed (only with the approval of the national park management)

Table 23: Management approaches for forestry activities within VWRNP

Management approaches for flood protection inside VWRNP

There are currently some flood protection measures in place within VWRNP, especially in the lower part, close to the delta of the river.

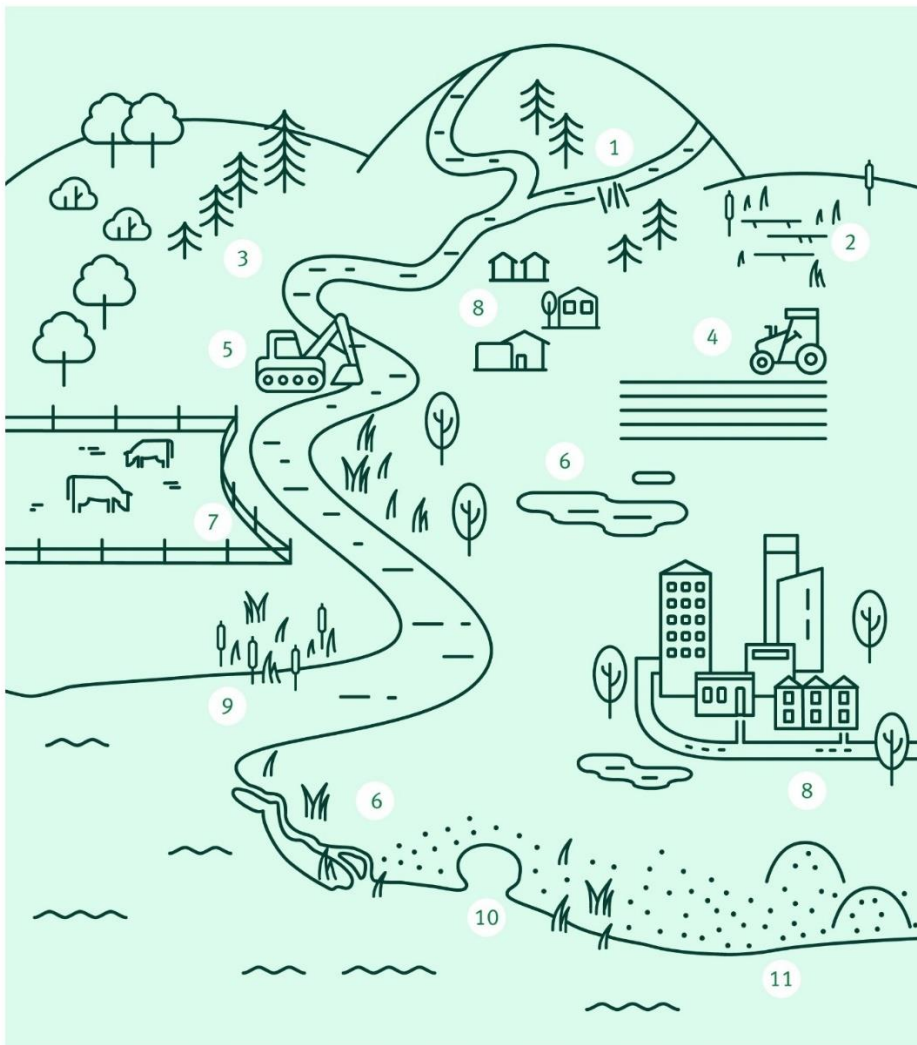
Those constructions should be mapped, monitored and their effectiveness should be investigated. In cases, where alternative natural measurements could be taken, the existing ones should be replaced. If the currently existing ones are not necessary anymore (e.g. they are not protecting any infrastructure and/or settlements), they should be removed within 10 years after the declaration of VWRNP.

New flood protection measurements should only be implemented in cases when settlements/ infrastructure is in danger and a positive EIA has been conducted. If new flood protection measures are taken, natural flood protection measures are to be prioritized (examples for natural flood protection measurements see Figure 27).

Currently, a Flood Protection Management Plan as well as a River Basin Management Plan is in development. AMBU works on both plans, and it is to be ensured, that the interest of VWRNP are being considered. This can be achieved by having separate meetings with representatives from AMBU during the development of these plans to inform them about the

- main values of VWRNP,

- threat traditional flood protection measures can have on the values of VWRNP (see chapter 2.3)
- aim to use natural flood protection measures within VWRNP (see examples Figure 27)



1. In stream structures for example woody debris
2. Blocking of moorland drainage channels
3. Woodland planting
4. Land and soil management practices, cover crops, hedgerows, suitable crops
5. River morphology and floodplain restoration for example removal of embankments and remeandering
6. Inland storage ponds and wetlands
7. Protecting riverbanks for example stock fencing
8. Sustainable urban drainage systems for example swales, wetlands in urban areas, green roofs, permeable pavements, detention ponds, filter strips
9. Saltmarsh restoration
10. Coastal managed realignment
11. Coastal change management

Figure 27. Examples for nature based flood protection measurements (source:(National Flood and Coastal Erosion Risk Management Strategy for England, n.d.)

Recommendations for activities and land use in the surroundings of VWRNP

As described in chapter 3.2.2, the areas directly bordering VWRNP as well as the broader Vjosa valley influence the values of VWRNP from the outside. The Law on Protected Areas (Article 42/3f) states that “the management plan of protected areas shall include appropriate activities for the surrounding areas, including those in the buffer zones and beyond”, recommendations have been developed how to deal with the adjacent area of VWRNP as well as the Vjosa valley.

As there is no buffer zone in place, recommendation have been developed for activities and land uses outside VWRNP. Although the management authority of VWRNP has no jurisdiction there, soft measures can be used (e.g. information of stakeholders and land users, meetings with other sectors) to support the development of the adjacent areas in line with the values and objectives of VWRNP.

Activities	Not part of the VWRNP management body responsibility	
	Recommendations for adjacent land (and the area of the tributaries)	Recommendations for Vjosa Valley
	Outside VWRNP boundaries	
Tourism		
Motorized boating	Not recommended	Possible
Commercial and private rafting, kayaking, canoeing and stand-up paddling	Possible	Possible
Canyoning	Possible	Possible
Swimming	Possible	Possible
Educational excursions (with a national park ranger or private guide)	Possible	Possible
Walking, biking, horse riding on trails	Possible	Possible
Walking, biking, horse riding on terrain	Not recommended	Possible
Walking, biking, horse riding on gravel banks	Not recommended	Possible
Camping on gravel banks	Not recommended along the tributaries of the Vjosa river	Possible
Other activities on gravel banks (e.g. camp fires, motorcycling,...)	Not recommended along the tributaries of the Vjosa river	Possible

Activities	Not part of the VWRNP management body responsibility	
	Recommendations for adjacent land (and the area of the tributaries)	Recommendations for Vjosa Valley
	Outside VWRNP boundaries	
Use of natural resources		
Non-commercial traditional fishing (no dynamite, nets, electricity)	Possible	Possible
Commercial fishing	Not recommended along the tributaries to the Vjosa river	Possible
Collecting of plants, minerals, stones	Not recommended along the tributaries to the Vjosa river	Possible
Water extraction (private irrigation)	Not recommended along the tributaries to the Vjosa river	Possible
Water extraction (water bottling)	Not recommended along the tributaries to the Vjosa river	Possible
Water extraction (commercial irrigation)	Not recommended along the tributaries to the Vjosa river	Possible
Mining (e. g. bitumen)	Not recommended along the tributaries to the Vjosa river	Possible
Oil and gas mining	Not recommended along the tributaries to the Vjosa river	Possible
Gravel extraction (commercial)	Not recommended along the tributaries to the Vjosa river	Possible
Gravel extraction (private)	Not recommended along the tributaries to the Vjosa river	Possible
Gravel extraction (for infrastructure projects)	Not recommended along the tributaries to the Vjosa river	Possible
Disturbances		
Use of fertilizers	Not recommended	Possible
Input of neophytes and neozoa (e. g. rainbow trout from fish farms)	Not recommended	Not recommended
Inputs from oil wells and bitumen production	Not recommended	Not recommended
Input of sandy materials (e.g. from bitumen production)	Not recommended	Not recommended
Depositing waste	Not recommended	Not recommended
Input of untreated wastewater	Not recommended	Not recommended

Activities	Not part of the VWRNP management body responsibility	
	Recommendations for adjacent land (and the area of the tributaries)	Recommendations for Vjosa Valley
	Outside VWRNP boundaries	
Agriculture		
Greenhouses	Not recommended	Possible
Agriculture	Not recommended	Possible
Grazing (on gravel banks)	Not recommended	Possible
Infrastructure		
Residential housing	Not recommended	Possible
Construction of shelters for grazing/animals	Not recommended	Possible
NEW irrigation channels taking water out of the VWRNP	Not recommended	Not recommended
Maintenance of EXISTING irrigation channels	Possible	Possible
Touristic infrastructure	Not recommended	Possible
Transport infrastructure (e. g. roads)	Not recommended	Possible
Hydropower plants taking water out of the VWRNP	Not recommended	Not recommended
Dams using water of the VWRNP	Not recommended	Not recommended
Scientific research		
Non-destructive scientific research	Possible	Possible
Destructive scientific research	Possible	Possible
Forestry		
Cutting of trees/shrubs	Not recommended	Possible
Firewood collection	Not recommended	Possible
Afforestation with nonnative species	Not recommended	Not recommended

Activities	Not part of the VWRNP management body responsibility	
	Recommendations for adjacent land (and the area of the tributaries)	Recommendations for Vjosa Valley
	Outside VWRNP boundaries	
Afforestation with native species	Possible (ideally in correspondence with the national park management)	Possible
Flood control		
Existing flood control measures	Possible Existing ones should be mapped, monitored and adapted/removed if possible	Possible
New flood control measures	Possible Only when settlements/infrastructure are in danger (preferably natural flood protection measures should be taken)	Possible

Table 24. Recommendation for activities and land uses outside of VWRNP

3.3. Management Actions

For each of the operational objectives (those objectives to be achieved during the validity period of this management plan), the most relevant key actions were identified and validated with the technical team, NAPA, and selected NGOs.

These actions represent a set of actions that are most needed during the initial phase of existence of VWRNP. However, selected actions may change or be adapted during implementation.

The proposed actions provide the orientation and basis for the annual planning of activities and the annual budgeting of the PA authority.

For each action, the main responsibility for implementation (i.e. NAPA, PA authority, RAPA/rangers or “other actors”) are defined as well as the priority of the action (1-3) and the tentative time schedule (phasing). A detailed, comprehensive list of objectives and actions is presented in Annex 7.6

3.3.1. Field of Action 1: Monitoring, Research & Conservation

	Strategic objective		Operational objective	Main Actions	
Conservation of natural processes					
1	Natural processes and river dynamics are maintained and preserved in as natural a state as possible as a foundation for a healthy and functional ecosystem	1.1	Removal of physical barriers wherever possible within VWRNP boundaries	1.1.1	Detailed mapping of irrigation and draining structures, dams, flood control constructions (see also Actions 4.2.2. and 12.1.1.)
				1.1.2	Development and implementation of an action plan to remove or adapt existing infrastructures (i.e. flood control constructions, embankments, transverse structures) if it does not threaten national interest or local safety
		1.2.	Ensuring that no new infrastructures are built within VWRNP boundaries	1.2.1.	Elaboration of an information paper clearly outlining the regulations of the national park
				1.2.2.	Dissemination of the information paper to all actors responsible for planning, approving, and building new infrastructures (Energy department, territorial planning, municipalities, NEA, MoA, irrigation department etc.) (incl. information events)
				1.2.3.	Set up meetings with involved stakeholders to discuss the ongoing constructions such as the irrigation channel near Kardhiq along the river, alternatives need to be found (alternatives; halting of new constructions)
				1.2.4.	Ensure water flow at Shushica River (deduction) to maintain adequate function of VWRNPs ecosystem (water abstraction project contradicts the overall vision and objectives 1.2)
		1.3.	Align all relevant national and local policies, plans and strategies with VWRNP objectives and regulations	1.3.1.	Update / Revision of Local General Plans (LGPs) according to the final delineation of VWRNP including corresponding regulations (e.g. no buildings or planned urbanization within NP boundaries)
				1.3.2.	Align the River Basin Management Plan and the flood risk management plan with existing regulations and zonation of VWRNP (details see chapter 3.2.3)
				1.3.3.	Elaborate a list of strategies and plans with a potential impact on VWRNP objectives and their tentative update (inclusion/consideration of NP) (e.g. national energy strategy)
				1.3.4.	Set up meetings with all involved stakeholder to include interests of VWRNP into all strategies (see Action 1.3.3.) when updated (e.g. participation as a stakeholder, provision of official feedback etc.) to align with VWRNP objectives

	Strategic objective		Operational objective		Main Actions
Conservation of ecological values					
2	Populations and functional ecological collections of native species are maintained at a sufficient level of density and guarantee the protection of the integrity and long-term resilience of the ecosystem	2.1	Ensure good ecological status of key species (e.g. IUCN / National Red List Species)	2.1.1	Implementation of a comprehensive and comparable species mapping for the main species groups (incl. status assessment) (at least: fish, birds, plants, macrozoobenthos, amphibians, reptiles or selected insect groups) to identify key species and prepare species action plans
				2.1.2	Implementation of species action plans for prioritized or threatened species
		2.2	Ensure good ecological status of priority habitat types of national and European Interest	2.2.1	Elaboration of a complete habitat map in line with EU classification including specific conservation measures, conservation status and threats per habitat
				2.2.2	Implementation of habitat-specific action plans
		2.3	Ensure good ecological status of sensitive areas of the VWRNP	2.3.1	Review regulated and allowed/not allowed activities within VWRNP to new studies, habitat maps and monitoring results
2.4	Ensure conservation of valuable habitats as Natura2000 sites	2.4.1	Identification and zonation of future Natura2000 sites within the VWRNP, according to the habitat mapping (A 2.2.1)		

	Strategic objective		Operational objective		Main Actions
Restoration					
3	Degraded habitats with a direct impact on river dynamics are restored and in good ecological condition.	3.1	Afforestation/Reforestation of degraded and exposed slopes and areas of the watershed outside and inside the VWRNP boundaries	3.1.1	Definition priority areas for afforestation within the river catchment with an initial focus on the upper section of Vjosa (Përmet/Kaludh upstream) (see also A 5.1.1.), first locations for afforestation from a current study can be found in chapter 7.5 of the management plan)
				3.1.2.	Implement an afforestation program in selected areas (see annex, as defined by Drescher & Toromani 2023 and Hasenauer et al. 2022) in cooperation with forestry actors
				3.1.3.	Support the establishment of tree nurseries to produce adequate number of tree seedlings of species as defined in A 3.1.2.
		3.2	Improvement of ecological status of degraded habitats adjacent to the rivers (e.g. riverine forests, natural grassland)	3.2.1	Development and implementation of a project for the restoration of the delta area of Vjosa, including the reconnection of the main river with the oxbow within the Poro-narte PA
				3.2.2.	Development and implementation of a restoration plan for the lower stretch of Vjosa focusing on valuable (bird)habitats (e.g. breeding places of Sand Martins, Kingfishers and Bee-Eaters) recently degraded or destroyed through groins and embankment reinforcements, possible locations for restoration sites can be found in chapter 7.5of the management plan
				3.2.3	Development and implementation of an action plan to identify degraded areas within the NP and implement restoration measures (e.g. afforestation, fencing of overgrazed areas/degraded grassland) based on the habitat mapping

	Strategic objective	Operational objective	Main Actions	
	Management of pressures and threats			
4	All external pressures and infrastructures affecting the natural dynamics, habitats, and species of WVRNP are minimized, well managed or are halted completely.	4.1 Improvement of water quality and reduction of river pollution (input of fertilizers, wastewater, industrial pollution)	4.1.1	Identification of main polluters and hotspots
			4.1.2	Development of a sewage and urban wastewater treatment program /Promote investments into sewage and waster water treatment facilities (special focus on Drina river)
			4.1.3	Development of a program to reduce industrial pollution (e.g. filtering, water treatment, alternative solutions) (particularly lower Vjosa, tributaries and underground water)
			4.1.4	Active monitoring and control of oil-related industries (i.e. oil wells, Selenicë bitumen mining) in the vicinity of the national park
			4.1.5	Monitoring of water quality and input of neozoa in the vicinity of existing fish farms (see also A 12.4.1)
		4.2 Improvement of waste management along the river	4.2.1	Implementation of campaigns with residents / schools to remove waste from the river and to increase awareness
			4.2.2	Relocation of solid waste landfills away from the river
			4.2.3	Solution for waste disposal in villages
			4.2.4	Establish a waste management system inside the NP for visitors (bins along trails, parking lots, collection system, waste separation) in cooperation with municipalities
		4.3 Termination of extractive uses of river-related resources (e.g. gravel extraction)	4.3.1	Enforce the closing and rehabilitation of existing gravel extraction sites with expired licenses
			4.3.2	Develop and implement plan for fade out of mining/limestone extraction uses (currently 40 licenses, 18 active sites)
		4.4 Reduction of (existing) extractive water uses (particularly irrigation)	4.4.1	Elaboration of an integrated water strategy to determine adequate levels of extraction (for existing extractions only) and alternative solutions for meeting water needs
			4.4.2	Inventory of irrigation infrastructure
			4.4.3	Implement sustainable solutions for irrigation/water extraction uses (e.g. licensing system, alternative less-water consuming irrigation practice, use of groundwater) as identified in Action 4.4.1.
			4.4.4	Develop criteria and thresholds for water bottling industry
			4.4.5	Frequently monitor and control that no new water abstractions are established
		4.5 Clear regulation of fishing activities and fishery along Vjosa	4.5.1	Development of a fishing concept indicating allowed quantities, size, species, areas for fishing, allowed methods
			4.5.2	Establish an efficient fishing licensing system (also to create revenues)
			4.5.3	Frequent control of fishing licenses (in the course of patrolling)

	Strategic objective		Operational objective	Main Actions	
Conservation beyond current area					
5	Ecological connectivity between natural areas within the VWRNP and outside the park boundaries (National Park Region) is maintained.	5.1	Improvement of the ecological quality of the adjacent area along the river	5.1.1.	Develop an afforestation program for the adjacent land (priority area for restoration outside the park) including analysis of land ownership, current land use and a strategy for purchase or compensation (see also A 3.1.1)
				5.1.2.	Implementation of an afforestation program based on the results of 5.1.1., see also 3.1.1.-3.1.3.)
		5.2.	Setting viable conditions for an ecologically useful future extension prioritizing an increase of the buffer and better connectivity with other protected areas	5.2.1.	Identification of priority areas for extension focusing on a) increase of buffer, b) securing areas subject to frequent flooding or natural dynamics within the next 10-20 years and c) additional tributaries and d) tributaries essential to connect with further protected areas
				5.2.2.	Develop a legally viable model and funding strategy (e.g. fund) for acquisition of land (use rights) or contractual conservation (e.g. shifting of parcels, compensation model)
				5.2.3.	Acquisition of prioritized land or securing additional areas

	Strategic objective		Operational objective	Main Actions	
	Research and biodiversity inventory				
6	A comprehensive overview and reliable datasets of the main ecological values of VWRNP are available and can be used for management.	6.1	Establishment and maintenance of a database for spatial and quantitative biodiversity data (as collected during mappings)	6.1.1.	Establishment of a database for raw data on species, habitats, ecology, hydrology, morphology, monuments etc.
				6.1.2.	Annual entry of newly collected data into the database
		6.2	Continuously enable and actively initiate research to close existing knowledge gaps and to enable knowledge-based decision-making and management	6.2.1.	Organization of a survey amongst experts and research institutions regarding main research needs and knowledge gaps for VWRNP to identify potential gaps
				6.2.2.	Implementation of a biodiversity (habitat & species mapping) (see Actions 2.1.1., and 2.2.1)
				6.2.3.	Implementation of a detailed geomorphological-hydrological study of the Vjosa River Basin
				6.2.4.	Implementation of an ecosystem services study
				6.2.5.	Implementation of a research project related to impacts of recreational activities (particularly rafting) on spawning habitats of fish and gravel-breeding birds)
				6.2.5.	Implementation of a study on future river dynamics and related impact on erosion, flooding and riverbed changes
				6.2.7.	Implementation of a mapping of invasive alien species to assess their threat potential
		6.2.8.	Implementation of a research project to identify restoration potential for sturgeon in Vjosa		
		6.2.9.	Implementation of research project related to the impact of fisheries to determine viable thresholds and limits for fishing		
		6.3	Ensure availability of relevant scientific research, publications and datasets as an enabling condition for targeted research	6.3.1.	Collection of all available data and publications regarding VWRNP and Vjosa Valley
				6.3.2.	Establish a (virtual) data hub with publications and data
6.3.3.	Establish a VWRNP library including all relevant publications and books				

	Strategic objective		Operational objective	Main Actions	
	Ecological monitoring				
7	Main biotic and abiotic features are consistently monitored.	7.1	Setting up a viable monitoring plan incl. sample points, frequency, methodology, indicators for habitats, species, fishery, water outtake and inputs, illegal activities, visitors and recreational activities	7.1.1.	Elaboration of a monitoring plan based on the results and recommendations of the habitat and species mapping considering existing human and financial resources
				7.1.2.	Coordination with all institutions carrying out monitoring in the Vjosa River Basin (particularly research institutions and NEA) and define responsibilities and cooperation
				7.1.3.	Annual implementation of the monitoring plan once ready
		7.2	Increase internal capacities of RAPA for monitoring	7.2.1.	Training for RAPA/rangers to carry out activities and basic ecological monitoring
		7.3	Monitoring of impact of climate change on VWRNP and the Vjosa Valley	7.3.1	Definition of locations and implementation of permanent monitoring stations along the river and within the valley (e.g. at the river, in the mountains)

	Strategic objective		Operational objective	Main Actions	
	Coordination with reasearch institutions				
8	A wide academic partnership network and cooperation with research institutions supports the work of VWRNP.	8.1	Establish a permanent partnership with Albanian and international universities and research institutions	8.1.1.	Development of a research concept including main partners, key research questions, data sharing, modalities of carrying out research, fee waivers for relevant research and cooperation agreements in cooperation with the Vjosa Research Centre and universities (see details in annex 7.4).
				8.1.2.	Identification of key contact points at main scientific partners (to coordinate research needs, project options and data sharing)
				8.1.3.	Establishment of a scientific advisory board
				8.1.4.	Organization of scientific conference(s) to highlight Vjosa-related research
		8.2	Establishment of "monitoring" partnerships to coordinate monitoring	8.2.1.	Establishment of a monitoring hub with all actors involved in monitoring
				8.2.2.	Maintenance and entry of data into the monitoring hub

3.3.2. Field of Action 2: Education & Visitor Management

	Strategic objective		Operational objective	Main Actions	
Visitor management and monitoring					
9	Access to selected areas for inspirational, educational, cultural, and recreational purposes in a sustainable manner without negative ecological impacts is ensured.	9.1	Actively and systematically manage visitation and recreational uses of the river	9.1.1.	Development of a visitor management plan including a detailed visitor zoning to maintain the wild river character as main experience (USP)
				9.1.3.	Establish a training program for rangers, guides or any other persons in charge of visitor management, monitoring or guidance
		9.2	Transparently regulate water-related sports within VWRNP (particularly boating and rafting)	9.2.1.	Development of a rafting service provider and other boat rental providers licensing system
				9.2.2.	Regularly monitor rafting and other boat types numbers (and adjusting at annual basis) and adherence to regulations
		9.3.	Actively communicate and promote areas suitable for recreational or touristic purposes	9.3.1.	Preparation and dissemination of information materials and maps for all touristic providers indicating suitable areas for specific activities (swimming, rafting, trails etc.)
				9.3.2.	Establishment of a website with relevant touristic information including zoning, recreational opportunities, and code of conduct
Visitor infrastructure					
10	VWRNP has an up-to-date infrastructure to allow for a unique visitor experience when visiting VWRNP	10.1.	Develop VWRNP visitor infrastructure distributed throughout the Vjosa River Basin	10.1.1.	Establishment and maintenance of a main visitor centre, a research & education centre and at least 2 major infopoints (visitor stations) in selected municipalities
				10.1.2.	Elaboration of a visitor infrastructure action plan (relevant camping areas, picnic areas, theme trails, viewing platforms, parking and other infrastructures required for recreation, sanitary infrastructure, waste bins etc. and plan of operations and maintenance)
				10.1.3.	Establishment of visitor infrastructure according to the action plan
				10.1.4.	Establishment of water sports infrastructure at dedicated places to guide sports activities (particularly rafting, canoeing and kayaking entry and exit points)
		10.2.	Establish clear and consistent signage of VWRNP	10.2.1.	Establishment of clear signage/signboards at visitor hotspots (boundaries, allowed/prohibited uses/code of conduct), all major entry points and at main roads
				10.2.2.	Placement of signboards with maps (and code of conduct) in all municipalities
				10.2.3.	Preparation and dissemination of consistent layout and CD for other users (e.g. municipalities or NGOs maintaining trails)
		10.3	Improve traffic infrastructure in line with conservation objectives.	10.3.1.	Development and implementation of a coherent traffic concept for visitors (access points, parking, public transport) along the main roads
		Education			
11	Residents and visitors have broad knowledge about the national park, nature conservation and sustainable development.	11.1	Systematically include VWRNP and its objectives into primary and secondary education (in schools)	11.1.1	Development of a school program (incl. Materials)
				11.1.2	Implement a training program for teachers how to communicate the materials
		11.2	Development of an educational program with guided excursions (within VWRNP; e.g. at visitor center)	11.2.1	Development of an excursion program / on site offer for schools
				11.3.1	Develop and offer guided thematic excursions for visitors

3.3.3. Field of Action 3: Community & Local Development

	Strategic objective		Operational objective	Main Actions	
Support of community development					
12	Sustainable development of local communities is fully supported and enables local communities to improve their livelihoods and to benefit from VWRNP	12.1	Strengthening the collaboration with municipalities	12.1.1.	Annual formal meeting to each community of a VWRNP representative to discuss open issues
		12.2	Increase knowledge and awareness of local communities regarding options to benefit from the VWRNP	12.2.1.	Preparation of an information folder including potential development options in line VWRNP regulations
				12.2.2.	Organization of a series of trainings for interested stakeholders in cooperation with an entrepreneurship expert
		12.4.	Enable sustainable fish farming (aquaculture) as local source of income and in line with NP-regulations and guidelines	12.4.1.	Development of clear criteria for fish farming along the river (no rainbow trout in the river/management strategy for it, water monitoring (antibiotics, excrements), water filtering, water extraction/input)
				12.4.2.	Monitor and control the adherence to the sustainability criteria of fish farming / aquaculture farms
				12.4.3.	Support the development of a VWRNP fish brand/label for added value
Integrated water management					
13	The limited water resources within the Vjosa basin are well managed and are used in a sustainable manner.	13.1	Promote an agricultural and regional development capable of satisfying economic and national needs without negative impacts on VWRNP (particularly regarding irrigation, water extraction and pollution).	13.1.1	Implementation of an integrated water study to determine the ecologically viable water amount to be used (e.g. for existing irrigation schemes) without compromising the VWRNP targets and a detailed analysis of regional quantitative water needs (see also Activity 4.4.1.)
				13.1.2	Develop or support an agricultural modernization program with a focus on new agricultural schemes (modern water-saving irrigation, drought resistant crops, agroforestry and organic farming)
		13.2	Actively support integrated water management according to the River Basin Management plan	13.2.1	Active coordination with AMBU and the Vjosa Basin Council and participation in the River Basin Management planning process and the elaboration of the flood risk management plan (details see chapter 3.2.3)
				13.2.2	Implementation of a study to explore the natural retention potential on areas of VWRNP as element of the flood risk management plan
				13.2.3.	Afforestation of eroded slopes outside VWRNP as contribution to reduction of flood risks (see also A 3.1.2.)

3.3.4. Field of Action 4: Law Enforcement & Patrolling

	Strategic objective		Operational objective	Main Actions	
14	Effective law enforcement and patrolling processes as well as the monitoring of activities ensure that illegal activities are halted.	14.1	Establishment of a viable and effective law enforcement and patrolling system	14.1.1	Establish a clear routine for patrolling (concrete plan) and for follow-up of observed violations
				14.1.2	Clarify and explicitly state the mandate of rangers/RAPA in patrolling
				14.1.2	Implement periodic training for rangers regarding how to document and report violations and how to interact with the local population (see also ranger training, Action 7.2.1.)
		14.2	Ensure adequate equipment for RAPA / rangers to carry out their duties	14.2.1	Procurement of uniforms for rangers
				14.2.2	Procurement of necessary equipment (e.g. GPS, camera) and transportation for rangers to carry out their tasks (car, boat)
		14.3	Improvement of the process of law enforcement in the case of reported violations	14.3.1	Evaluation of the processes of reporting and acting on documented violations
				14.3.2	Agreement at higher level on how to handle and act on violations in a cooperative manner
		14.4	Ensure consistent monitoring of threats, pressures and illegal activities	14.4.1	Regularly monitor and follow-up regulated or illegal activities (i.e. water quality / neozoa (A. 4.1.5), oil-related industry (A 4.1.4.), landfills (A 4.2.2.), gravel extraction sites (A 4.3.1), water abstraction infrastructure (A 4.4.5), fishery regulations (A 4.5.3.), rafting and boating (A 9.2.2.) or fish farming (A 12.4.2.)
14.4.2	Establish a basic visitor monitoring system (e.g. at main entrance points; visitor centre, rafting entry or exit points)				

3.3.5. Field of Action 5: Tourism & Public Relations

	Strategic objective		Operational objective	Main Actions	
Coordination and interaction with tourism sector					
15	A broad portfolio of different touristic activities and network of service providers is available and represents a sustainable and ecologically viable touristic offer to experience VWRNP	15.1	Support local communities and service providers in developing sustainable touristic offers and NP-related activities in line with NP regulations	15.1.1	Provide clear information and guidance regarding allowed and not allowed options (e.g. for rafting, hiking, horse riding, picnicking, birdwatching) (information material)
				15.1.2	Carry out a feasibility study for the development of touristic itineraries including nearby protected areas
				15.1.2	Provision of trainings / educational offers for stakeholders wanting to become active in VWRNP
		15.2	Enhance capacities of VWRNP staff to understand tourism and how to manage tourism within and near to the park	15.2.1	Provide tourism and visitor management training for all park staff (understand tourism, leave-no-trace, managing tourism in and around the park, risk management, etc.), including development of training videos/materials that can be used for new staff when they are onboarded

				15.2.2.	Provide specialized training for park management on tourism planning, zoning and carrying capacity assessment (training plus creating these documents with park staff) and park staff who engage with visitors in interpretation, guiding, hospitality and storytelling about the park		
				15.2.3.	Development of management documents (1. model concession and permit agreements, 2. tourism guidelines & standards for VWRNP, 3. Standard Operating Procedures (SOP's) and 4. Risk management plan for VWRNP and surrounding areas.		
				15.2.4.	Implementation of trainings for park staff on utilizing the tools and plans as developed in A 15.2.3.		
				15.3.	Develop of specific NP-activities distributed throughout the Vjosa River Basin	15.3.1.	Development of specific nature- and national park-related offers (bookable excursions/field visits with an ecological focus)
				15.4.	Frequent exchange with tourism operators and stakeholders in charge of implementing the tourism master plan	15.4.1.	Organization of an annual round table to present and discuss progress and relevant issues (i.e. new offers, services on behalf of tourist stakeholders; regulations, concerns on behalf of NP)
				15.5.	Branding and marketing campaign for VWRNP and Valley	15.6.1.	Develop brand and marketing program for VWRNP, implement initial marketing campaigns and travel trade engagement program.
						15.6.2.	Organize and facilitate one major global event in the region
				Sustainable tourism practice			
16	Sustainable tourism practice and environmental conservation is broadly accepted and embraced by the local tourism sector and local communities. It mutually benefits conservation and tourism.	16.1	Nurture a deeper understanding of sustainable tourism practices and the importance of environmental conservation among local communities and visitors, promoting a sense of stewardship and responsibility towards Vjosa WRNP and Valley	16.1.1	Develop and implement educational workshops and seminars for local communities to raise awareness about the benefits of sustainable tourism and the significance of preserving the natural and cultural heritage of the Vjosa Valley		
				16.1.2	Establish visitor education programs at key tourism hubs within VWRNP, providing, information on responsible tourism practices, environmental conservation, and the cultural significance of the region		
				16.1.3	Facilitate interactive experiences for visitors allowing them to participate in conservation activities, cultural exchanges and sustainable practices during their stay in the Vjosa Valley		
				16.1.4	Collaborate with local schools, universities and educational institutions to integrate sustainable tourism education into the curriculum, emphasizing the importance of environmental protection and responsible travel		
		16.2.	Develop and implement sustainable tourism practices that minimize the environmental footprint and promote responsible resource management within the VWRNP and valley	16.2.1	Develop and implement eco-friendly practices for accommodation facilities and tour operators, including waste management, energy conservation, and water usage reduction (Quality Mark Program and than GSTC certification)		
				16.2.2	Encourage the use of local and organic products in tourism-related businesses to support the local economy and reduce the carbon footprint associated with transportation		
				16.2.3	Collaborate with local communities and businesses to raise awareness about the importance of sustainable tourism practices and provide guidance on implementation		
				16.2.4	Regularly monitor and asses the effectiveness of implement sustainable practices, and make necessary adjustments based on the findings		

		16.3.	Development of a model to use tourism revenues to support NP activities	16.3.1.	Development of coherent park business plan with a deliberate model for park revenues to be used for conservation
Promotion and communication of NP values					
17	VWRNP is widely accepted and supported at local and national levels	17.1	Promote the natural and cultural values of the area and its importance for nature conservation, locally and internationally, to attract visitors and mobilize support.	17.1.1	Implementation of a series of information meetings in each community
				17.1.2	Creation of a folder/brochure highlighting the main values of the area, the conservation objectives and regulations
				17.1.3	Training of stakeholders and multipliers regarding main values and conservation objectives of VWRNP
		17.2	Promotion of good-practice examples and lighthouse projects illustrating the benefits of VWRNP	17.2.1	Organization of an (annual) event presenting main projects, key project results and outstanding actors to enhance support of the NP

3.3.6. Field of Action 6: Organization & Coordination

	Strategic objective	Operational objective	Main Actions		
Management organization					
18	VWRNP has an adequately staffed, effective and functional PA authority for ongoing management	18.1	Adaptation of the RAPA-based management towards a special PA authority /unit capable to implement the management plan	18.1.1.	Implement management structure as described in chapter 5.2 of the management plan
				18.1.2	Employment of an adequate number of staff with adequate qualification (chapter 5.3)
				18.1.3	Securing sufficient long-term funding to maintain operations
		18.2	Establishment of a viable working environment for actively managing VWRNP	18.2.1	Provision of office space (administration office)
				18.2.2	Procurement of required basic equipment for operations (office equipment, vehicles, boats, uniforms)
		18.3	Enhance the qualification and competencies of VWRNP staff	18.3.1.	Provision of basic training according to the position
				18.3.2.	Organization of periodic specific trainings for upcoming new themes
				18.3.3.	Development and implementation of a ranger qualification programme (certification)
		18.4	Ensure transparent and efficient management of VWRNP	18.4.1.	Certification of the VWRNP according to IUCN Green List standards.
				18.4.2.	Carry out an external mid-term review 5 years after entry into force to a) evaluate progress made and to b) adjust or amend objectives and actions if substantial changes occurred
		18.5	Ensure diverse long-term funding for implementation through a diversity of funding sources	18.5.1.	Preparation and implementation of a fundraising strategy (incl. donor management, sponsorship models)
				18.5.2.	Actively seeking involvement into project consortia (e.g. as partner in research/project calls)
				18.5.3.	Collect fees and define a concrete procedure to use these for the implementation of the management plan (in the case the revision of the Law on Protected Areas allows it)

Governance					
19	A functional and broadly accepted governance system involves all relevant authorities, municipalities and other stakeholders	19.1	Establishment of functional governance structures at regional level	19.1.1	Set-up up to 4 management committees (according to §41 of the Law on Protected areas) (one per RAPA) composed of local, regional and national stakeholders and authorities
				19.1.2	Define the role, responsibility and mandate of the management committees
				19.1.3	Holding of at least one annual meeting of each committee to hear stakeholders and provide updates on behalf of NAPA
Transboundary cooperation					
20	The whole Vjosa-Aoos river system is effectively protected through transboundary conservation efforts.	20.1	Establishing a basic formal transnational cooperation with Greece	20.1.1	Elaboration of a joint declaration and action plan on how to cooperate and in which fields
				20.1.2	Carry out annual update meetings for an (in)formal exchange regarding transboundary conservation efforts
				20.1.3	Elaboration of a joint proposal and roadmap towards a transboundary conservation area
				20.1.4	Organization of a guided study tour for decision-makers and relevant stakeholders to promote the idea of a transboundary conservation area
		20.2	Coordination of transboundary conservation measures and joint actions	20.2.1	Implementation of selected transboundary conservation projects
				20.2.2	Creation of a transboundary habitat map covering the whole Vjosa-Aoos Complex

3.4. Action Plan

For each of the proposed actions (approx. 160) as described in Chapter 3.3 (Management Actions), there is a more detailed characterization available in the Annex comprising relevant information for the detailed and annual planning of the PA authority for VWRNP (Example see Table 25).

	Main Actions	Main Responsibility				Spatial Relevance			Type	Priority	Proposed time schedule (Year)										
		NAPA	RAPA	PA-Manager Body	Other	VWRNP	AL	Vjosa Valley			1	2	3	4	5	6	7	8	9	10	
1.1.1	Detailed mapping of irrigation and draining structures								Project (Study)	1											
1.1.2	Development and implementation of an action plan to remove or adapt existing infrastructures								Project (Investment)	1											

Table 25: Example for action planning (for actions related to operational objective 1.1. (Removal of physical barriers within VWRNP boundaries)

For each of the proposed actions the following information is provided:

Main responsibility

The main responsibility refers to the entity responsible and accountable for the action. It does not necessarily refer to implementing responsibility but may also refer to organizing, fundraising, supervising, or coordinating the action. This action plan basically differentiates between the following institutions:

- **NAPA:** Indicating that the action requires national support, includes specific legal questions, or requires interministerial coordination.
- **RAPA:** Indicating that the action requires onsite implementation, ongoing management, or monitoring work.
- **PA authority (incl. VWRNP Foundation):** Indicating that the action requires the work of a dedicated and competent management staff with corresponding qualification. Actions indicating responsibility of a dedicated PA authority mostly refer to actions and tasks which are considered standard tasks of protected area management according to international standards.
- **Other:** Several actions are required but are not within the scope, mandate or competence of NAPA or a PA authority as they touch other sectors or need to be implemented outside VWRNP boundaries. As far as possible, the responsible authorities or relevant partners are indicated in the table. This needs to be further specified once the action is addressed and detailed planning is carried out.

Spatial Relevance

The spatial reference refers to the targeted area of each action. Whereas some target areas inside VWRNP boundaries, others address the immediate surrounding of VWRNP (outside the national park; approx. 30m), which act as an ecological buffer. As VWRNP and its riverine ecosystem is strongly influenced by developments of the wider Vjosa valley and VWRNP at the same time also strives to trigger a sustainable development of the Vjosa region, there are also actions related to areas outside the national park.

It must be noted that not all actions have an explicit spatial focus (e.g. trainings, meetings) and the attribution is tentative. The action plan tries to attribute a spatial scope to each action (e.g. whether a training aims to improve the management of VWRNP or whether an educational offer should occur in the Vjosa Valley).

Type

There are three different types of actions:

- **Activity:** Activities are tasks of a permanent PA authority and do not necessarily require a separate project or budget.
- **Project (Study):** These activities have an explicit start and end with the aim to elaborate a specific plan, document, or concept or to collect additional information which is needed for the effective management of VWRNP. These can either be carried out by a capable PA authority but also by external actors or universities. These activities may require additional funding.
- **Project (Investment):** These activities represent major investments into infrastructure, equipment, technology, or other physical assets and usually require larger external funding (e.g. through donor agreements.).

Priority

Due to the large number of actions, all actions are prioritized in three categories:

- **1 essential** – Actions are attributed to the highest priority if:
 - actions are addressing urgent matters or are dealing with currently ongoing developments
 - actions refer to the collection of indispensable basic knowledge which is required for follow up steps or appropriate management
 - actions that vital for the proper functioning of a PA authority
- **2 recommended** – Actions are recommended if these are international good practice and proved to be useful and beneficial. These actions are supporting the management of VWRNP but are not vital.
- **3 nice to have** – These actions are not fully necessary but can support the meeting of individual objectives or push forward specific topics. These actions were raised during the elaboration process for the management plan.

It must be noted that a) priorities can change over time due to new developments and b) that the priority does not necessarily reflect a time-related priority. The prioritization shall provide orientation to the PA authority, particularly if the implementation requires prioritization of actions due to the (limited) availability of (financial and human) resources.

Proposed timing during the management plan implementation

The management plan has a validity period of 10 years. Consequently, for each action a tentative timing was elaborated. There are different types of actions:

- Recurring/permanent actions (e.g. ongoing monitoring; annual meetings)
- Preparatory actions (e.g. studies required as a basis for larger investments)
- Implementation actions (e.g. long-term projects such as afforestation programs)

In most cases, timing can be adjusted during annual detailed planning of actions unless actions are building on each other (e.g. Action Plan development followed by implementation of the action plan).

For the detailed Action Plan, see Annex 7.6

4. Financial Plan

A detailed financial plan was developed for this Integrated Management Plan and can be found in part E. FINANCIAL PLAN OF THE ENVIRONMENTAL PROTECTED AREA. A short summary is described below.

The financial plan for VWRNP was elaborated for ten years and includes:

Operational Costs

The Operational costs activity covers the management and operation of park area and service wide expertise. These costs are incurred annually and will be covered by the national state budget. The costs are structured in line with the functional activities the NP undertakes to fulfil its mission. For information about funding by park and program please refer to the ONPS-Summaries section. The four functional lines included in the budget are:

- **Staff costs** encompasses resource management costs that provide for the operation, protection, and conservation of the Vjosa National Park. As per the structure for the staff costs are provisioned 21 people for the first year, 27 for the second and the third year being fully operational with 34 people.
- **Running costs** include ongoing expenses incurred from the normal day-to-day of running a National Park such as: consumables, utilities, printing, fuel etc.
- **Maintenance of Technical Equipment** provides costs for the maintenance of office supplies, other facilities, vehicles, etc. Maintenance costs are monthly costs operating on daily basis.
- **Maintenance of Infrastructure** encompasses the operations and maintenance costs of buildings, trails, visitors centre, information board etc. These costs are included yearly depending on needs and intervention per each infrastructure forecasted.

Investments Costs

Such costs benefit future periods and generally are of a long-term character and include but not limited to, construction costs, operating costs, development costs and other costs related to the fully operation of Vjosa National Park. The three functional lines included in the budget are:

- **Technical Equipment** includes any vehicle, tool, instrument, or installation used that should comply with the technical conditions and continuity of the normal and needed operation of the park.
- **External Support** means any outsourced expertise to sustain and develop the National Park. The expertise varies on yearly basis depending on the VNWRP needs and normal operation.
- **Infrastructure** is the set of designing, acquiring, constructing, improving, or expanding the infrastructure serving the Vjosa Wild River National Park. These costs are set to happen in the first and the second year of the existence of the park.

Project Based Costs

Project Based Costs (PBC) are the forecasted Studies/Plans/Infrastructure incurred during the 3-year management of Vjosa National Park. They cover only incremental costs incurred due to the project-based contributions. In most cases, these costs are directly related to the support of a dedicated project management unit/activity which manages the day-to-day execution related activities of the park.

Contingencies/Reserve Fund

During the operation of a National Park, unexpected costs may arise due to several problems/unforeseen activities, unplanned changes etc. For that it is forecasted a reserve fund for contingencies and/or possible fluctuations in exchange rates or inflation not exceeding 10 % of the activity budget costs. These costs may be included in the budget for the action to allow for adjustments necessary in the light of unforeseeable changes of circumstances on the ground.

Details about the budget and the financial plan can be found in chapter E of the IMP.

Operational Costs	Budget category	Unit	# of Unit	Unit Cost €	Total Cost (per budget category)	Total Budget 3Y (per sub-category)	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030	Year 7 2031	Year 8 2032	Year 9 2033	Year 10 2034
1. STAFF COSTS	Staff - salaries	Lumpsum	1	658 909,00 €	658 909,00 €	676 489,00 €	172 364 €	218 182 €	268 364 €	295 200 €	324 720 €	357 192 €	392 911 €	432 202 €	475 423 €	522 965 €
	Travel - International	Lumpsum	1	14 580,00 €	14 580,00 €		4 860 €	4 860 €	4 860 €	5 346 €	5 881 €	6 469 €	7 116 €	7 827 €	8 610 €	9 471 €
	Participatory Fee	Per meeting	30	100,00 €	3 000,00 €		1 000 €	1 000 €	1 000 €	1 100 €	1 210 €	1 331 €	1 464 €	1 611 €	1 772 €	1 949 €
2. RUNNING COSTS	Consumables - office supplies	Lumpsum	1	38 820,00 €	38 820,00 €	158 683,80 €	9 900 €	12 780 €	16 140 €	17 754 €	19 529 €	21 482 €	23 631 €	25 994 €	28 593 €	31 452 €
	Vehicle costs	Per unit	9	6 814,20 €	61 327,80 €		20 443 €	20 443 €	20 443 €	22 487 €	24 736 €	27 209 €	29 930 €	32 923 €	36 215 €	39 837 €
	Other Services	per month	36	1 426,00 €	51 336,00 €		16 200 €	17 064 €	18 072 €	19 879 €	21 867 €	24 054 €	26 459 €	29 105 €	32 016 €	35 217 €
	Travel – Local	per month	36	200,00 €	7 200,00 €		2 400 €	2 400 €	2 400 €	2 640 €	2 904 €	3 194 €	3 514 €	3 865 €	4 252 €	4 677 €
3. MAINTENANCE TECH. EQUIPMENT	IT Equipment	per month	30	100,00 €	3 000,00 €	6 120,00 €	600 €	1 200 €	1 200 €	1 320 €	1 452 €	1 597 €	1 757 €	1 933 €	2 126 €	2 338 €
	Website	per month	24	130,00 €	3 120,00 €		0 €	1 560 €	1 560 €	1 716 €	1 888 €	2 076 €	2 284 €	2 512 €	2 764 €	3 040 €
4. MAINTENANCE OF INFRASTRUCTURE	Repairs (Building)	per month	30	100,00 €	3 000,00 €	13 000,00 €	600 €	1 200 €	1 200 €	1 320 €	1 452 €	1 597 €	1 757 €	1 933 €	2 126 €	2 338 €
	Repairs (Trails and Paths)	per year	3	2 000,00 €	6 000,00 €		2 000 €	2 000 €	2 000 €	2 200 €	2 420 €	2 662 €	2 928 €	3 221 €	3 543 €	3 897 €
	Repairs (Information boards)	per year	2	1 500,00 €	3 000,00 €		0 €	1 500 €	1 500 €	1 650 €	1 815 €	1 997 €	2 196 €	2 416 €	2 657 €	2 923 €
	Repairs (Visitor Center)	per year	1	1 000,00 €	1 000,00 €		0 €	0 €	1 000 €	1 100 €	1 210 €	1 331 €	1 464 €	1 611 €	1 772 €	1 949 €

Investment Costs	Budget category	Unit	# of Unit	Unit Cost €	Total Cost (per budget category)	Total Budget 3Y (per sub-category)	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030	Year 7 2031	Year 8 2032	Year 9 2033	Year 10 2034	
1. TECHNICAL EQUIPMENT	Office Supplies	Lumpsum	1	29 500,00 €	29 500,00 €	256 200,00 €	23 000 €	3 000 €	3 500 €	0 €	3 850 €	4 235 €	4 659 €	0 €	0 €	0 €	
	Vehicle	per year	1	175 000,00 €	175 000,00 €		175 000 €	0 €	0 €	0 €	0 €	0 €	0 €	175 000 €	0 €	0 €	0 €
	IT Equipment	Lumpsum	1	51 700,00 €	51 700,00 €		25 800 €	16 800 €	9 100 €	0 €	10 010 €	0 €	0 €	0 €	0 €	0 €	0 €
2. EXTERNAL SUPPORT	Website	per service	1	7 000,00 €	7 000,00 €	228 000,00 €	7 000 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	
	Consultant - National (Communication expert)	per service	1	26 000,00 €	26 000,00 €		12 000 €	7 000 €	7 000 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €
	Consultant - National (Capacity Building Legal and Finance)	per service	1	20 000,00 €	20 000,00 €		20 000 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €
	Consultant - National (Capacity Building)	per year	3	30 000,00 €	90 000,00 €		30 000 €	30 000 €	30 000 €	33 000 €	33 000 €	33 000 €	33 000 €	33 000 €	33 000 €	33 000 €	33 000 €
	Audit Fee	per year	3	5 000,00 €	15 000,00 €		5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €	5 000 €
	Consultant - National (BP Visitors Centre)	per service	1	10 000,00 €	10 000,00 €		0 €	10 000 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €	0 €
	Events	per event	6	10 000,00 €	60 000,00 €		10 000 €	30 000 €	20 000 €	22 000 €	24 200 €	26 620 €	29 282 €	32 210 €	35 431 €	38 974 €	
3. INFRASTRUCTURE	Consultant - National (Information Boards)	per service	1	30 000,00 €	30 000,00 €	80 000,00 €	30 000 €	0 €	0 €	33 000 €	0 €	0 €	33 000 €	0 €	0 €	33 000 €	
	Consultant - National (Visitor guidance system)	per service	1	50 000,00 €	50 000,00 €		0 €	50 000 €	0 €	0 €	50 000 €	0 €	0 €	50 000 €	0 €	0 €	50 000 €

TOTAL COSTS (Operational Investment) +						1 418 492,80 €	568 166 €	435 988 €	414 338 €	466 712 €	537 143 €	521 047 €	777 351 €	667 362 €	675 298 €	772 028 €
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5. Management, Monitoring and Evaluation

5.1. Governance model for VWRNP

During the preparation of the management plan at hand, an adjusted management and governance model was elaborated which shall enable the efficient management of VWRNP.

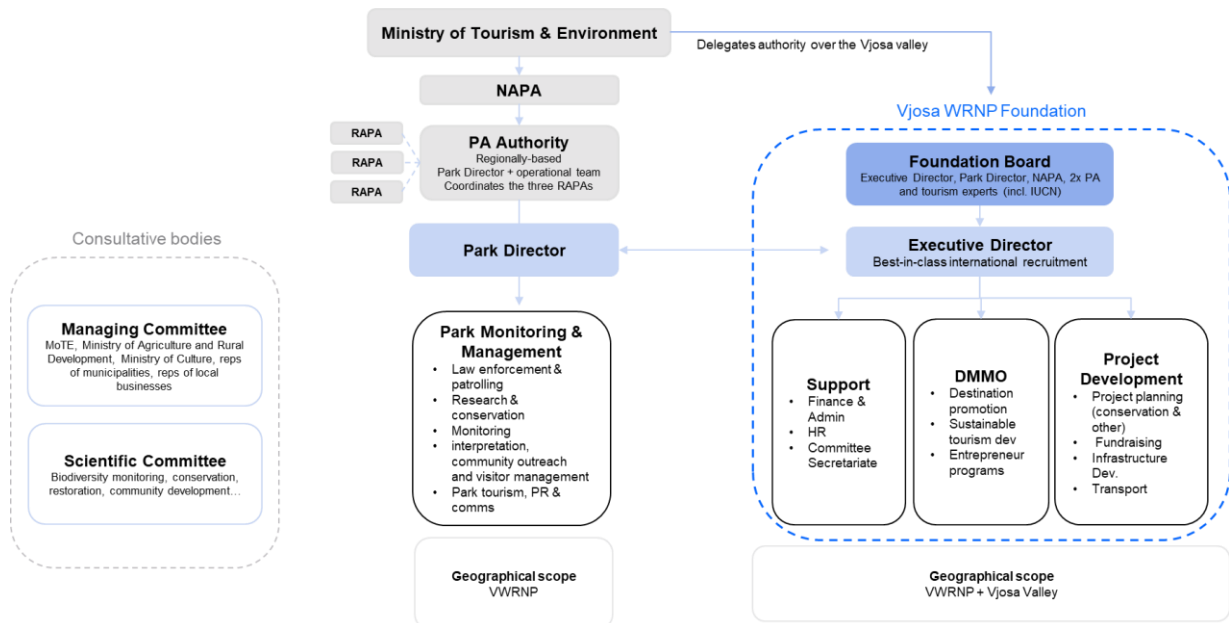


Figure 28: Split governance model for the management of VWRNP (as of December 2023)

The VWRNP PA authority will be organized within the existing structures, laws and regulations but still ensure a separate PA authority for this very complex and unique protected area.

There will be a coordinating PA authority coordinating the three RAPAs involved in the management of VWRNP and at the same time provide the staff necessary for the protection of the river (see organigram below). The PA Authority will geographically focus on the VWRNP.

Two consultative bodies shall be implemented (Managing committee and Scientific committee) to advise the PA Authority and put in expertise and knowledge.

Additionally, the Vjosa WRNP Foundation will focus on VWRNP and the Vjosa valley and support project development, the development of sustainable tourism and entrepreneurship programs.

To ensure the best possible exchange and maximum cooperation between the PA authority and the Vjosa WRNP foundation, the park director of VWRNP will be part of the foundation board of the foundation. Both, the park director, and the executive director of the foundation will be on the same level of hierarchy.

5.2. Management of VWRNP

According to the feasibility study the PA authority of VWRNP shall be organized as follows:

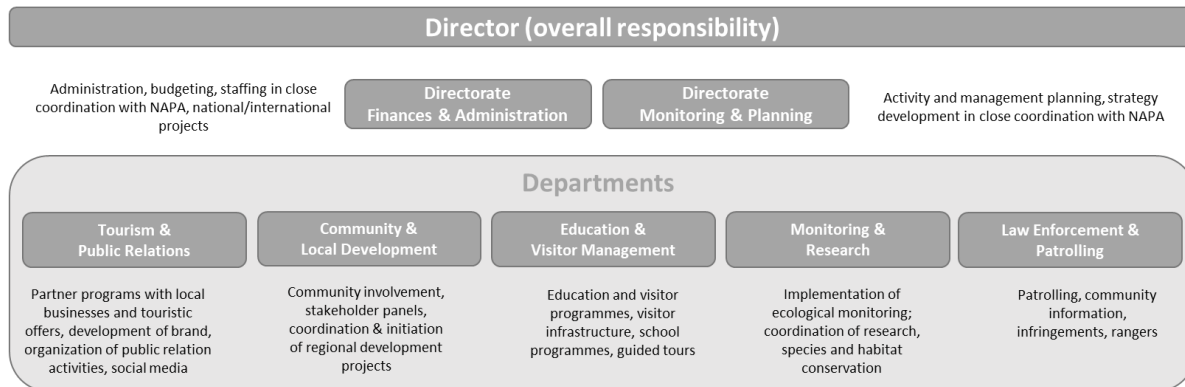


Figure 29: Management model for VWRNP

The **director** has overall responsibility of the National Park and its staff and performs representational and lobbying tasks. He or she is also responsible for hiring staff and making final decisions on projects, budget, and activities. The director also attends board/committee meetings and may be assisted by staff depending on the issues to be addressed in at each meeting.

Two directorates, Finances & Administration and Monitoring & Planning, operate to support the director.

The **Finances & Administration Directorate** is responsible for

- the administration of the National Park,
- the staffing (together with the director) and
- finances, financial planning, and accounting for national and international (funded) projects.

The **Management & Planning Directorate**

- plans activities and management tasks and
- supports the development of strategies for the National Park.

Both **directorates** work in close cooperation with the director, the foundation and NAPA on the one hand and the technical departments on the other. This ensures that the technical aspects and expertise of the departments are considered when planning the new strategies and management approaches with NAPA, and vice versa.

Five **departments** in the National Park management are responsible for the technical implementation of the developed strategies, plans, and actions. Each department comprises experts and a head responsible for the overall planning and implementation of tasks and activities.

The departments **support the director, the directorates, and other departments with their expertise** in preparing the management plan or other regulating documents that require specific knowledge.

Another important responsibility of the departments is the **initiation, development, application, and implementation of national and international (funded) projects** within their field of expertise. The financial planning of the projects is done in close cooperation with the Finances & Administration Directorate. Projects must be consistent with the management plan and existing national plans and objectives for national parks, protected areas, and nature conservation.

To ensure a comprehensive approach, the following departments will be part of the management of the VWRNP:

- **Tourism & Public Relations:**

This department aims to promote sustainable (eco)tourism in the National Park and to establish the National Park as a well-known and recognisable brand in Albania and internationally. Tasks of the department are for example

- the development of **criteria for sustainable (eco)tourism** in the National Park,
- the establishment of a **partner programme** for regional enterprises and tourism providers to become National Park partners,
- the **integration of the VWRNP in a touristic destination concept** for Albania
- the development of a **brand for the VWRNP** including its own corporate identity, and
- the organisation of **public relation work** and social media channels.

- **Community & Local Development:**

The experts in this department are in close contact with local communities and municipalities, informing stakeholders and residents and initiating projects for sustainable development of the region. The department works on the following tasks, for example:

- **Involvement of communities** into the work and objectives of the National Park
- Establishment and supervision of the **stakeholder panel**
- Initiation and coordination of **local/regional development projects**

- **Education & Visitor Guidance:**

This department deals with the visitor experience in the National Park. They provide the necessary information about the National Park, the visitor guidance system in the park and visitor programmes and excursions for all target groups. For this purpose, they develop/work with

- **Educational and visitor programmes** (for tourists, locals, stakeholders, on different topics and with different levels of expertise)
- **Visitor infrastructure** (e.g. information boards, visitor guidance system, visitor centres, information points)
- **School programmes** (for local schools and students of all ages, excursions in the National Park, and programmes where the National Park comes to schools to work with students)
- **Guided tours** (for tourists, locals, stakeholders, on different topics and with different levels of expertise)

- **Monitoring & Research:**

The department organises, coordinates, and implements the monitoring and research activities of the National Park. It follows the management and monitoring plan of the

National Park and cooperates with national and international universities and projects. In the first years after the establishment of the park, the main task will be

- to search for and collect all **available data on flora, fauna, habitats, and ecosystems** of the protected area. Based on this, the necessary research needs will need to be conducted to gain a basic knowledge of the area and
 - to develop, together with NAPA and the Planning & Management Directorate, a **monitoring plan** for the National Park (target species and habitats, restoration of degraded areas), in order
 - to implement and evaluate **nature conservation activities** within the national park.
- **Law Enforcement & Patrolling:**
The work of the Law Enforcement & Patrolling department is particularly important in the first years following the establishment of the National Park. Enforcement and consistent control of prohibited and permitted activities in the park, while informing residents and owners of the reasons for the new regulations, are critical for the future development of the National Park and its acceptance in the regions. The department is therefore responsible for
 - Ranger services (e.g. patrolling)
 - Community information
 - Infringements and fees

For the VWRNP to function, all positions and structures shown in the organigram must eventually be implemented.

5.3. Staffing of VWRNP

For the implementation of management as described above, sufficient personnel and expertise must be available and secured for the long term. It is crucial for the staff and the existence of VWRNP to offer long-term prospects, employment, and development opportunities (e.g. further education opportunities).

To facilitate the establishment of management, three implementation steps have been developed to slowly increase staffing levels and ensure professional and orderly implementation of the defined management structures and tasks. The table below shows the positions, main tasks, and responsibilities of the future staff. Additionally, the colors show the implementation steps and the year of recruitment (green=1st year, blue=2nd year and grey=3rd year).

The rangers (22-30) will be employed by the respective RAPAs.

NR.	POSITION	MAIN TASKS	NECESSARY BACKGROUND, EXPERTISE
1	Director	Coordination, overall responsibility, representation of NP, participation in board/committee, human resources, budget negotiations with NAPA/ministries	Business or public administration or management of natural resources/protected areas
2	Head of Directorate Finances & Administration	Administration, staffing, budgeting, accounting, coordination with NAPA Directorate	Business or public administration or management
3	Accountant	Support of Head, accounting, financial administration of park and projects	Economics or public administration
4	Accountant	Financial administration of national and international projects	Economics or public administration
5	Head of Ecotourism & Public Relations	Development of touristic & public relations, meetings with stakeholders & decision makers	Tourism or public relations
6	Public relations expert	Development of brand, logo, message, creation of pr material, planning of events	Public relations
7	(Eco)tourism expert	Development of partner programmes for local touristic enterprises, stakeholder meetings, development of contracts	(Eco)tourism
8	Head of Directorate Monitoring & Planning	Activity and management planning, strategy planning, coordination with NAPA Directorate	Ecology, NRM or protected area management
9	Junior PA management expert	Supervision of implementation of work plans	Conservation or biology (ecology)
10	Head of Community & Local Development Unit	Community involvement, stakeholder panels, coordination & initiation of regional development projects	Regional development, geography, landscape planning, NRM, environmental management
11	Community engagement expert	Cooperation with communities, awareness raising, stakeholder meetings	Regional development, geography
12	Regional development expert/Project manager	Initiation and coordination of regional development projects	Tourism, territorial planning, rural development
13	Head of Education & Visitor Management Unit	Development and implementation of visitor and education programmes	Environmental education or communication
14	Education expert	School programmes, educational materials, visitor centres	Education
15	Visitor expert	Visitor management	Tourism or environmental education
16	Head of Monitoring & Research Unit	Implementation of ecological monitoring; coordination of research; species and habitat conservation	Ecology, NRM or freshwater ecology
17	GIS Expert	Preparation of GIS maps, GIS system	GIS or Geography
18	Zoologist	Implementation of conservation actions and monitoring, support of research projects	Biology (zoology/ecology)
19	Botanist	Implementation of conservation actions and monitoring, support of research projects	Biology (botany/ecology)
20	Freshwater ecologist	Implementation of conservation actions and monitoring, support of research projects	Biology (freshwater ecology/ecology)
21	Head of Law Enforcement & Patrolling Unit	Planning of ranger patrols, documentation of infringements	Management of natural resources
22-24	Ranger Lower Section (Delta)	Community information, patrolling, guided tours, support of monitoring, conservation and research activities	Forestry, ecology, communication, rural development; basic ranger training
25-27	Ranger Middle Section		
28-30	Ranger Upper Section		

Table 26: Staff of VWRNP, the colors show the implementation steps and the year of recruitment (green=1st year, blue=2nd year and grey=3rd year)

5.4. Monitoring and evaluation

The management plan defines specific operational objectives for each strategic long-term objective. The operational objectives are objectives that need to be reached within the validity period of the management plan (i.e. 10 years). Consequently, for each operational objective one to three quantifiable indicators and related baseline and target values were determined and approved by NAPA (Example see Table 27).

This structure allows to consistently track, monitor, and evaluate the progress in the implementation of the management plan. The indicators were deliberately kept simple to allow for a monitoring of progress without large data collection efforts.

	Strategic objective		Operational objective	Indicator	Target Value	Baseline Value
	Coordination with research institutions					
8	A wide academic partnership network and cooperation with research institutions supports the work of VWRNP.	8.1	Establish a permanent partnership with Albanian and international universities and research institutions	Number of research institutions with formal agreement	5	0
				Number of Vjosa Scientific conferences	3	0
		8.2	Establishment of "monitoring" partnerships to coordinate monitoring	Number of partners in monitoring	5 (at least NEA, University of Tirana and one NGO)	0

Table 27: Indicators, baseline and target values for each operational objective: Example (full list see Annex)

Once the management is set-up, the PA authority is responsible for periodically update the progress (at minimum during an (external) 5-year mid-term evaluation). During the annual Committee Meeting, the Directors of VWRNP Management and the Foundation jointly present the status and progress made.

Evaluations

It is foreseen to carry out a mid-term evaluation after five years. It is recommended to carry out an externally contracted evaluation to assess the progress made (based on the indicators and interviews) to deduct recommendations for a) adjustment of objectives or actions, b) new necessary actions and c) improvements for the organizational or governance structure. Given the fact that VWRNP is a new and large national park, the mid-term evaluation is crucial to adjust the management, objectives, and actions after the initial years of operation.

After 10 years, prior or during the development of the next management plan a terminal evaluation should be carried out to guide the development of the next management plan.

Both evaluations should be supervised and approved by the Management Committee but be contracted and carried out independently.

6. References/Bibliography

- Aliaj, S., 2006. THE ALBANIAN OROGEN: CONVERGENCE ZONE BETWEEN EURASIA AND THE ADRIA MICROPLATE, in: Pinter, N., Gyula, G., Weber, J., Stein, S., Medak, D. (Eds.), *The Adria Microplate: GPS Geodesy, Tectonics and Hazards*, Nato Science Series: IV: Earth and Environmental Sciences. Kluwer Academic Publishers, Dordrecht, pp. 133–149. https://doi.org/10.1007/1-4020-4235-3_09
- Beqiraj, S., 2004. : A comparative taxonomic and ecological study with biogeographic data on malacofauna of Albanian coastal lagoons, (Doctoral Thesis). University of Tirana, Tirana, Albania.
- Beqiraj, S., 2001. Mollusks. In *Biodiversity in the coastal ecosystem Delta of Vjosa – Narta Lagoon*. UNDP, GEF/SGP, SHBSH, Tirana, Albania.
- Beqiraj, S., Peja, N., Kasemi, D., 2002. Data on malacofauna of Narta Lagoon. *The Bulletin of Natural Sciences. FNS. University of Tirana* 67–73.
- Bino, T., Xeka, E., Bashmili, K., 2023. Breeding birds of Vjosa River National Park - First results of the inventory of June 2023. *Albanian Ornithological Society (AOS)*, Tirana, Albania.
- Bizzi, S., Tangi, M., Schmitt, R.J.P., Pitlick, J., Piégay, H., Castelletti, A.F., 2021. Sediment transport at the network scale and its link to channel morphology in the braided Vjosa River system. *Earth Surf Processes Landf* 46, 2946–2962. <https://doi.org/10.1002/esp.5225>
- Boudaghpour, S., Hashemi Monfared, S.A., 2008. Environmental Effects of Irregular Extracting of Gravel from River Beds. *WSEAS Transactions on Environment and Development* 4, 430–435.
- Brugmans, G., Francke, M., Persyn, F. (Eds.), 2016. *The metabolism of Albania: activating the potential of the Albanian territory*. iabr/UP, Rotterdam.
- Chamberlain, L., 2018. *Eco-Masterplan for Balkan Rivers - Drawing a line in the sand*. Riverwatch (Vienna, Austria) & EuroNatur (Radolfzell, Germany), Vienna.
- CNR Ingénierie, 2015. *Water Resources Management Plan in the Vjosa basin*. CEREG International, *Diagnosis and analysis of sectoral patterns: (Interim report)*. . Agence de l'eau Rhône-Méditerranée Corse 2-4, allée de Lodz 69 363 LYON CEDEX 07, FRANCE.
- Cuvelier, S., Parmentier, L., Papparisto, A., Couckuyt, J., 2018. Butterflies of Albania – Fluturat e Shqipërisë. New surveys, new species and a new checklist (Lepidoptera: Papilionoidea). *Phegea* 46, 48–69.
- Daja, S., Xhemalaj, X., Lipo, S., Ago, B., 2018. Stream Channel Characterization Vjosa River – a unique natural river. *Acta ZooBot Austria* 155, 63–71.
- Decamps, H., Pinay, G., Naiman, R.J., Petts, G.E., McClain, M.E., Hillbricht-Ilkowska, A., Hanley, T.A., Holmes, R.M., Quinn, J., Gibert, J., Planty-Tabacchi, A.M., Schiemer, F., Tabacchi, E., Zalewski, M., 2004. Riparian zones: where biogeochemistry meets biodiversity in management practice. *Polish Journal of Ecology* 52, 3–18.
- Dhora, D., 2002. *Studies on mollusks of Albania*. Ed. Camaj-Pipa, Shkoder.
- Dudley, N. (Ed.), 2013. *Guidelines for applying protected area management categories including IUCN WCPA best practice guidance on recognising protected areas and assigning management categories and governance types*. IUCN, Gland.
- Durmishi, C., Daja, S., Ago, B., Dindi, E., Sinojmeri, A., Nazaj, S., Qorri, A., Muci, R., 2018. Synthesis of geological, hydrogeological, and geo-touristic features of the Vjosa Watershed. *Acta ZooBot Austria* 41–61.
- EcoAlbania, 2021. *Proposal for Establishment of the Vjosa Wild River National Park*.

- Egger, G., Randl, M., Drescher, A., 2019. Scientific programme:baseline survey for an Environmental Impact Assessment of the River Vjosa in Albania: Vegetation and Riparian Habitats. Report to Riverwatch.
- Fontes, H., Olivier, A., Sacdanaku, E., Thibault, M., 2019. Biodiversity survey of the Vjosa River catchment – Poçem & Kalivaç areas (Albania). Report for Save the Blue Heart of Europe Initiative & Euronatur, Arles, Tour du Valat.
- Fouache, E., Vella, C., Dimo, L., Gruda, G., Mugnier, J.-L., Denèfle, M., Monnier, O., Hotyat, M., Huth, E., 2010. Shoreline reconstruction since the Middle Holocene in the vicinity of the ancient city of Apollonia (Albania, Seman and Vjosa deltas). *Quaternary International* 216, 118–128. <https://doi.org/10.1016/j.quaint.2009.06.021>
- Greca, A., Sovinc, A., 2022. Vjosa Wild River National Park - Vision, Road Map and Feasibility Study based on IUCN protected area standards. Ministry of Tourism and Environment, Tirana, Albania.
- Hasenauer, H., Leiter, M., Toromani, E., 2022. The Forest in the Vjosa River basin: an assessment of the situation. University of Natural Resources and Life Sciences, Vienna.
- Hauer, C., Skrame, K., Fuhrmann, M., 2021. Hydromorphological assessment of the Vjosa river at the catchment scale linking glacial history and fluvial processes. *CATENA* 207, 105598. <https://doi.org/10.1016/j.catena.2021.105598>
- INSTAT, 2021. Statistical Yearbook, Census in Albania. INSTAT, Tirana, Albania.
- Jacoby, D., Gollock, M., 2014. *Anguilla anguilla*. The IUCN Red List of Threatened Species 2014: e.T60344A45833138. <https://doi.org/10.2305/IUCN.UK.2014-1.RLTS.T60344A45833138.en>
- Liddle, M.J., 1991. Recreation ecology: Effects of trampling on plants and corals. *Trends in Ecology & Evolution* 6, 13–17. [https://doi.org/10.1016/0169-5347\(91\)90141-J](https://doi.org/10.1016/0169-5347(91)90141-J)
- Lin, Q., 2011. Influence of Dams on River Ecosystem and Its Countermeasures. *Journal of Water Resource and Protection* 3, 60–66. <https://doi.org/10.4236/jwarp.2011.31007>
- Lushaj, S., Kacani, A., 2019. Risk analysis and alternatives of protection from Vjosa river flood, in: Conference Proceedings. Presented at the Foreseeing Uncertainty: Design & non-normativity - TDW2019 International Scientific Conference, Polis University, Tirana, Albania, pp. 267–278.
- Malo, S., 2010. Study of Plant Diversity in the Gjirokastra District. Faculty of Natural Sciences, University of Tirana, Tirana, Albania.
- Marková, S., Šanda, R., Crivelli, A., Shumka, S., Wilson, I.F., Vukić, J., Berrebi, P., Kotlík, P., 2010. Nuclear and mitochondrial DNA sequence data reveal the evolutionary history of *Barbus* (Cyprinidae) in the ancient lake systems of the Balkans. *Molecular Phylogenetics and Evolution* 55, 488–500. <https://doi.org/10.1016/j.ympev.2010.01.030>
- McClain, M.E., Boyer, E.W., Dent, C.L., Gergel, S.E., Grimm, N.B., Groffman, P.M., Hart, S.C., Harvey, J.W., Johnston, C.A., Mayorga, E., McDowell, W.H., Pinay, G., 2003. Biogeochemical Hot Spots and Hot Moments at the Interface of Terrestrial and Aquatic Ecosystems. *Ecosystems* 6, 301–312. <https://doi.org/10.1007/s10021-003-0161-9>
- Meulenbroek, P., Egger, G., Trautner, J., Drescher, A., Randl, M., Hammerschmied, U., Wilfling, O., Schabuss, M., Horst, Z., Graf, W., 2021. The River Vjosa – A Baseline Survey on Biodiversity, Potential Impacts and Legal Framework for Hydropower Development. Zenodo. <https://doi.org/10.5281/ZENODO.4139640>
- Meulenbroek, P., Shumka, S., Schiemer, F., 2018. First reconnaissance of habitat partitioning and fish diversity in the alluvial zone of the Vjosa River, Albania. *Acta ZooBot Austria* 155, 177–186.
- Miho, A., Beqiraj, S., Graf, W., Schiemer, F., 2018. The Vjosa river system in Albania: a summary of actual challenges and agendas. *Acta ZooBot Austria* 155, 377–385.

- Miho, A., Kupe, L., Lushnjari, K., Vata, Sh., 2023. Non vascular plants (algae) from Vjosa/Aoos waters – diversity and ecological approach. Presented at the 2nd International Conference on Water Environmental Protection and Sustainable Development – WEPSD-2023., Tirana, Albania.
- Miho, A., Shuka, L., 2017. Medicinal plants in Vjosa catchment, economical and conservation approach. Presented at the Alblakes3 2017 - International Conference on Sustainable Water Resources Management 20-22 October 2017, Elbasani, Albania, p. 21.
- Miho, L., Bego, F., Beqiraj, S., 2023. Pse Delta e Vjosës nën fokusin shkencor - reflektim hyrës / Why the Delta of Vjosa under the science focus - introductory reflections, in: Vlerat Natyrore Dhe Biodiversiteti i Deltës Së Vjosës - Situata Aktuale Dhe Kërcënimet e Mundshme / Natural Values and Biodiversity of the Vjosa Delta - Current Situation and Potential Threats. FShN, UT, Tiranë.
- Ministry of Agriculture, 2017. National Strategy for Integrated Water Resource Management 2017 - 2027. Ministry of Agriculture, Rural Development and Water Administration, Tirana, Albania.
- Ministry of Environment, 2016. Document of Strategic Policies for the Protection of Biodiversity in Albania. Biodiversity and Protected Areas Directorate, Ministry of Environment, Tirana, Albania.
- Muco, K., 2020. Socio-Economic Analyses of the Vjosa River Basin.
- National Flood and Coastal Erosion Risk Management Strategy for England, n.d.
- NTPA, 2016. General National Spatial Plan - Albania2030. Ministry of Urban Development, National Territorial Planning Agency, Tirana, Albania.
- Pala, N.A., Bhat, J.A., Dasgupta, S., Negi, A.K., Todaria, N.P., 2011. Ecological and Economic Impacts of River Based Recreation in River Ganga, India.
- Pano, N., 2015. Pasurite ujore te Shqiperise [Water richness of Albania]., Ed. “Kristalina-KH.” Academy of Sciences of Albania.
- Paparisto, A., 2001. Kontribut ne njohjen e flatraforteve (Rendi Coleoptera, Klasa Insecta, Tipi Arthropoda) te Ultesires Bregdetare te Shqiperise; te dhena sistematike-ekologjike (PhD Theses). University of Tirana, FNS, Tirana, Albania.
- Pickett, S.T.A., White, P.S., 1985. The Ecology of Natural Disturbance and Patch Dynamics. Academic Press.
- Pinay, G., Gumiero, B., Tabacchi, E., Gimenez, O., Tabacchi-Planty, A.M., Hefting, M.M., Burt, T.P., Black, V.A., Nilsson, C., Iordache, V., Bureau, F., Vought, L., Petts, G.E., Décamps, H., 2007. Patterns of denitrification rates in European alluvial soils under various hydrological regimes. *Freshwater Biology* 52, 252–266. <https://doi.org/10.1111/j.1365-2427.2006.01680.x>
- Poepl, R.E., Keesstra, S.D., Keiler, M., Coulthard, T., Glade, T., n.d. Impact of dams, dam removal and dam-related river engineering structures on sediment connectivity and channel morphology of the Fugnitz and the Kaja Rivers.
- Poff, N.L., Allan, J.D., Bain, M.B., Karr, J.R., Prestegard, K.L., Richter, B.D., Sparks, R.E., Stromberg, J.C., 1997. The Natural Flow Regime. *BioScience* 47, 769–784. <https://doi.org/10.2307/1313099>
- Qendro, E., 2019. Stakeholder Analysis Report. prepared within the frame of the project “Saving Europe’s last free flowing wild river – Vjosa/Aoos,” Tirana, Albania.
- Rössler, L., Egger, G., Drescher, A., 2018. Riparian vegetation and fluvial processes of the Vjosa River (Albania). *Acta ZooBot Austria* 155, 73–84.
- Schiemer, F., Beqiraj, S., Drescher, A., Graf, W., Egger, G., Essl, F., Frank, T., Hauer, C., Hohensinner, S., Miho, A., Meulenbroek, P., Paill, W., Schwarz, U., Vitecek, S., 2020. The Vjosa River corridor: a model of natural hydro-morphodynamics and a hotspot of

- highly threatened ecosystems of European significance. *Landscape Ecol* 35, 953–968. <https://doi.org/10.1007/s10980-020-00993-y>
- Schiemer, F., Beqiraj, S., Graf, W., Miho, A., 2018. Acta ZooBot Austria. The Vjosa in Albania - a riverine ecosystem of European significance. *Zoologisch-Botanische Gesellschaft in Österreich Band 155/1*, 385.
- Schiemer, F., Reckendorfer, W., Hein, T., 2004. Erfahrungen mit Restaurierungsprogrammen am Beispiel der Donau. *Verhandlungen der Zoologisch-Botanischen-Gesellschaft in Österreich*, 34, 1–18.
- Seele-Dilbat, C., Kretz, L., Wirth, C., 2022. Vegetation of natural and stabilized riverbanks and early effects of removal of bank fixation. *International Review of Hydrobiology* 107, 88–99. <https://doi.org/10.1002/iroh.202102097>
- Shkëmbi, E., Gerken, B., Pepa, B., Kicaj, H., Misja, M., Paparisto, A., 2018. Contribution to the knowledge of Odonata from Vjosa catchment. *Acta ZooBot Austria* 155.
- Shkëmbi, E., Paparisto, A., Halimi, F., Qirinxhi, X., Pepa, B., 2015. A general overview on Odonata in Albania. Presented at the VIth International Symposium of Ecologists of Montenegro (ISEM 6), Montenegro.
- Shumka, S., 2014. Fish Survey in Vjosa River basin, Report for VERBUND. Vienna.
- Shumka, S., Bego, F., Beqiraj, S., Paparisto, A., Kashta, L., Miho, A., Nika, O., Marka, J., Shuka, L., 2018. The Vjosa catchment – a natural heritage. *Acta ZooBot Austria* 155, 349–376.
- Shumka, S., Grazhdani, S., Mali, S., Cake, A., 2010. Coastal marine aquaculture in south Albanian coast. *JEPE-Balkan Journal for Environment Protection* 10, 45–46.
- Snoj, A., Marić, S., Berrebi, P., Crivelli, A.J., Shumka, S., Sušnik, S., 2009. Genetic architecture of trout from Albania as revealed by mtDNA control region variation. *Genet Sel Evol* 41, 22. <https://doi.org/10.1186/1297-9686-41-22>
- Sovinc, A., 2021. Protection study of the Vjosa River Valley based on IUCN protected area standards. IUCN Regional Office for Eastern Europe and Central Asia (ECARO).
- Sweeney, B., Newbold, D., 2014. Streamside Forest Buffer Width Needed to Protect Stream Water Quality, Habitat, and Organisms: A Literature Review. *JAWRA Journal of the American Water Resources Association* 50. <https://doi.org/10.1111/jawr.12203>
- Tan, K., Shuka, L., Siljak-Yakovlev, S., Sadik, M., Pustahija, F., 2011. The genus *Gymnospermium* (Berberidaceae) in the Balkans. *Phytotaxa* 25, 1–17.
- Taylor, A.R., Knight, R.L., 2003. Wildlife Responses to Recreation and Associated Visitor Perceptions. *Ecological Applications* 13, 951–963. [https://doi.org/10.1890/1051-0761\(2003\)13\[951:WRTRAA\]2.0.CO;2](https://doi.org/10.1890/1051-0761(2003)13[951:WRTRAA]2.0.CO;2)
- Thorp, J.H., Thoms, M.C., Delong, M.D., 2006. The riverine ecosystem synthesis: biocomplexity in river networks across space and time. *River Research & Apps* 22, 123–147. <https://doi.org/10.1002/rra.901>
- Tockner, K., Stanford, J.A., 2002. Riverine flood plains: present state and future trends. *Envir. Conserv.* 29, 308–330. <https://doi.org/10.1017/S037689290200022X>
- Townsend, C.R., Scarsbrook, M.R., Dolédec, S., 1997. The intermediate disturbance hypothesis, refugia, and biodiversity in streams. *Limnology & Oceanography* 42, 938–949. <https://doi.org/10.4319/lo.1997.42.5.0938>
- UNDP Albania, 2017. Assessment of Hydro-ecological and Socio-economic Systems of the Vjosa River.
- Ward, J.V., Tockner, K., Schiemer, F., 1999. Biodiversity of floodplain river ecosystems: ecotones and connectivity1. *Regul. Rivers: Res. Mgmt.* 15, 125–139. [https://doi.org/10.1002/\(SICI\)1099-1646\(199901/06\)15:1/3<125::AID-RRR523>3.0.CO;2-E](https://doi.org/10.1002/(SICI)1099-1646(199901/06)15:1/3<125::AID-RRR523>3.0.CO;2-E)

- Wickel, B., Lata, L., Hiraldo, A., Bruci, E., 2017. Assessment of Hydro-Ecological and SocioEconomic Systems of the Vjosa River. under the EU Flood Protection Infrastructure Project – FPIP.
- Winemiller, K.O., Flecker, A.S., Hoeinghaus, D.J., 2010. Patch dynamics and environmental heterogeneity in lotic ecosystems. *Journal of the North American Benthological Society* 29, 84–99. <https://doi.org/10.1899/08-048.1>
- Woolsey, S., Weber, C., Gonser, T., Hoehn, E., Hostmann, M., Junker, P., Roulier, S., Schweizer, S., Tiegs, S., Tockner, K., Peter, A., 2005. Handbuch für die Erfolgskontrolle bei Fliessgewässerrevitalisierungen. (Publikation des Rhone-Thur Projektes). Eawag, WSL, LCH-EPFL, VAW-ETHZ, Winterthur.

7. Annex

7.1. List of stakeholders

National authorities	<ul style="list-style-type: none"> • Ministry of Tourism and Environment • National Agency of Protected Areas • National Territorial Planning Agency • National Environmental Agency • National Coastal Agency • Water Basin Management Agency • Albanian Geological Service • Ministry of Infrastructure and Energy
Regional authorities	<ul style="list-style-type: none"> • Regional Administrations of Protected Areas • Regional Coastal Agencies • Regional Development Agency • River basin council
Municipal authorities	<ul style="list-style-type: none"> • Përmet, Këlcyrë, Gjirokastrë, Tepelenë, Memaliaj, Selenice, Mallakastër, Vlorë
Local communities	<ul style="list-style-type: none"> • Mayors, residents • Fisherman communities
Agriculture	<ul style="list-style-type: none"> • Fish farms • Farmers
Tourism	<ul style="list-style-type: none"> • Hotels and guesthouses • Restaurants • Tourism consortiums • Tour guides, rafting agencies
Industrial/energy sector	<ul style="list-style-type: none"> • Hydro power companies • Gravel and sand quarries • Oil and mining companies
National NGOs	<ul style="list-style-type: none"> • Institute for Nature Conservation in Albania • Resource Environmental Center Albania • Eco Albania • River Watch • AREA Tirana
Local NGOs	<ul style="list-style-type: none"> • Cesvi NGO • Vjosa Explorer • Visit Gjirokastra • Cajupi Association Gjirokastra • Argonaut Tepelena • Green Vision Vlore
Academia	<ul style="list-style-type: none"> • University of Gjirokastrë • Faculty of Natural Sciences Tirana • Agricultural University of Tirana • University of Vlorë • Polis University • Albanian Geological Survey • International universities and scientists
Educational sector	<ul style="list-style-type: none"> • Schools
Donors	<ul style="list-style-type: none"> • Development agencies • National and international businesses • Private donors

7.2. Protected natural sites within the Vjosa river basin

Monumenti	Qarku	SHAPE_Area
Dushkajat e Tendes se Qypit	Berat	18,04636881
Rrepet e Vurgut të Çorrushit	Fier	74361,24671
Rrepet e Festes&Rrepet e Poçemit	Fier	195397,0144
Ujërat termale te Povles	Fier	768,8950029
Mospërputhje këndore e Greshicës	Fier	936,7933151
Dunat e Semanit	Fier	377523,5414
Plepat anes rruges Jergucat	Gjirokastër	365,2187734
Zhveshja e Muzinës	Gjirokastër	1139480,752
Burimi i Nepravishtës	Gjirokastër	6388,000913
Vithimat e Buretos	Gjirokastër	3630371,117
Selvitë e kishës së Hllomosë	Gjirokastër	2056,143278
Kanioni i Piksit	Gjirokastër	9733998,188
Gropa e Kazanit	Gjirokastër	7524869,823
Viroi (mëma e ujit) i Gjirokastrës	Gjirokastër	940,5366894
Lisat e Skoresë	Gjirokastër	21372,42798
Shëmbja e Zhulatit	Gjirokastër	54218,7903
Horizonte vithisëse dhe olistolitet e Çarshovës	Gjirokastër	26117,00525
Pylli i Gërhotit	Gjirokastër	2361473,125
Rrepet e Kllëzit	Gjirokastër	1111,804232
Kanioni Selckes	Gjirokastër	19071721,61
Rrëshqitja e Kllëzit	Gjirokastër	261856,7202
Ujëvara e Sopotit	Gjirokastër	4160,525466
Cirku i Nemërçkës	Gjirokastër	4580682,246
Liqeni i Kacojthit	Gjirokastër	3680,135845
Rëshqitja në malin e Karparielit	Gjirokastër	513863,9763
Tarraca e Ndëranit	Gjirokastër	984068,2485
Dalja e magmatikëve në gëlqerorë afër Picarit	Gjirokastër	2781,811393
Pusi i Nemerçkës	Gjirokastër	7131,235493
Pylli i Gurtë - Ndëran	Gjirokastër	41950,05669
Lisat e Manastirit Nivan	Gjirokastër	10055,11698
Rrepet e Nivanit	Gjirokastër	7567,718847
Qafa e Çajupit	Gjirokastër	444540,6479
Bredhi i Petranit	Gjirokastër	107116,4015
Vrimat e Konckës	Gjirokastër	151856,3413
Guri i Petranit	Gjirokastër	14987,70923
Ujëvara e Progonatit	Gjirokastër	4779,723855
Grumbulli pyjor i Polmenit	Gjirokastër	29642,14721
Vënjat e Konckës	Gjirokastër	20776,5147
Buza e Bredhit	Gjirokastër	191863,7006
Guri i Qytetit	Gjirokastër	571,6064294
Shkëmbi i Zhehit	Gjirokastër	5356189,192
Ujërat Termale të Bënjës	Gjirokastër	3571,293309
Guri i Atos	Gjirokastër	941,3506855
Burimi Ujit të Ftohtë Tepelenë	Gjirokastër	646,7685596
Shpella e Leklit	Gjirokastër	631,8814479
Tarraca erozive e Bëncës	Gjirokastër	69107,92535
Kanionet e Nivicës	Gjirokastër	5621328,584
Kanioni i Lengaricës	Gjirokastër	520730,9451
Rrepet e Kuqarit	Gjirokastër	1998,603591
Rrepet e Grykës së Këlcyrës	Gjirokastër	6197,534184
Uji i Zi Këlcyrë	Gjirokastër	786,1391908

Kanioni i Kamenikut (kamenckes)	Gjirokastër	1073845,787
Perëndi e Borockës (Kanioni, Guri i Bletës)	Gjirokastër	111416,9984
Mogilat e Vasjarit	Gjirokastër	1195507,15
Triavgat në Gllavë	Gjirokastër	7899,397082
Banjat e Avulit Postenan	Korçë	7835,701403
Pisha e Pogonices (Sotire Radanj)	Korçë	1336759,302
Tisi i Golos	Korçë	2908825,458
Bokrimat e Piskalit	Korçë	61346,25458
Ilqet e Zarelit - Kuc	Vlorë	152685,1375
Guri i qytetit, Vranisht	Vlorë	1009,907491
Karhi i Terbacit	Vlorë	20178,75686
Rrethi i Plakes - Brataj(Kokorrethi i Plakes)	Vlorë	13730,44105
Shpella e Ramices	Vlorë	204,4153063
Rrepet e Drashovices	Vlorë	25464,36636
Bariera Koralore e grykes se Djallit	Vlorë	1747,316784
Kodrat molasike te Zverneçit	Vlorë	164643,1448
Ullinjte e Trubullit ne Karbunare	Vlorë	7119,269507
Pylli i Zverneçit	Vlorë	67481,65755
Laguna Limopuo	Vlorë	148681,3436
Dunat e Nartes	Vlorë	263341,8862

7.3. Protected cultural sites within the Vjosa valley

Today, within the territory of the Vjosa valley there are three Archaeological Parks (2 of them are completely situated within this region, and the other one is partly situated within this region) and three Historical Centres. Each of these Archaeological Parks and Historical Centres has its own boundaries well defined and the respective administration regulation. One of these Historical Centres is also a UNESCO Heritage site.

Archaeological Parks

Archaeological Park of Bylis

Bylis has been declared an Archaeological Park through the Decision of Council of Ministers 396, dated 31.3.2005 *“For the approval of the boundaries and administration regulations of the Archaeological Parks of Shkodra, Lezha, Apollonia, **Bylis**, Amantia, Oriku, Antigonea, Finiq and Butrinti”*.

The Archaeological Park of Bylis is located near the Mallakastër Municipality, on the top of a hill, at 523 m above sea level. On the southern side, under the foot of the hill, it lies the Vjosa River valley. The surface of the park, within the ancient city walls, is about 30 ha.

The nearest municipality is Mallakastër Municipality, to which the park is connected via a motorway of about 10 km long. With the national road, the Levan-Tepelenë Highway, the park is also linked via a 6 km long motorway.

With its dominant position over the hills of Mallakastër and a striking view over the Vjosa's, the Illyrian settlement of Byllis offers us a unique perspective of the ancient cities in this region. Byllis was the largest city in Southern Illyria, the capital of the Illyrian community of the Bylliones; today it constitutes the greatest Archaeological Park and ancient city within the Vjosa basin.

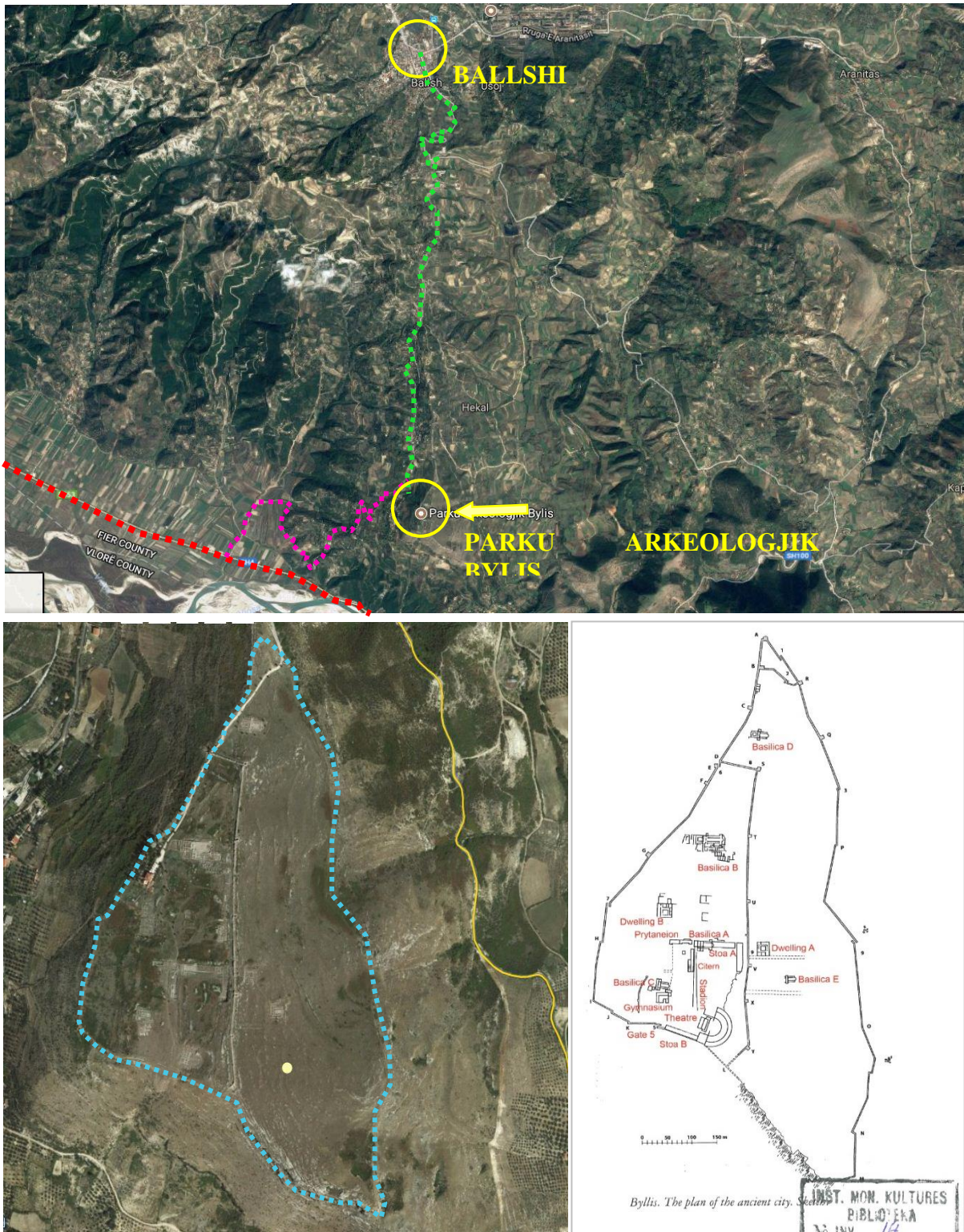


Figure 30: Aerial view of the Byllis Archaeological; Park connection to national and rural roads

- - - - - Levan-Tepelenë highway
- - - - - Connectivity of the Parc with Levan-Tepelenë highway
- - - - - Connectivity of the Park and city of Mallakstër
- - - - - Ancient city of Byllis

The city plan of Byllis and the techniques of construction of its walls go no earlier than 370-350- BC. It was economic growth that led to the decision of Bylline community to build Byllis as its capital in one of the dominating hills over the natural roads from Apollonia and coastal Illyria to Epirus and into Macedonia.

The events that transpired in the lands of the Bylliones left no evident traces in Byllis, at least not until the end of the 3rd century BC. A calm and prosperous period characterized the decades up to the appearance of the Romans in Illyria. It was a period distinguished by political co-existence between the Illyrian kings and cities. By approximately 270 BC, the Bylliones had completely constituted their koinon. We can reconstruct its political system from the many inscriptions found in the Byllis and Klos.

Around the middle of the first century BC Byllis, had the appearance of a contemporary city with the theatre, stoa, stadium, gymnasium, temples, and other buildings having been constructed. The quarters of the city were developed along a grid of hypodamic system. Since 229 BC, when the Romans landed in Apollonia, the territory of Bylliones became a field of battle between the Roman and the Macedonian armies, as both Rome and Macedonia appreciated the strategic importance of this region for the control of Apollonia.

Archaeological Park of Antigone

Antigonea has been declared an Archaeological Park through the Decision of Council of Ministers 396, dated 31.3.2005 *“For the approval of the boundaries and administration regulations of the Archaeological Parks of Shkodra, Lezha, Apollonia, Byllis, Amantia, Oriku, Antigonea, Finiq and Butrinti”*.

The ancient city of Antigone lies on the hill of Jerma, in the south-west of the village of Saraqinisht, about 15 km from Gjirokastrë. In the northern part there is the hill of the acropolis (686 m above sea level) which is connected by a strait with the other part of the hill where the city lies (642.5 m above sea level).

The city was founded by Pyrrhus of Epirus in honor of his wife Antigone at the beginning of the 3rd century b.C. and it is thought to have been burned by the Roman general Emilio Paolo in 168 b.C. The 4000 m long fortification wall encloses an area of about 45 ha. One of the distinguishing characteristics of Antigone is its very regular urban planning system with orthogonal streets and regular islands. Another monument with large dimensions is the 60 m long stoà promenade located in the area of the agora.

After the burning of the city there is a phase of the city waiting for the 4th – 5th century a.C. The construction of a paleo Christian trikonka type basilica. During the 9th – 10th century a.C. a one-story church with east-west orientation is built at the main intersection of the city.



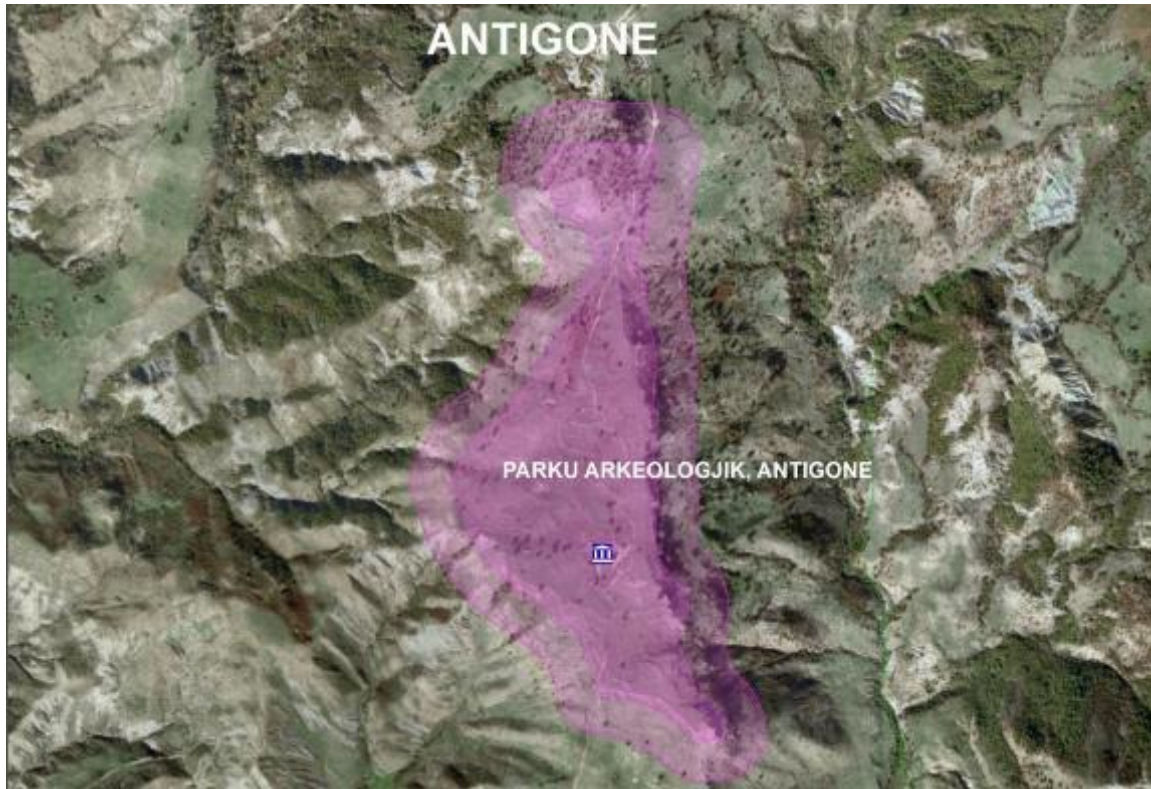


Figure 31: Aerial view of the Antigone Archaeological Park



Archaeological Park of Apollonia

Apollonia has been declared an Archaeological Park through the Decision of Council of Ministers 396, dated 31.3.2005 “For the approval of the boundaries and administration regulations of the Archaeological Parks of Shkodra, Lezha, **Apollonia**, Bylis, Amantia, Oriku, Antigonea, Finiq and Butrinti”.





Figure 32: Aerial view of the Apollonia Archaeological Park

- - - - - Fieri City
 - - - - - Apollonia Archaeological Park

The ruins of Apollonia ancient city are located nearby Pojan village, of Fieri, situated on a low hill, which once, used to control the lower flow of Aaos River, before it ended up to the Adriatic Sea.

The river port of the city is mentioned several times in the historical events and documentations, because since the first half of the 2nd century B.C., it marked the beginning of Via Egnatia. At that time, the city became an important station, for the roman roads which came along the coast from Dyrrahium and Aulona, the roads that used to connect in Scampa with Via Egnatia, or for the roads along the Aaos river valley toward Epir or Macedonia.

The foundation of Apollonia Colony happened about one generation later than the foundation of Epidamne-Dyrrahium. It dates about 600 b.c., Stefan Byzantine, gives some interesting definitions, explaining that 200 Corinthians, led by Gylak, were sent there. After its leader, the city took the name Gylakeia. Very soon, after the foundation, the new city changed the name, choosing as its divine founder, the God Apolon. So, it was called Apollonia, as a lot of other Greek colonies.

The earliest monuments in Apollonia, belong to 4th century B.C., except some fragments of the antique surrounding walls. During this period, the city reached its biggest flourishing, being extended to the whole the western hillside, reaching so, a total expansion of 81 hectares surrounded by a 4 km long wall.

The apollonian culture physiognomy, during the 4th – 2nd century B.C. - the prosperous period of the city, is shown by its sculpture and architecture. The way of the construction of the theatre's proscenium, are characteristics that connect the Apollonian architecture to the Epirus. The often use of the arches, the vaults, and the architectural elements of the Ionic order, are also found in Macedonia. Regarding to the original elements of the Apollonian architecture we could mention: The Portico with the niches, the octagonal columns, the nymphaeum type,

which all together create a special physiognomy of the apollonian architecture in the context of the Hellenistic one. On the 4th – 3rd century B.C., the art of sculpture, met its biggest development, reflected to the monumental constructions in the city. Apollonia created its own tomb's stele model which are characterized by elongated shape and the enriched scenes on it. The one that can be mentioned here, is the scene of the going down beyond the tomb. During the first centuries A.D., the city of Apollonia, was able to preserve different characteristics of its own culture, beside the maintenance of its political autonomy.

Historical Centers

Historical Center of Gjirokastra

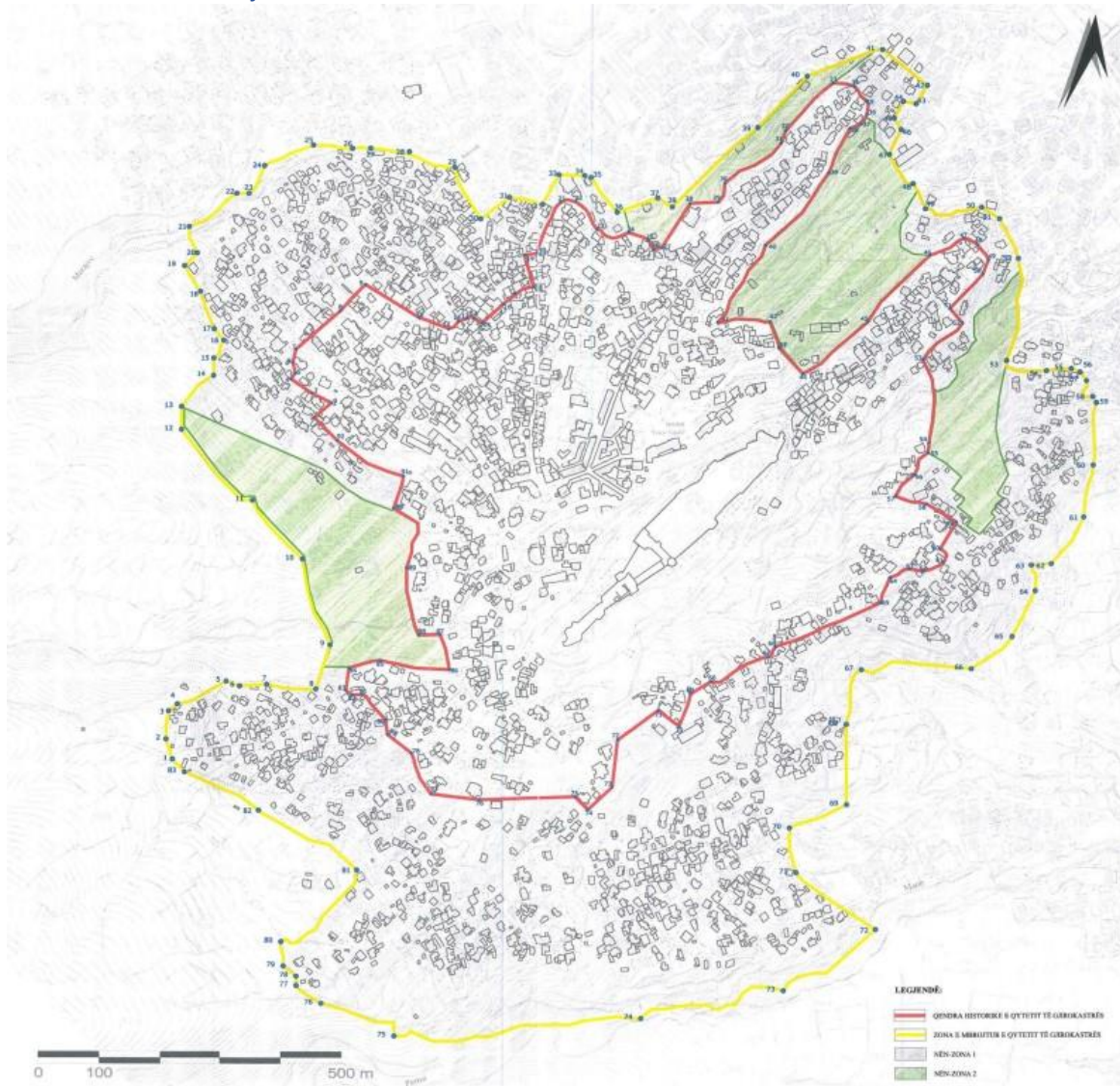


Figure 33: Map of the Historical Center of Gjirokastra

 The boundary of the Historical Center

 The boundary of the HC buffer zone

The historical city of Gjirokastra, is in the southern Albania and it constitutes a rare and very well-preserved example of the ottoman city, built by rich landowners. This city lies near the Drinos valley, and its main focal zone is its castle, built during the 13th century.

The dominant element of the architecture is the tower type dwelling, called *hulë*, very used within the Balkan region.

The city of Gjirokastra has been put under protection since 1948, through the decree no. 568 “*Conservation of the rare monuments of culture and nature*”; later, in 1961 Gjirokastra has been declared a museal city.

In 2005, Gjirokastra was listed as a World Heritage Site, under;

critterion iii “*to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*” – The old city of Gjirokastra is an excellent example, still living to nowadays, of a specific society and lifestyle which has been influenced from the Islamic traditions and the culture from the Ottoman period. Qyteti i vjeter Gjirrokastres eshte nje shembull i shkelqyer i mberritur deri ne ditet tona i nje shoqerie dhe nje stili jetese i influencuar nga traditat dhe kultura islame ne periudhen Otomane;

critterion iv “*to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history*”. The historical city of Gjirokastra is an exceptional and well-preserved example of the ottoman city, built by rich landowners. This city lies near the Drinos valley, and its main focal zone is its castle, built during the 13th century.

In 2015, the center of Gjirokastra has been declared “Historical Center: through Decision of Council of Ministers no. 619, dt 07.07.2015 for Declaration as “Historical Center” of a part of the Gjirokastra city, and for approval of the Regulation “For the Protection, Integrated Conservation and Administration of the Historical Center and its Buffer Zone of the Gjirokastra City”.

The Historical Centre has two main protected areas, the core zone, and the buffer zone. The core zone of the HC has a higher level of protection, thus also more restrictions than the buffer zone (which itself is divided in four subareas), clearly stated in the HC administration regulation.

Historical Center of Përmet



Figure 34: Map of the Historical Centre of Përmet

 The boundary of the Historical Centre

 The boundary of the HC buffer zone

The town of Përmet is a small centre that developed during the medieval period along the west bank of an inter-montane river basin, the Vjosa River. It soon became a commercial locality of some importance in the region. The town counted 42 houses in the 15th century, during the early Ottoman period, and soon grew to the number of 136 in the following century. It reached 3,000 inhabitants in the first half of the 20th century, a number which has grown to approximately 6,000 inhabitants today.

Throughout its history, Përmet maintained a fierce sense of independence. It resisted Ottoman rule, Greek incursions, and the Italian and German occupation during World War II. This explains why its historic area has not completely reached to nowadays, having been partially destroyed at various stages, particularly during WW II, and in the area closest to the river, where the most important monuments and finest houses were located. Additional destructions took place during the period of the communist party rule, particularly in the late 1960s and early 1970s, when parts of the surviving old centre were replaced by the uniform housing blocks still visible today.

What remains to this day is an agglomerate of approximately one hundred traditional houses and two Orthodox churches, which were also left undisturbed by the communist regime. Their marginal position may have saved them from a regime known for having destroyed or converted many religious establishments into state facilities in many parts of Albania, including Përmet itself, where the principal Orthodox Church was turned into a community center.

In 2017 Përmet was declared a historical centre, through the Decision of Council of Ministers no. 32, dt 18.1.2017 for the declaration of the Historical Center of Përmet city and the approval of the Administration Regulation of the Historical Center and of its buffer zone.

Historical Center of Bënja

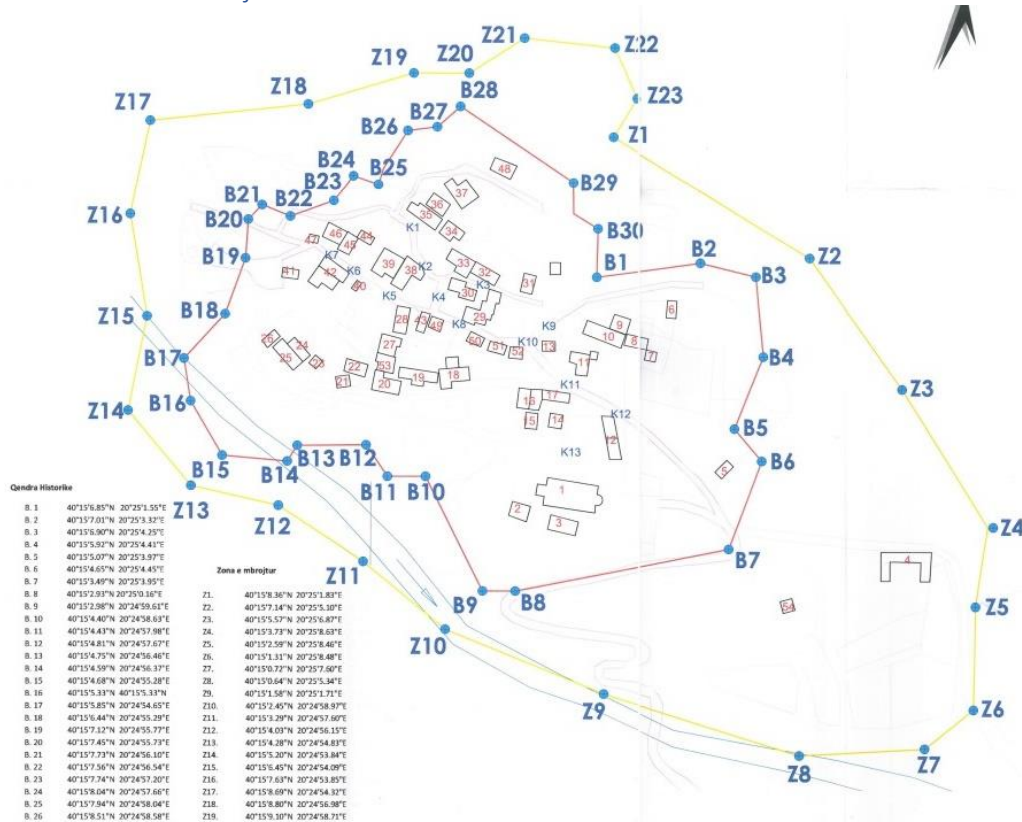


Figure 35: Map of the Historical Centre of Bënja

The boundary of the Historical Centre The boundary of the HC buffer zone

The village of Bënja lies on the hill side near the Langarica river (Vjosa’s branch), near the thermal waters of Langarica’s canyon. It is a small village, which during the medieval period used to be one of the most important historical, cultural, and commercial centers of Përmet region.

The architecture is typical of a medieval village. Within the village, among the houses there is also a church built during the 19th century.

In 2016 Bënja was declared a historical centre, through the Decision of Council of Ministers no. 776, dt 02.11.2016 for the declaration of the Historical Center of Bënja village and the approval of the Administration Regulation of the Historical Center and of its buffer zone.

7.3.1. The legislation framework of the Cultural Heritage in Albania

The Cultural Heritage legislation

- The actual law for the Cultural Heritage is Law no. 27/2018 “*For the Cultural Heritage and Museums*”.
- Each protected area has its own regulation for the protection and administration: Archaeological Parks (Bylis, Antigone, Apolloni) and Historical Centres (Gjirokastra, Përmet, Bënjë).

Administrative system for the management of the Cultural Heritage Properties within the Albania territory

The main institution responsible for the Protection, Conservation, Restoration, Study and Administration of the Cultural Heritage Properties within the Albania territory is the NATIONAL INSTITUTE OF CULTURAL HERITAGE (NICH). This is the biggest institution (central institution) and it cooperates with the REGIONAL DIRECTORATES OF CULTURAL HERITAGE (RDCH) which are the regional institutions. Each of these directorates cover a specific region of Albania territory. The VWRNP lies within the territories of these regional directorates:

- RDCH of Durrës (Fier, Mallakstër)
- RDCH of Vlorë (Vlorë, Selenicë, Himarë)
- RDCH of Gjirokastra (Tepelenë, Memaliaj, Këlcyrë, Përmet, Libohovë, Gjirokastër, Dropull)
- RDCH of Korça (Kolonjë)

Decision making bodies as per CH national legislation

The main Decision-Making Body for the Cultural Heritage Sites, is:

- The NATIONAL COUNCIL OF TANGIBLE CULTURAL HERITAGE. This council is headed by the Minister of Culture and has several members: specialists of different fields (archaeology, architecture, history etc.). All the interventions (restoration project design, management plan, administration strategy, etc.) that are foreseen to be implemented on/for a CH site or a protected area, must be submitted to this council for approval.

7.3.2. Future provisions and strategies foreseen to be implemented; Management plans for the sites within this area (being prepared or being approved)

- Bylis and Klos Integrated Management Plan, 2022-2026 – has been submitted for approval to the NCTCH
- Gjirokastra Castle Sustainable Management and Tourism Valorisation Masterplan – has been submitted for approval to the NCTCH
- Integrated Management Plan for Historical Centres of Berat and Gjirokastra World Heritage Sites, 2023-2030 – is under design process.
- Revitalization and Improvement of the Tepelenë’s Castle Values - has been submitted for approval to the NCTCH

7.3.3. Intangible Heritage

The region of Vjosa Basin is also rich in intangible heritage properties.

- The most important is the Folk ISO Polyphony from Labëria. This is a unique way of traditional singing, characterized by songs consisting of two solo parts, a melody, and a countermelody with a choral drone (without playing any musical instrument). In 2008, it was inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity.
- Traditional and periodical events
 - In Gjirokastra, once in every 5 years takes place the National Folk Festival: The festival was first held in 1968 and is regarded as the most important event in Albanian culture.[1] The festival showcases Albanian traditional music, dress and dance from Albania, the diaspora, and Albanian inhabited lands throughout the Balkans and Southern Italy.
 - In Përmet, once a year, in August, takes place the culinary fair called “The Grandmothers Festival”. It consists in bringing traditional food from each place of Albania and Kosovo aiming to preserve and promote traditional dishes of these places.

7.4. Possible cooperation with (inter)national research institutions

To set up cooperations with (inter)national research institutions can support the scientific staff of the national park and enhance the management of VWRNP by adding additional knowledge and information. However, the coordination of such research is from uppermost importance.

To answer the open questions of VWRNP and close the knowledge gaps still there, a first list of necessary research topics was elaborated for this management plan (see chapter 7.6). To work on these topics and ensure that additional knowledge is gathered for the whole river is one of the most important activities of the future park management.

Additional fields for research should be elaborated in the future, including all scientific partners and experts as well as the needs of the national park. Therefore, regular meetings with the scientific partners (at least once a year) must be organized by the park. At these meetings, the current knowledge is to be presented, possible knowledge gaps must be discussed and a list of research topics and locations inside VWRNP must be prepared. This serves as the basis for research coordination for the upcoming year.

At the same time, it is to be ensured that a database is created, where all collected information is to be found shown on maps and thematic and spatial gaps are visible. Based on that, scientific experts and students can be motivated to do research in the fields and spots especially important for VWRNP.

A partnership with (inter)national research institutions should be enforced by the management of VWRNP. Therefore, the institutions should be contacted, meetings should be set up and possible cooperations should be discussed. Ideally, a Memorandum of Understanding is set up with each institution, defining the topics of research and how the cooperation will look like in the future (e.g. how often research will be done in the area, what topics and where).

The national park management needs to set up a list of fields of research, where additional information is needed and if this needs to be done in a separate study, or during bachelor, master and/or doctor thesis. With this, a “database for research” is created, visible for the public, where interested researchers/students can find inspiration for their research/thesis. If they are interested in doing their thesis/studies in one of the fields of research interesting for

VWRNP, they contact the park management (a person must be in charge there) and provide the data to VWRNP in the end. With that, new scientific findings can be elaborated for VWRNP and the students/scientists can work in one of the most interesting spots for river biodiversity in Europe.

Vice versa, the park management takes actively part in teaching at university and invites students to take part in excursions and workshops dealing with VWRNP and its research activities.

Important national and international research institutions can be: Universities (e.g. University of Tirana, BOKU Vienna, Utrecht University), Fritz Schiemer Scientific Center.

7.5. Restoration and Reforestation sites

Some sites for restoration and reforestation are shown in the map (Figure 36) and briefly described below. The sites shown here are partly taken from a study from the Vienna BOKU University, some sites have been defined by experts during elaboration of this management plan. It is to be highlighted, that these spots can only serve as a first brief list of possible restoration and reforestation sites and is not comprehensive. Additional studies will be necessary along the whole Vjosa river and its tributaries to gain a full list of sites to be reforested and restored, necessary measures and activities and a timeframe for when which sites must be reforested/restored. Until a comprehensive list is available, the sites described below can be used for possible reforestation/restoration projects.

In the table below, the type of necessary restoration/reforestation and their coordinates are shown (see also map in Figure 36: Possible reforestation and restoration sites inside/along VWRNP for locations). The following types of restoration/reforestation sites are to be found in the map:

- Afforestation of floodplain forest (according to study prepared by Toni Drescher for RiverWatch)
- Restoration of active floodplain areas converted to plantations (Lower Vjosa) or arable land (Upper Drinos)
- Restoration of industrial dump site (bitumen industry, Lower Vjosa)
- Restoration of gravel mining sites
- Restoration of construction sites (road and pipeline construction on Upper Shushica)

Id	Name	Name II	North	East	X	Y
1	Restore gravel mining site	Restore gravel mining site	40,604864	19,50903	458446,33	4496809,32
2	Restore gravel mining site	Restore gravel mining site	40,566598	19,580809	464501,21	4492528,57
3	Restore gravel mining site (4 areas)	Restore gravel mining site	40,522275	19,56882	463461,85	4487611,6
4	Afforestation floodplain	Afforestation floodplain	40,560639	19,603983	466460,69	4491857,82
5	Restore gravel mining site	Restore gravel mining site	40,476545	19,566123	463208,31	4482534,64
6	Restore road construction site (adjacent to core zone)	Restore construction site	40,182186	19,803515	483266,04	4449776,81
7	Afforestation floodplain	Afforestation floodplain	40,543935	19,662095	471375,24	4489982,33
8	Restoration floodplain (plantations)	Restoration floodplain	40,556577	19,646052	470021,8	4491391,48

9	Afforestation floodplain (adjacent to core zone)	Afforestation floodplain	40,55233	19,653958	470689,57	4490917,27
10	Restoration of industrial dump site	Restoration of industrial dump site	40,544928	19,645695	469986,41	4490098,1
11	Afforestation floodplain	Afforestation floodplain	40,522799	19,736608	477680,39	4487613,84
12	Afforestation floodplain	Afforestation floodplain	40,513765	19,737677	477768,04	4486610,37
13	Afforestation floodplain	Afforestation floodplain	40,49944	19,723475	476559,43	4485023,26
14	Afforestation floodplain	Afforestation floodplain	40,469028	19,751344	478912,29	4481639,2
15	Afforestation floodplain	Afforestation floodplain	40,288512	20,027884	502371,1	4461565,04
16	Afforestation floodplain	Afforestation floodplain	40,282529	20,057119	504857,45	4460901,86
17	Afforestation floodplain	Afforestation floodplain	40,199404	20,09485	508075,99	4451674,44
18	Restoration floodplain (agriculture on island)	Restoration floodplain	39,964195	20,265529	522686,38	4425587,24

Table 28: Possible restoration and reforestation sites

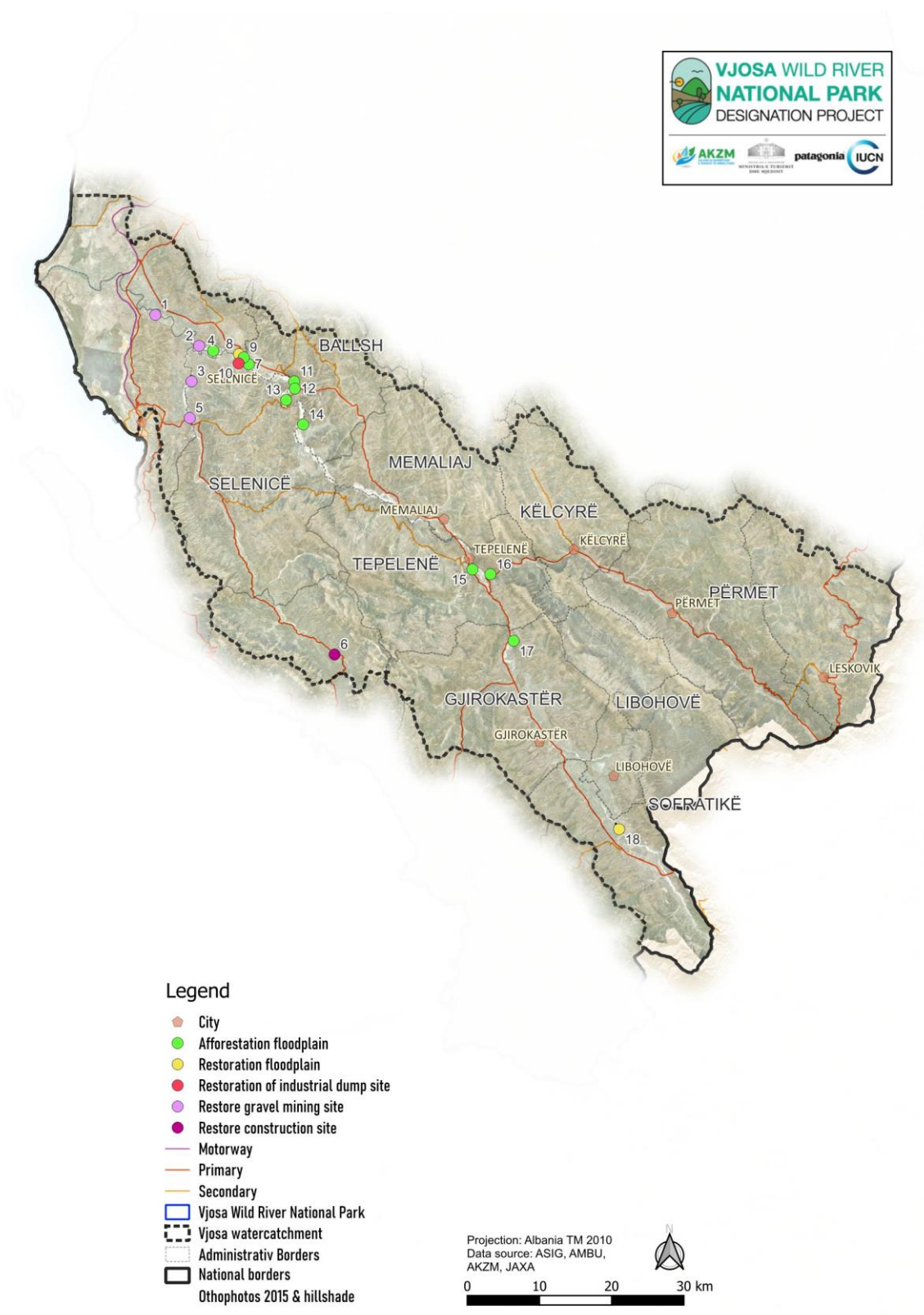


Figure 36: Possible reforestation and restoration sites inside/along VWRNP

Management of pressures and threats																													
4	All external pressures and infrastructures affecting the natural dynamics, habitats and species of VWRNP are minimized, well managed or are halted completely.	4.1	Improvement of water quality and reduction of river pollution (input of fertilizers, waste water, industrial pollution)	Number of reported oil-industry related pollution incidents	0	No data	4.1.1	Identification of main pollutants and hotspots			AMBO/NEA		Project (study)	2															
												Ministry of Infrastructure development in cooperation with AMBO		Project (investment)	2														
							Number/percentage of municipalities with functional waste water treatment	50%	0%	4.1.3	Development of a programme to reduce industrial pollution (e.g. filtering, water treatment, alternative solutions) (particularly lower Vjosa, tributaries and underground water)			Ministry of Economy/Infrastructure development		Project (investment)	2												
							Number of fish farms according to criteria and with functional filtering systems	50%	No data	4.1.4	Active monitoring and control of oil-related industries (i.e. oil wells, Selenica bitumen mining) in the vicinity of the national park			in cooperation with NEA		Activity	1												
										4.1.5	Monitoring of water quality and input of neozoa in the vicinity of existing fish farms (see also A 12.4.1)			in cooperation with NGOs and universities		Project (Activity)	1												
		4.2	Improvement of waste management along the river	Number of solid waste landfills within 200m of the river	Active waste management for the NP functional and in place	0	TBD	4.2.1	Implementation of campaigns with local residents / schools to remove waste from the river and to increase awareness			in cooperation NGOs, universities, schools and municipalities		Project (Activity)	2														
						Yes	No	4.2.2	Relocation of solid waste landfills away from the river			Ministry of Infrastructure and Vjosa River Basin Council, Municipalities		Activity	2														
								4.2.3	Solution for waste disposal in villages			Municipalities		Project (Study)	3														
								4.2.4	Establish a waste management system inside the NP for visitors (bins along trails, parking lots, collection system, waste separation) in cooperation with municipalities			in cooperation with municipalities		Project (Investment)	2														
		4.3	Termination of extractive uses of river-related resources (e.g. gravel extraction)	Active gravel extraction sites	Number of sites with active permits	0	18	4.3.1	Enforce the closing and rehabilitation of existing gravel extraction sites with expired licences			in cooperation with NEA, Ministry of Infrastructure		Activity	1														
						0	40	4.3.2	Develop and implement plan for fade out of mining/limestone extraction uses (currently 40 licences, 18 active sites)			in cooperation with NEA, Ministry of Infrastructure		Activity	1														
		4.4	Reduction of (existing) extractive water uses (particularly irrigation)	Annual average amount of water deducted for irrigation and other uses in m³ or % of baseline value		TBD	TBD	4.4.1	Elaboration of an integrated water strategy to determine adequate levels of extraction (for existing extractions only) and alternative solutions for meeting water needs			AMBO/ NEA		Project (Study)	1														
								4.4.2	Inventory of irrigation infrastructure			MoA with AMBO		Project (Study)	1														
								4.4.3	Implement sustainable solutions for irrigation/water extraction uses (e.g. licencing system, alternative less-water consuming irrigation practice, use of groundwater) as identified in Action 4.4.1.			MoA with AMBO		Project (Study)	1														
								4.4.4	Develop criteria and thresholds for water bottling industry			in cooperation with businesses and NEA		Project (Study)	2														
								4.4.5	Frequently monitor and control that no new water abstractions are established					Activity	1														
		4.5	Clear regulation of fishing activities and fishery along Vjosa	Number of active fishing licences	Number of infringements related to fishery (e.g. illegal methods, excessive quantities)	TBD	TBD	4.5.1	Development of a fishing concept indicating allowed quantities, size, species, areas for fishing, allowed methods			in cooperation with universities and NGOs		Project (Study)	1														
						0	TBD	4.5.2	Establish an efficient fishing licencing system (also to create revenues)					Project (Study)	2														
								4.5.3	Frequent control of fishing licences (in the course of patrolling)					Activity	1														
		Conservation beyond current area																											
5	Ecological connectivity between natural areas within the VWRNP and outside the park boundaries (National Park Region) is maintained.	5.1	Improvement of the ecological quality of the adjacent area along the river	% of river (both sides) covered by forest	30%	No data	5.1.1	Develop an afforestation programme for the adjacent land (priority area for restoration outside the park) including analysis of land ownership, current land use and a strategy for purchase or compensation (see also A 3.1.1)			National Forest Agency in coordination with AMBO, municipalities and land owners		Project (study)	2															
							5.1.2	Implementation of an afforestation programme based on the results of 5.1.1., see also 3.1.1.-3.1.3.)			National Forest Agency in coordination with AMBO, municipalities and land owners		Project (investment)	2															
		5.2	Setting viable conditions for an ecologically useful future extension prioritizing an increase of the buffer and better connectivity with other protected areas	Additional area secured for extension	Declared extension (Phase II)	3000 ha	0 ha	5.2.1	Identification of priority areas for extension focusing on a) increase of buffer, b) securing areas subject to frequent flooding or natural dynamics within the next 10-20 years and c) additional tributaries and d) tributaries essential to connect with further protected areas			in coordination with universities/NGOs		Project (study)	2														
						TBD	0 ha	5.2.2	Develop a legally viable model and funding strategy (e.g. fund) for acquisition of land (use rights) or contractual conservation (e.g. shifting of parcels, compensation model)			in cooperation with municipalities, land users and owners		Project (study)	2														
								5.2.3	Acquisition of prioritized land or securing additional areas					Project (investment)	2														
Research and biodiversity inventory																													
6	A comprehensive overview and reliable datasets of the main ecological values of VWRNP are available and can be used for management.	6.1	Establishment and maintenance of a database for spatial and quantitative biodiversity data (as collected during mappings)	Database functional and up to date	yes	no	6.1.1	Establishment of a database for raw data on species, habitats, ecology, hydrology, morphology, monuments etc.			in collaboration with universities and NGOs		Project (Investment)	2															
							6.1.2	Annual entry of newly collected data into the database					Activity	2															
		6.2	Continuously enable and actively initiate research to close existing knowledge gaps and to enable knowledge-based decision-making and management	Number of research and inventory projects carried out		10	0	6.2.1	Organization of a survey amongst experts and research institutions regarding main research needs and knowledge gaps for VWRNP to identify potential gaps					Activity	2														
								6.2.2	Implementation of a biodiversity (habitat & species mapping) (see Actions 2.1.1., and 2.2.1)			in collaboration with universities and NGOs		Project (Study)	1														
								6.2.3	Implementation of a detailed geomorphological-hydrological study of the Vjosa River Basin			in collaboration with universities and NGOs		Project (Study)	1														
								6.2.4	Implementation of an ecosystem services study			in collaboration with universities and NGOs		Project (Study)	2														
								6.2.5	Implementation of a research project related to impacts of recreational activities (particularly rafting) on spawning habitats of fish and gravel-breeding birds			in collaboration with universities and NGOs		Project (Study)	1														
								6.2.6	Implementation of a study on future river dynamics and related impact on erosion, flooding and river bed changes			in collaboration with universities and NGOs		Project (Study)	1														
								6.2.7	Implementation of a mapping of invasive alien species to assess their threat potential			in collaboration with universities and NGOs		Project (Study)	3														
								6.2.8	Implementation of a research project to identify restoration potential for sturgeon in Vjosa			in collaboration with universities and NGOs		Project (Study)	3														
		6.2.9	Implementation of research project related to the impact of fisheries to determine viable thresholds and limits for fishing			in collaboration with universities and NGOs		Project (Study)	1																				
		6.3	Ensure availability of relevant scientific research, publications and datasets as an enabling condition for targeted research	Virtual library available	Physical library in place	Yes	no	6.3.1	Collection of all available data and publications regarding VWRNP and Vjosa Valley					Activity	2														
								6.3.2	Establish a (virtual) data hub with publications and data					Project (Investment)	2														
6.3.3	Establish a VWRNP library including all relevant publications and books											Activity (+investment)	2																
Ecological monitoring																													
7	Main biotic and abiotic features are consistently monitored.	7.1	Setting up a viable monitoring plan incl. sample points, frequency, methodology, indicators for habitats, species, fishery, water outtake and inputs, illegal activities, visitors and recreational activities	Monitoring plan available and implemented according to plan	Yes	no	7.1.1	Elaboration of a monitoring plan based on the results and recommendations of the habitat and species mapping taking into account existing human and financial resources			in collaboration with universities		Project (Study)	1															
							7.1.2	Coordination with all institutions carrying out monitoring in the Vjosa River Basin (particularly research institutions and NEA) and define responsibilities and cooperation					Activity	2															
							7.1.3	Annual implementation of the monitoring plan once ready					Activity	1															
		7.2	Increase internal capacities of RAPA for monitoring	Number of RAPA staff actively involved in ecological monitoring	TBD	TBD	7.2.1	Training for RAPA/rangers to carry out activities and basic ecological monitoring					Activity	1															
7.3	Monitoring of impact of climate change on VWRNP and the Vjosa Valley	Permanent (climate) monitoring stations implemented	10	0	7.3.1	Definition of locations and implementation of permanent monitoring stations along the river and within the valley (e.g. at the river, in the mountains)			in collaboration with universities		Activity	2																	

5 Tourism & Public Relations																													
Mission Statement VWRNP represents a main attraction for developing sustainable tourism and supports sustainable tourism development through adding specific offers to the touristic portfolio and through supporting local communities in sustainable tourism development. Local communities are proud to be part of the wider VWRNP area and actively benefit from the national park. The conservation and protection work of the VWRNP is also supported financially through tourism revenues.																													
Strategic objective	Operational objective	Indicator	Target Value	Baseline Value	Main Actions	Responsibility				Spatial Relevance			Type	Priority <small>(1 essential - 2 recommended - 3 nice to have)</small>	Proposed time schedule (Year)														
						NAPA	RAPA	PA-Manager Authority (inc. Foundation)	Other	VWRNP	Adjacent land	Vjosa Valley			1	2	3	4	5	6	7	8	9	10					
Coordination and interaction with tourism sector																													
15	15.1	Support local communities and service providers in developing sustainable touristic offers and NP-related activities in line with NP regulations	Number of VWRNP-related touristic offers (by regional actors) Number of stakeholders having received a corresponding training	4 per municipality	0	15.1.1. Provide clear information and guidance regarding allowed and not allowed options (e.g. for rafting, hiking, horseriding, picnicking, birdwatching) (information material)							Activity	1															
				240 (2 events/15 persons per year starting from year 3)	0	15.1.2. Carry out a feasibility study for the development of touristic itineraries including nearby protected areas									Project (Study)	3													
					0	15.1.2. Provision of trainings / educational offers for stakeholders wanting to become active in VWRNP									Activity	2													
	15.2	Enhance capacities of VWRNP staff to understand tourism and how to manage tourism within and near to the park	Number of park staff trained Training material for tourism and visitor management available (training videos + supporting material) Number of management documents available	120 (10 people/year for 3 years for 15.2.1, 15.2.2. and 15.2.4.)	0	15.2.1. Provide tourism and visitor management training for all park staff (understand tourism, leave-no-trace, managing tourism in and around the park, risk management, etc.), including development of training videos/materials that can be used for new staff when they are onboarded								Activity	1														
				yes	no	15.2.2. Provide specialized training for park management on tourism planning, zoning and carrying capacity assessment (training plus creating these documents with park staff) and park staff who engage with visitors in interpretation, guiding, hospitality and storytelling about the park									Activity	1													
				4 plans	0 plans	15.2.3. Development of management documents (1. model concession and permit agreements, 2. tourism guidelines & standards for VWRNP, 3. Standard Operating Procedures (SOPs) and 4. Risk management plan for VWRNP and surrounding areas.									Project (Study)	1													
						15.2.4. Implementation of trainings for park staff on utilizing the tools and plans as developed in A 15.2.3.									Activity	1													
	15.3	Develop of specific NP-activities distributed throughout the Vjosa River Basin	Number of regularly offered excursions/activities	10	0	15.3.1. Development of specific nature- and national park-related offers (bookable excursions/field visits with an ecological focus)							Project (Study)	2															
	15.4	Frequent exchange with tourism operators and stakeholders in charge of implementing the tourism master plan	Number of round tables	10 (1 per year)	0	15.4.1. Organization of an annual round table to present and discuss progress and relevant issues (i.e. new offers, services on behalf of tourist stakeholders; regulations, concerns on behalf of NP)							Activity	1															
	15.5	Branding and marketing campaign for VWRNP and Valley	Number of campaigns Number of travel trade partners selling the region VWRNP Number of global events hosted in the region	5 separate campaigns	0	15.6.1. Develop brand and marketing program for VWRNP, implement initial marketing campaigns and travel trade engagement program.							Activity	2															
				100 travel trade partners selling VWRNP	0	15.6.2. Organize and facilitate one major global event in the region									Activity	2													
	Sustainable tourism practice																												
		16.1	Nurture a deeper understanding of sustainable tourism practices and the importance of environmental conservation among local communities and visitors, promoting a sense of stewardship and responsibility towards Vjosa WRNP and Valley	Number of community member and visitors reached	500 community members and 1000 visitors per year	0	16.1.1. Establish visitor education programs at key tourism hubs within VWRNP, providing information on responsible tourism practices, environmental conservation, and the cultural significance of the region							Project (Study)	2														
						0	16.1.2. Facilitate interactive experiences for visitors allowing them to participate in conservation activities, cultural exchanges and sustainable practices during their stay in the Vjosa Valley									Project (Study) + Activity	1												
						0	16.1.3. Collaborate with local schools, universities and educational institutions to integrate sustainable tourism education into the curriculum, emphasizing the importance of environmental protection and responsible travel									Activity	1												
16.2		Develop and implement sustainable tourism practices that minimize the environmental footprint and promote responsible resource management within the VWRNP and valley	Number of eco-friendly low environmental footprint practices available Number of tourism providers applying at least one low environmental footprint practices Number of tourism providers having received a training on how to reduce their environmental footprint	10	0	16.2.1. Conduct an environmental impact assessment of existing and proposed tourism activities within the VWRNP								Project (Study)	2														
				150	0	16.2.2. Develop and implement eco-friendly practices for accommodation facilities and tour operators, including waste management, energy conservation, and water usage reduction (Quality Mark Program and than GSTC certification)									Project (Study)	1													
				250	0	16.2.3. Encourage the use of local and organic products in tourism-related businesses to support the local economy and reduce the carbon footprint associated with transportation									Activity	2													
					0	16.2.4. Collaborate with local communities and businesses to raise awareness about the importance of sustainable tourism practices and provide guidance on implementation									Activity	2													
					0	16.2.5. Regularly monitor and assess the effectiveness of implement sustainable practices, and make necessary adjustments based on the findings									Activity	2													
16.3		Development of a model to use tourism revenues to support NP activities	Park/Foundation business plan available	Yes	No	16.3.1. Development of coherent park business plan with a deliberate model for park revenues to be used for conservation							Project (Study)	1															
Promotion and communication of NP values																													
17	17.1	Promote the natural and cultural values of the area and its importance for nature conservation, locally and internationally, to attract visitors and mobilize support.	Number of reached or trained stakeholders	1000 (100 per year)	0	17.1.1. Implementation of a series of information meetings in each community							Activity	1															
					0	17.1.2. Creation of a folder/brochure highlighting the main values of the area, the conservation objectives and regulations									Activity	2													
					0	17.1.3. Training of stakeholders and multipliers regarding main values and conservation objectives of VWRNP									Project	1													
	17.2	Promotion of good-practice examples and lighthouse projects illustrating the benefits of VWRNP	Number of VWRNP events for communities	10 (1 per year)	0	17.2.1. Organization of an (annual) event presenting main projects, key project results and outstanding actors to enhance support of the NP							Activity	2															

6 Management & Coordination																																											
VWRNP has an efficient management body in place which is capable to implementation the management plan. It has secured funding and staffing and is well integrated into regional development processes. The management body is a good practice example for Albania and beyond for how to manage a complex national park, even at a transboundary level.																																											
Strategic objective	Operational objective	Indicator	Target Value	Baseline Value	Main Actions	Responsibility				Spatial Relevance			Type	Priority	Proposed time schedule (Year)																												
						NAPA	RAPA	PA-Manag. Authority (inc. Foundation)	Other	VWRNP	Adjacent land	Vjosa Valley			1	2	3	4	5	6	7	8	9	10																			
Management organization																																											
18	VWRNP has an adequately staffed, effective and functional management body for ongoing management	18.1	Adaptation of the RAPA-based management towards a special PA authority /unit capable to implement the management plan	Deliberate functional management body in place	yes	no	18.1.1.	Implement management structure as described in chapter 5.2 of the management plan				MoTE				Activity	1																										
			18.1.2.	Employment of an adequate number of staff with adequate qualification (chapter 5.3)				MoTE									Activity	1																									
			18.1.3.	Securing sufficient long-term funding to maintain operations													Activity	1																									
		18.2	Establishment of a viable working environment for actively managing VWRNP	Administration / office equipped and in place	yes	no	18.2.1.	Provision of office space (administration office)									Investment	1																									
							18.2.2.	Procurement of required basic equipment for operations (office equipment, vehicles, boats, uniforms)													Investment	1																					
		18.3	Enhance the qualification and competencies of VWRNP staff	Number of trainings per employee	5 (1 every 2 years)	0	18.3.1.	Provision of basic training according to the position									Activity	1																									
							18.3.2.	Organization of periodic specific trainings for upcoming new themes													Activity	2																					
		18.4	Ensure transparent and efficient management of VWRNP	VWRNP is greenlisted	Yes	no	18.4.1.	Certification of the VWRNP according to IUCN Green List standards.						in coordination with IUCN			Project (Study)	2																									
				Mid-Term Review completed	Yes	no	18.4.2.	Carry out an external mid-term review 5 years after entry into force to a) evaluate progress made and to b) adjust or amend objectives and actions if substantial changes occurred									Project (Study)	1																									
		18.5	Ensure diverse long-term funding for implementation through a diversity of funding sources	Fundraising strategy in place and implemented	yes	no	18.5.1.	Preparation and implementation of a fundraising strategy (incl. donor management, sponsorship models)									Activity	1																									
				Amount of funds acquired (beyond regular state funding)	5,000,000 Euro (500,000/year)	0	18.5.2.	Actively seeking involvement into project consortia (e.g. as partner in research or project calls)									Activity	3																									
				18.5.3.	Collect fees and define a concrete procedure to use these for the implementation of the management plan (in the case the revision of the Law on Protected Areas allows it)													Activity	1																								
		Governance																																									
19	A functional and broadly accepted governance system involves all relevant authorities, municipalities and other stakeholders	19.1	Establishment of functional governance structures at regional level	Number of active management committees	4	0	19.1.1	Set-up up to 4 management committees (according to §41 of the Law on Protected areas) (one per RAPA) composed of local, regional and national stakeholders and authorities							Activity	1																											
							19.1.2	Define the role, responsibility and mandate of the management committees												Activity	1																						
							19.1.3	Holding of at least one annual meeting of each committee to hear stakeholders and provide updates on behalf of NAPA												Activity	1																						
Transboundary cooperation																																											
20	The whole Vjosa-Aoos river system is effectively protected through transboundary conservation efforts.	20.1	Establishing a basic formal transnational cooperation with Greece	Number of joint transnational meetings	10	0	20.1.1.	Elaboration of a joint declaration and action plan on how to cooperate and in which fields				in cooperation with Greek authorities and NGOs			Activity	1																											
				20.1.2.	Carry out annual update meetings for an (in)formal exchange regarding transboundary conservation efforts												Activity	2																									
				20.1.3.	Elaboration of a joint proposal and roadmap towards a transboundary conservation area										in cooperation with Greek authorities and NGOs			Activity	1																								
				20.1.4.	Organization of a guided study tour for decision-makers and relevant stakeholders to promote the idea of a transboundary conservation area												Activity	3																									
		20.2	Coordination of transboundary conservation measures and joint actions	Number of transboundary conservation projects	5	0	20.2.1	Implementation of selected transboundary conservation projects						in cooperation with Greek authorities and NGOs			Project (Investment)	2																									
Harmonized habitat map available	yes			no	20.2.2	Creation of a transboundary habitat map covering the whole Vjosa-Aoos Complex								Project (Study)	2																												