



# 2<sup>nd</sup> REVISION OF RIVER BASIN MANAGEMENT PLAN

of the River Basin District  
of Western Macedonia (EL09)

## SUMMARY



**HELLENIC REPUBLIC**

DECENTRALIZED ADMINISTRATION AUTHORITY OF EPIRUS – WESTERN MACEDONIA

**Contract: «2<sup>nd</sup> REVISION OF RIVEN BASIN MANAGEMENT PLANS OF WESTERN MACEDONIA RIVER BASIN DISTRICT».**

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**2nd Revision of the River Basin Management Plan Water Division of Western Macedonia (EL09)**

**Summary of Final Management Plan**

**Government Gazette: Approval of the 2<sup>nd</sup> Revision of River Basin Management Plan of the River Basin District of Western Macedonia (EL09) G.G. A' 111/23.07.2024**

## 2<sup>nd</sup> REVISION OF RIVEN BASIN MANAGEMENT PLANS OF WESTERN MACEDONIA RIVER BASIN DISTRICT

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**Abbreviations / Acronyms**

AR	At Risk
BQEs	Biological Quality Elements
EQR	Ecological Quality Ratio
GDoW	General Directory of Waters
MED GIG	Mediterranean Geographical Intercalibration Group
NR	Not at Risk
RBD	River Basin District
RB	River Basin
WB	Water Body/Bodies
SWB	Surface Water Body/bodies
GWB	Groundwater Body/bodies
HMWB	Heavily Modified Water Body/bodies
AWB	Artificial Water Body
RBMP	River Basin Management Plan
GOLR	General Organization of Land Reclamation
LOLR	Local Organization of Land Reclamation
MEWSS	Municipal Enterprise of Water Supply and Sewerage
MEE	Ministry of Environment and Energy
WFD	Water Framework Directive
JMD (MD)	Joint Ministerial Decision (Ministerial Decision)
PD	Presidential Degree
EC	European Council
EEC	European Economic Community
EU	European Union
PAR	Probably At Risk
PNR	Probably Not at Risk
WFD	Water Framework Directive
WG ECOSTAT	Working Group for the Ecological Status
WISE	Water Information System of Europe

## 1 INTRODUCTION – 2<sup>nd</sup> REVISION OF RIVER BASIN MANAGEMENT PLAN

### 1.1 Introduction

Since the beginning of 2000, the European Union has had a new policy on water resource management. The basic tool for promoting the new policy is the Water Framework Directive 2000/60/EC.

The harmonization of the Greek legislation with the Water Framework Directive 2000/60/EC was done with the Law 3199/2003 (Government Gazette A' 280) and the PD 51/2007 (Government Gazette A' 54).

Priority and necessary step for the implementation of the Directive in our country was the development of **the River Basin Management Plans of the country's 14 Water Districts (WD)** as established by the Decision No. 706/2010 of the National Water Committee (Government Gazettes 1383/B'/02-09-2010 and 1572/B'/28-09-2010 that corrects Annex II), and as it applies after the approval of the country's RBMP's.

The Watershed Management Plans of the 2<sup>nd</sup> Revision of the RBMPs are drawn up under the responsibility of the competent authorities of each River Basin Area (corresponding to the term of the Water Division of Article 3 of PD 51/2007).

According to paragraph 4 of article 32 of Law 5037/2023, the "River Basin Management Plan" is approved by an Act of the Council of Ministers, following the opinion of the Minister of Environment and Energy and is valid for six (6) years or until revised of. According to Law 5037/2023, each Decentralized Administration prepares a Management Plan for the River Basin Area (Water District) under its jurisdiction, in accordance with the directions of the National Water Strategy. For the Water Department for which two or more Decentralized Administrations are jointly responsible, the River Basin Management Plan (RBMP) is prepared jointly, unless otherwise specified in the decision of paragraph 3 of article 5 of Law 5037/2023.

The RBMP contains all the collected data, information, and assessments that are necessary for the protection and management of water in accordance with the directions and methodology defined by the General Directorate of Water of the Ministry of Environment and Energy. The content of the RBMPs is determined by the P.D. 51/ 2007 (A' 54).

The RBMPs of the country's Water Districts are revised and reviewed every six years.

The initial River Basin Management Plans of the RBD of the country was drawn up in accordance with Directive 2000/60/EC and originally concerned the 1<sup>st</sup> Management Cycle (2009-2015). The 1<sup>st</sup> Revision of the initial Management Plans that was drawn up related to the 2<sup>nd</sup> Management Cycle (2016-2021). The present 2<sup>nd</sup> Revision being drawn up, concerns the 3<sup>rd</sup> Management Cycle (2022-2027).

### 1.2 Development of the 2<sup>nd</sup> Revision of Basin Management Plan

In the framework of the 2<sup>nd</sup> Revision of River Basin Management Plan, the following actions are undertaken:

- Update of the identification and characterization of surface (river, lake, transitional and coastal) and groundwater bodies.
- Review and update of the standardized reporting conditions and assessment/classification of the status/potential of surface water bodies (ecological and chemical status), including highly modified and artificial water bodies, and groundwater bodies (quantitative and qualitative status), based on new data available from the operation of the National Water Monitoring Network.
- Re-evaluation of the surface water bodies with significant hydromorphological modifications in order to determine those that are highly modified (HMWB) and artificial (AWB).
- Updating the list of significant pressures as included in the approved Management Plans, as well as their impacts.
- Updating the Register of Protected Areas, based on new information that has emerged from the implementation of relevant EU Directives.

- Review of environmental objectives for all surface and groundwater bodies, including highly modified and artificial.
- Assessment of progress in relation to the achievement of the environmental objectives of the Directive, as defined in the 1<sup>st</sup> Revision of the RBMP.
- Revision of the Programs of basic and supplementary measures for the protection and restoration of the water resources of each WD, as included in the approved/first Management Plans, in accordance with Article 11 and Annex VI of Directive 2000/60/EC (Article 12 and Annex VIII of PD 51/2007).
- The update of the economic analysis of water uses.
- Recording of the transnational collaborations to date and promotion of the implementation of common or compatible Management Plans in the transnational watersheds, according to the directions from the GDoW.
- Revision of the Strategic Environmental Impact Study (SEIS) to identify, describe and evaluate the impact on the environment from the implementation of the aforementioned Programs of Measures and Management Plans.
- Informing the public and promoting its active participation, as well as publication and public consultation of the Draft Management Plans, six months before their completion, in accordance with Article 14 of Directive 2000/60/EC and Article 15 of PD 51/2007.
- Covering the country's obligations in relation to the submission of reports and other data to the EU regarding the Management Plans, also through the electronic system WISE (Water Information System for Europe), in accordance with the specifications established by the European Environment Agency.

The effects of the implementation of the Management Plans can only be positive, at a time when the country's water resources are facing increasing pressures. Their implementation will provide the foundations to support a stable water management policy, which will lead to the effective protection and rational use of our precious water resources.

### 1.3 Public Consultation

The consultation process on the 2<sup>nd</sup> Revision of River Basin Management Plans lasted from May 2019 to December 2023, where the following took place:

- **Phase A:** In May 2019, the subject of the planned preparation works of the 2<sup>nd</sup> Revision of the SOP as well as the detailed schedule of these was posted on the website of the Ministry of Internal Affairs ([www.ypeka.gr](http://www.ypeka.gr)) for public information.
- **Phase B:** In September 2019, data on the important issues of water resources management in each RB were posted on the website of the Ministry of Water Resources, which briefly included the results of the National Water Monitoring Network for the Water District, the main pressures, the definition and the recording of the competent authorities and bodies participating in the consultation.
- **Phase C:** In June 2023 it was posted on the website of the Ministry of Foreign Affairs (<http://wfdver.ypeka.gr>) the Draft of the 2<sup>nd</sup> Revision of the River Basin Management Plan of the Water Division. This phase also included the publication of the Strategic Environmental Impact Study that took place in November 2023. Also, in November 2023, the basic common and updated methodologies "Methodology, specifications and criteria for determining the "exemptions" from the achievement of the environmental objectives of the Directive - Part A" and "Updated Methodology for the analysis of anthropogenic pressures and their effects on the surface and underground water systems".

**The consultation process was completed in December 2023.**

For the purposes of the consultation of the 2<sup>nd</sup> Revision of the RBMP, a special website (<http://wfdver.ypeka.gr>) was implemented by the General Directorate of Waters, which was given the possibility to post public comments on the published material. After posting the material on the website, it

was possible to submit comments (email and posting comments on the internet) as well as the possibility to fill in the consultation questionnaire.

Also, apart from the questionnaires during the consultation there was the possibility of interventions in the preparation of the 2<sup>nd</sup> Revision of the River Basin Management Plans by e-mail, fax or post, with the aim of submitting different opinions and providing information. In addition, all the elements of the 2<sup>nd</sup> Management Plan are available on this website, with the relevant geospatial data concerning the Water Systems and their status as well as other relevant elements related to the Management of Water Resources, such as the National Register of Surface Water Absorption Points and Groundwater, the national database of Wastewater Treatment Plants, etc.

In the context of the consultation and the encouragement of the active participation of agencies during the 2<sup>nd</sup> Review process, working meetings were held between the General Directorate of Water, the Contractors and the agencies involved (Ministries, Decentralized Administration, Regions and other local agencies) to exchange information and opinions.

Also, special work meetings were held with the competent Water Departments for the formulation of both the draft Management plan and the program of measures. Special care was given to the direct involvement of the Water Administrations in the preparation of the 2<sup>nd</sup> Revision since they are the main pillar of the implementation of the Management Plans at the regional level as the bodies that exercise the responsibilities of the Decentralized Administration in the water sector. In this context:

- A special Support Group was created with the aim of assisting the SDoW in monitoring and shaping the 1<sup>st</sup> Revision of the River Basin Management Plans of the Water Divisions of the Country (ADA:Ψ3Π14653Π8-ALY) with executives from the Water Departments of the whole country, which actively participated in all stages of the formation of the Management Plans of their responsibilities.
- A special three-day working meeting was organized in Athens with the Water Departments of the Country (November 2017), in which the issues of the 1<sup>st</sup> Revision of the River Basin Management Plans related to the Program of Measures and its finalization were discussed.
- In addition, the EGY, with the assistance of the Water Directorate of Western Macedonia of the Decentralized Administration of Epirus - Western Macedonia, organized a conference in Kozani, in September 2017, on the subject: "Consultation of the 1<sup>st</sup> Revision of the River Basin Management Plan of the Water Division of Western Macedonia (EL09)". During the conference, the opportunity was given to fill in the consultation questionnaires (see annex III) and for oral interventions, while after the conference there was the opportunity to submit written comments. During the conference, a summary of printed information material was distributed as well as a summary of the draft.

After the implementation of the workshop, the list of participants was drawn up, including their contact information, and the audio-visual material was received, which was transcribed in order to compile the proceedings. It should be pointed out that the consultation process of the SEA was carried out in parallel with the consultation process of the Management Plan, which significantly contributed to the formulation of the Final Management Plan.

### **1.3.1 Consultations results**

During the day of the consultation, on 09/11/2023, the following were presented:

- The process of the 2<sup>nd</sup> Revision of the Watershed Management Plans in accordance with the requirements of the Framework Directive 2000/60/EC and consultation procedures.
- The needs, water resources and important management issues.
- The determination of water bodies, AWB/HMWB, Protected Areas, Pressures and their Classification.
- The economic analysis of water uses.
- The revised environmental objectives as well as the Program of basic and supplementary measures.

The invitation and the program of the conference are given in an appendix to this document.

It is noted that special weight was given to the presentation and discussion of the program of measures.

The basic measures that apply throughout the country and in all water bodies were mentioned.

As stated in the relevant documentation text as well as in the draft, the basic measures are divided into 2 Groups with the 1<sup>st</sup> Group relating to the Implementation of the European Directives, as below:

✚ 10 thematic sections on key measures: bathing waters, protection of wild birds and habitats, environmental impacts of projects and activities, drinking water, pollution prevention and control, protection against nitrate pollution, plant protection products, dealing with the risks of major accidents, sewage treatment plant sludge , municipal wastewater treatment.

The **2<sup>nd</sup> Group** refers to the basic measures of other categories according to the peculiarities of Greece (application only in our country). This group places special emphasis on the promotion of the efficient and profitable use of water.

For the **Water Department of Western Macedonia**, 12 questionnaires were received which were completed by institutions and natural persons.

Due to the relatively small number of completed and received questionnaires, any statistical processing of them to draw general conclusions is expected to lead to incorrect generalizations and conclusions.

From the responses to the questionnaires, the following key qualitative elements emerge:

- The main issues in all the questionnaires are the needs to cover water supply and irrigation as well as the quality of drinking water. To a lesser extent, issues such as pollution from urban sewage that do not end up in sewage, from intense agricultural activity and from industry emerged in a smaller number of questionnaires.
- In almost all of the questionnaires, the proposed measures in the draft are considered satisfactory, while proposals for increasing sampling and analyzes in the YS as well as for the management of mines (active and inactive) in the YS area are found. In any case, in all the questionnaires, it is pointed out that the SDFAPs have contributed moderately to satisfactorily to the better management of water resources in the region.

In addition, the questionnaires were accompanied by written interventions/comments on the posted draft which are mentioned and commented on in the next chapter of this document.

In the conference held in Kozani in November, 78 people participated in person and about 85 people online, while a total of 8 interventions were carried out.

The total registrations of presence in the consultation process (physical presence or online) amounted to 155.

On the website of the Ministry of Foreign Affairs, 19 comments were received regarding the posted Draft or the SEA and/or the documentation texts.

In addition, during the consultation process, 4 questions / interventions were received in the form of comments online via a web chat platform.

## 2 DIFFERENCES COMPARED TO THE 1<sup>st</sup> REVISION OF THE RIVER BASIN MANAGEMENT PLAN

### 2.1 Main variations in relation to the 1<sup>st</sup> Revision of the Management Plans

The preparation of the 2nd Revision of the RB Management Plans includes significant changes and improvements compared to the 1<sup>st</sup> Revision. Particularly:

- The ecological and chemical classification is based on the utilization of data from the period 2018 - 2021 of the National Water Monitoring Network.
- It takes into account the results of actions and actions that have been implemented to date in the context of increasing knowledge about the state of the waters and the pressures they face, as well as the actions implemented to cover the gaps identified in the 1<sup>st</sup> Review of the Management Plans.
- It takes into account the new recent requirements arising from the guidelines implementing Directive 2000/60/EC issued by the EU.
- It takes into account the results of the Special Evaluation Report of the European Commission's Management Plans, which was implemented in the context of informing the European Parliament about the implementation of the Directive, and is available on the EU website.
- It takes into account the new analytical and updated methodologies for critical implementation issues of Directive 2000/60/EC:
  - Analysis of anthropogenic pressures and their effects on surface and underground water systems.
  - Identification and assessment criteria of hydromorphological changes.
  - Identification of the specially modified (HMWB) and artificial (AWB) water systems.
  - Identification of the "exemptions" from the achievement of the environmental objectives of Directive 2000/60/EC:
    - Determination of the "exceptions" of paragraphs 4 to 6 of Article 4 of Directive 2000/60/EC (4.4 - 4.6).
    - Determination of the "exceptions" of paragraph 7, of Article 4 of Directive 2000/60/EC (4.7), regarding new amendments.
  - Assessment (classification) of the state of surface waters:
    - Assessment of the ecological and chemical status of river water systems.
    - Assessment of the ecological and chemical status of lake water systems.
    - Assessment of the ecological and chemical status of coastal and transitional water systems.
- The new analytical national methodologies for the assessment of the individual biological quality elements (BQEs) are taken into account, for each category of surface water which have been approved by the EU in the context of the inter-calibration exercise carried out at the European level. These methodologies concern the following:
  - Analytical methodologies for the assessment of biological quality elements in rivers.
  - Analytical methodologies for the assessment of biological quality elements in lakes.
  - Analytical methodologies for the assessment of biological quality elements in coastal and transitional waters.
- The 2nd Revision is prepared simultaneously with the 1<sup>st</sup> Revision of the Flood Risk Management Plans pursuant to Directive 2007/60/EC and a synergy of actions and program of measures has been achieved.
- The 2<sup>nd</sup> Revision took into account the National Strategy for Adaptation to Climate Change and incorporated individual actions of the National Strategy for Adaptation to Climate Change into the program of measures.

The 2<sup>nd</sup> Review was prepared simultaneously for all 14 Water Departments of the Country and homogeneity has been achieved in the individual methodologies as well as in the proposed programs of measures (basic and supplementary).

### **2.1.1 Summary of main differences / variations**

The following table summarizes the differences identified in each individual object of the Revised River Basin Management Plan in relation to the 1<sup>st</sup> Revision of the Management Plans based on the above mentioned and the results obtained.

Table 2-1: Summary presentation of the progress of implementation of Basic Measures (Program of Measures of the approved 2<sup>nd</sup> Revision of the RBMP)

Subject of Revised RBMP / Activity	Differentiation in relation to the 1 <sup>st</sup> Revision of RBMP	Summary presentation of the Results
<p><b>COMPETENT AUTHORITIES</b></p>	<p>The competent authorities are amended in accordance with the provisions of Law 5037/2023.</p>	<p>The corresponding chapter presents the recording of the main authorities/bodies involved in Water Management as derived from the existing institutional framework and in accordance with the requirements of the new guideline text for the submission of data to the EU (GD Reporting 2022).</p>
<p><b>DEFINITION OF SURFACE WATER SYSTEMS - TYPOLOGY</b></p>	<p>The methodology for the definition and typology of Surface Water Systems does not differ in relation to the 1<sup>st</sup> Revision of the Management Plan.</p> <p>However, during the update of the Management Tools, which includes the use of hydrological simulation models with the integration of rainfall up to the year 2020, the naturalized supplies of the river YS are differentiated.</p>	<p>In WD EL09, there are differences in terms of the number of Water Systems in relation to the 1<sup>st</sup> Revision of the RBMP as 6 additional WB were added. Five(5) of them are HMWB (Krasopouli - Regulated Department - Nea Koiti, Ksirolakki (diversion), Mavroneri P. (new part with new code), Lakkos R., Lakkos R. (Arranged section)) and one of them is the Triantafyllia reservoir which was classified as HMWB river - lake type. The differences concern the types of Rivers and Lakes WB and affect the classification methodology of their status.</p> <p>The results are presented in Chapter 4.1 hereof and in the Text "CHARACTERIZATION, TYPOLOGY, TYPE-CHARACTERISTIC CONDITIONS REFERENCES AND EVALUATION / CLASSIFICATION OF THE STATUS OF ALL CATEGORIES OF SURFACE WATER SYSTEMS".</p>
<p><b>DETERMINATION OF GROUNDWATER WATER BODIES</b></p>	<p>The number of GWB is revised based on the latest data obtained from the National Monitoring Network and/or individual special studies that have been implemented since the approval of the 1<sup>st</sup> Revision to date.</p>	<p>The main differences in the GWB in relation to the 1<sup>st</sup> Revision of the Management Plan concern the following:</p> <ul style="list-style-type: none"> <li>(i) The term Groundwater Subsystem is abolished. The term Groundwater Body (GWB) is used for all GWB regardless of their capacity and size.</li> <li>(ii) The five subsystems positioned in the Grevena basin (EL0900031: Grevena granular subsystem, EL0900032: Kalonerio Kozani granular subsystem, EL0900033: Pylorio Kozani granular subsystem, EL0900034: Ag. Georgiou granular subsystem, EL0900035: Venetiko granular subsystem) were consolidated into one system : granular GWB Grevena Basin (EL0900036). This integration does not affect the ranking (qualitative and quantitative) of the systems.</li> <li>(iii) The integration of two subsystems developed in the lowland part of Kastoria (granular Kastoria: EL0900023, granular Kastoria: EL0900020) into a single one with code EL0900023.</li> </ul>

Subject of Revised RBMP / Activity	Differentiation in relation to the 1 <sup>st</sup> Revision of RBMP	Summary presentation of the Results
		The results are presented briefly in Chapter 4.2 hereof and in detail in the Documentation Text "CHARACTERIZATION AND EVALUATION / CLASSIFICATION OF THE CONDITION OF GROUNDWATER SYSTEMS"
<b>HEAVILY MODIFIED WATER BODIES (HMWB) AND ARTIFICIAL WATER BODIES (AWB)</b>	The HMWB defined in the 1 <sup>st</sup> Revision of the RBMP are reviewed based on the applicable methodology and the elements of the National Monitoring Network as defined by the Directive. Also for Surface HMWB the maximum and good ecological potential is determined based on EU guidelines.	The application of the new Methodology for Initial and Final Determination of HMWB and AWB does not differentiate the number of HMWB and AWB determined in the 1 <sup>st</sup> Revision of the RBMP. Six (6) additional WB Krasopouli - Regulated Department - Nea Koiti, Ksirolakki (diversion), Mavroneri P. (new part with new code), Lakkos R., Lakkos R. (Arranged section)) was added and classified as HMWB and the Triantafyllia reservoir also as a river HMWB lake type.  The results are presented in Chapter 4.3 hereof.
<b>PROTECTED AREAS</b>	The IMP of the 1 <sup>st</sup> Revision of the RBMP is reviewed based on: The new Natura 2000 areas that have been proposed by the Ministry of the Interior based on the provisions of the Directives on birds (2009/147/EC) and on habitats (92/43/EEC). The results of monitoring the Bathing Beaches and the provisions of the Bathing Water Directive (2006/7/EC).  Other directives for the protection of waters with stricter objectives such as the Directives on drinking water (80/778/EEC, as amended by Directive 98/83/EC), on shellfish (2006/113/EC), on fish of fresh water (2006/44/EC), for the protection against nitrate pollution (91/676/EEC), for the treatment of urban waste water (91/271/EEC) and the revision of the national list of the Natura 2000 Network.  Newer evidence arising from the approval of the 1 <sup>st</sup> Revision and the relevant EU Guidelines Texts.	The surface and groundwater bodies associated with protected areas are declared.  2 protected Surface Water Parks (Asprorema and P. Aliakmonas in the area of Nestorio), as well as the 2 Swimming Beaches of inland waters (L. Vegoritida and L. Megali Prespa) are removed in the WD. Also, 4 areas of habitats or species were added due to the revision of the national list of the Natura 2000 Network. Furthermore, 2 more Groundwater Bodies were labeled as protected areas for drinking water (EL0900075: Leykopigi system and EL0900076: Argilou – Protochoriou system). The other areas are not differentiated. The results are presented in Chapter 4.4 hereof, as well as in the "REGISTER OF PROTECTED AREAS" issue.
<b>PRESSURES AND IMPACTS</b>	The assessment of pressures and impacts is carried out in the revision based on the updated common methodology developed and the newest data that emerged from the approval of the 1 <sup>st</sup> Revision of the RBMP.	In WD EL09 the methodological approaches that had been followed in the 1st Revision are largely similar to those of the present 2 <sup>nd</sup> Revision. The differences that arise come mainly from the newest data concerning the more complete picture of the cultivated lands, the establishment of new activities, the better recording of the activities in the WD. The pressures and loads resulting from

Subject of Revised RBMP / Activity	Differentiation in relation to the 1 <sup>st</sup> Revision of RBMP	Summary presentation of the Results
		the known and recorded pressures are linked to the WB, so as to optimize the connection of the measures to them. Regarding the pressures on the hydromorphological characteristics of the WB, the HMWB have been confirmed without a preliminary determination. The results are presented in the following Chapter 5 and in the Documentation Text "ANALYSIS OF ANTHROPOGENIC PRESSURES AND THEIR IMPACTS ON SURFACE AND GROUNDWATER SYSTEMS".
<b>CLASSIFICATION OF THE SURFACE WATER BODIES' CONDITION</b>	During the review, the classification of the state of surface water bodies is implemented based on the latest data of the National Water Status Monitoring Network. The classification methodologies are not differentiated in relation to the 1 <sup>st</sup> Revision. For the WB that are not monitored, their situation is classified by grouping based on their typology and the pressures they are under.	During the review, the classification of the state of the surface water bodies is implemented based on the latest data of the National Water Status Monitoring Network. The classification methodologies are not differentiated in relation to the 1 <sup>st</sup> Revision. For the WB that are not monitored, their situation is classified by grouping based on their typology and the pressures they are under.
<b>CLASSIFICATION OF THE GROUNDWATER BODIES' CONDITION</b>	The methodology for classifying the state of GWB does not differ in relation to the 1 <sup>st</sup> Revision of the RBMP. The classification of the GWB is based on the newest data of the monitoring network.	The review includes a mapping of the state of the GWB based on the latest monitoring data.  The results are presented briefly in Chapter 6.2 hereof and in detail in the Documentation Text "CHARACTERIZATION AND EVALUATION / CLASSIFICATION OF THE CONDITION OF GROUNDWATER SYSTEMS".
<b>STATUS MONITORING NETWORK OF WATER BODIES</b>	The 2 <sup>nd</sup> Revision includes the results of the National Water Monitoring Network of the country for the period 2018 – 2021 for almost all the Biological Quality Elements, the Physicochemical and Chemical Quality Elements and the hydromorphological quality elements of Surface Water Bodies. It also includes measurements of both the qualitative and quantitative state of the GWB, for the period of 2018-2020.	The data for the monitoring program used are presented briefly in Chapter 6.3 hereof and in detail in the Documentation Texts "Characterization, typology, type-characteristic conditions, reports and evaluation / classification of the state of all categories of surface water systems" and "Characterization and evaluation / classification of the state of underground water systems" for the network of Surface and Ground Water Systems respectively.

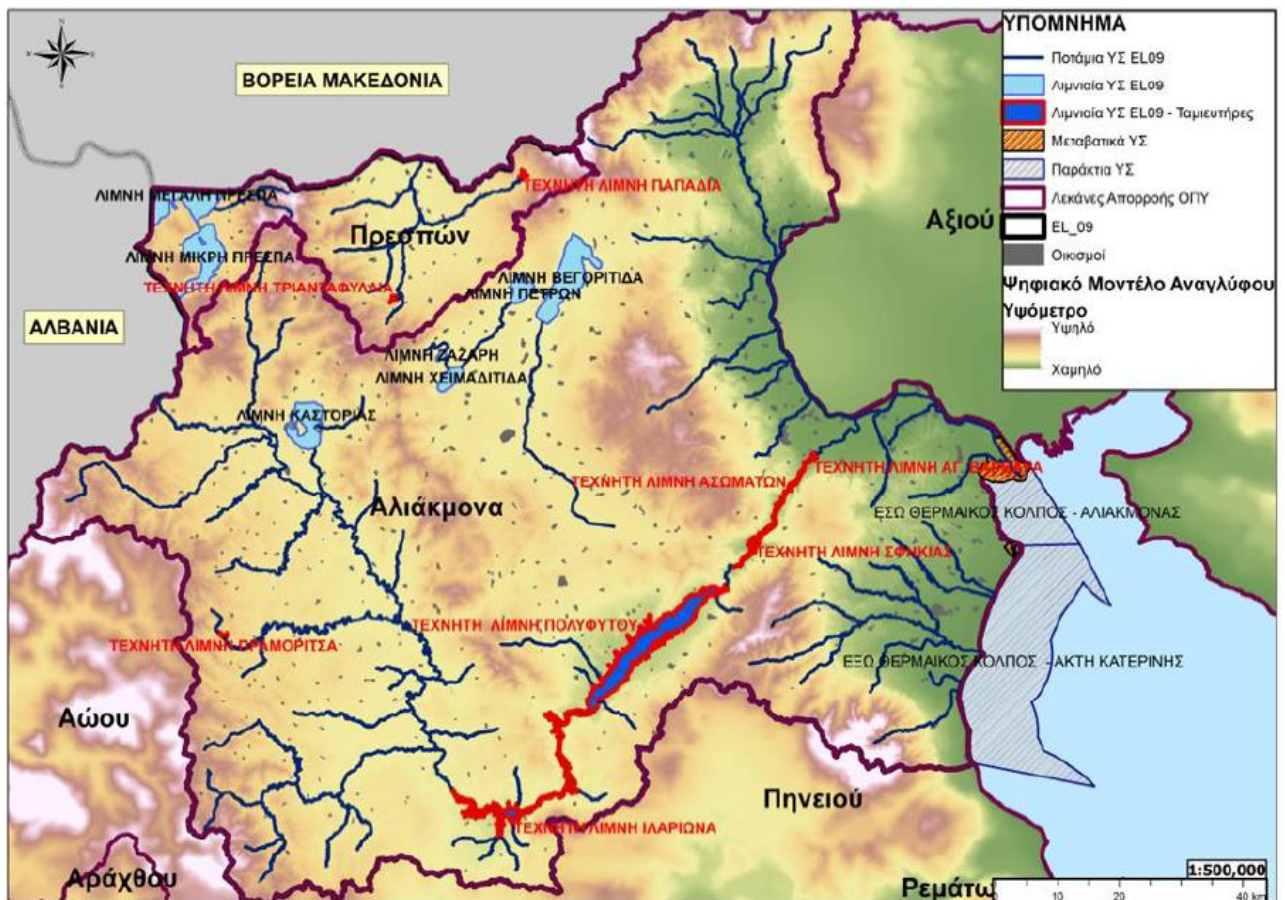
Subject of Revised RBMP / Activity	Differentiation in relation to the 1 <sup>st</sup> Revision of RBMP	Summary presentation of the Results
<b>ECONOMIC ANALYSIS OF WATER USE</b>	For the financial analysis of water uses, the instructions of the General Directorate of Water are followed, regarding the general rules for costing water services and the data from the Special Monitoring Information System of the General Directorate of Water of the Ministry of the Interior. The forementioned has been created to monitor and improve water services and in which each provider is required annually to enter electronically aggregated data about its activity.	The results are presented in summary in Chapter 7 hereof and in detail in the Analytical Documentation Text "Economic analysis of water uses and determination of the existing degree of cost recovery for water services (water supply, irrigation and drainage)".
<b>ENVIRONMENTAL OBJECTIVES - EXCEPTIONS</b>	During the 2 <sup>nd</sup> Revision, the determination of the environmental objectives and exemptions is based on the revised methodological approaches developed in accordance with the EU guidelines (see above in chapter 2.2.1) in the 1 <sup>st</sup> Revision and updated/specified during the 2 <sup>nd</sup> Revision of the RBMP.	The results are presented in summary in Chapter 8 hereof and in detail in the Analytical Documentation Text "Definition of the environmental objectives, including "exceptions" from the achievement of the objectives and a list of planned and new projects/activities/modifications".
<b>PROGRAM OF MEASURES</b>	<p>The program of measures as defined in this Management Plan Review briefly includes the following approaches:</p> <ul style="list-style-type: none"> <li>• The specialization/reformulation of measures of the 1<sup>st</sup> Revision of the RBMP that continue in the current Administrative cycle.</li> <li>• The formulation of new measures to deal with the pressures faced by the WB and the achievement of the goals set.</li> <li>• The correlation of the measures with specific important pressures that have been identified in the WD.</li> <li>• The correlation of the measures with Basic Categories of Measures as defined by the EU and specific indicators for monitoring the progress of their implementation.</li> <li>• The correlation of the measures with the national actions for adaptation to Climate Change as defined in the National Strategy for Adaptation to Climate Change (Ministry of Education, 2016) and the Regional Plans for Adaptation to Climate Change that have been implemented.</li> </ul>	The new program of measures is presented briefly in Chapter 9 hereof and in detail in the Analytical Documentation Text "Programs of Basic and Supplementary Measures for the protection and restoration of water bodies, including the analysis of their costs in relation to their efficiency and special forms for Monitoring the Implementation of meters".

### 3 DESCRIPTION OF THE RIVER BASIN DISTRICT – COMPETENT AUTHORITIES

#### 3.1 River Basin

The Water District (WD) of Western Macedonia (EL09), land area of 13,615.56km<sup>2</sup> (not including the area of 1,127.14km<sup>2</sup> of the Coastal Water District), according to the above definition and the no. 706/16.7.2010 Decision of the National Water Commission (Government Gazette B'/1383), consists of two (2) River Basins (RBA) (see Map below):

- Prespes River Basin (EL0901), with extent of 1.209,43km<sup>2</sup>
- Aliakmon River Basin (EL0902), with extent of 12.406,13km<sup>2</sup>



Map 3-1: Water District Boundaries EL09 – River Basins and Surface Water Bodies

##### 3.1.1 Prespes RB (EL0901)

Prespes RB (EL0901) is administratively under the Region of Western Macedonia and owes its name to two of the most important lakes in Greece, Mikri and Megali Prespa. It covers a small part of wd EL09 at its NW end. It is bounded to the west and north by the borders of Albania and North Macedonia, respectively, to the south by the mountains Triklarios, Varnouda and Verno and to the east by the mountain Vora. The bas relief of RB is mountainous with its average altitude being approximately 1,025m. The main mountain masses that develop in the RB result in the distinction of two main hydrological sub-basins: the Closed Basin of the Prespa Lakes and the Axios Basin - Florina Department. The second essentially concerns the hydrological basin of the river Lygos or Sakoulevas. The characteristic of both of these sub-basins is that they are parts of transboundary basins of which the first is tri-national and is shared between Greece, Albania and North Macedonia, while the second is shared between Greece and North Macedonia.

### 3.1.2 Aliakmon RB (EL0902)

The Aliakmon RB (EL0902) can be distinguished into four individual hydrological sub-basins: the Aliakmonas, the Ptolemaida Closed Basin, the Peripheral Trench and the Katerin Plain. The first, of Aliakmonas, longer follows the boundaries of the natural hydrological basin of the river of the same name (which also includes the hydrological basin of Lake Kastoria). The closed basin of Ptolemaida is delimited by the plateau of the same name, which drains on the surface into the system of natural lakes of Vegoritiss, Petrwn, Zazari and Chemaditiss, which are connected to each other through artificial channels.

The sub-basin of the Peripheral Trench drains the waters of the mountainous areas of Vermio and Voras through the main rivers of Almopeia, Edessaiois, Arapitsa and Tripotamos into the Peripheral Trench (T66) which is also the border with the Water Department of Central Macedonia (WD EL10). Finally, the Katerinis Plain develops at the SE end of the Water Division and consists of several relatively small hydrological basins, the main one being the Mavroneri stream, which flows into Thermaikos Gulf.

## 3.2 Natural Attributes

### 3.2.1 Geographical location - Geomorphology

The Water District of Western Macedonia (WD EL09) is located in the northwestern part of the country. It is bounded to the north by the borders of Greece - North Macedonia, while to the east, in a direction from north to south, by Mount Paiko, the Peripheral Trench and the Thermaikos Gulf. In the south, in a direction from east to west, from Mount Olympus, Kamvounia and Hassia and finally in the west, in a direction from south to north, from Mount Lygos, Voio and the border between Greece and Albania.

Regarding its position in relation to the other water departments of the country, to the east is the Water Department of Central Macedonia (WD EL10), to the south the Water Department of Thessaly (WD EL08) and to the west the Water Department of Epirus (WD EL05).

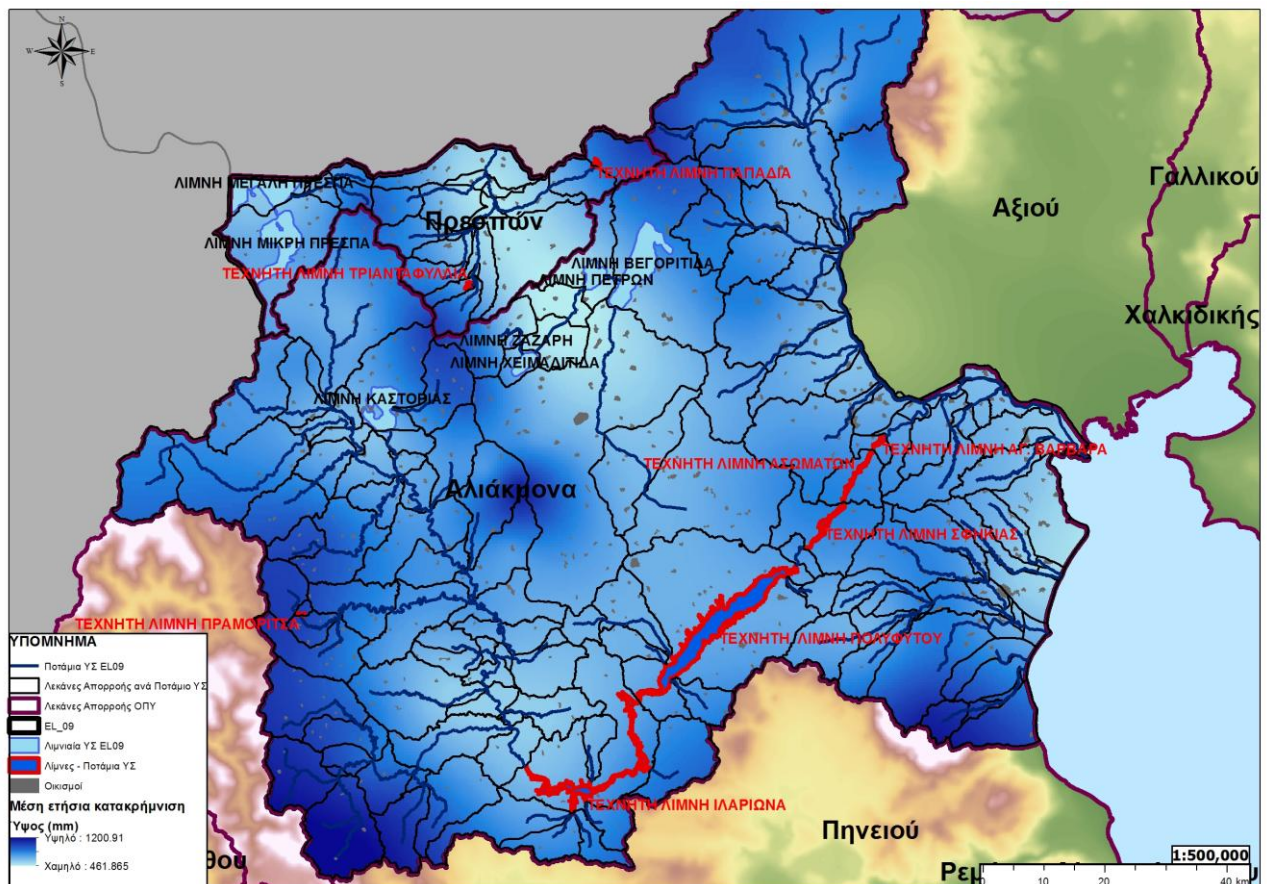
The topography of the water department is mainly mountainous-semi-mountainous, as only 30% of the area of the WD is below 600m. Its main characteristic is the existence of nine peaks with an altitude of more than 2,000m, with the most characteristic being that of Olympus (Mytikas, 2,917m). In the western and central part of the water department, two large mountain masses can be distinguished with direction N-S.

The first consists of the mountains Verno (2,128m), Askio (2,111m) and Vourino (1,688m), while the second of the mountains Voras (2,524m), Vermio (2,052m) and Pieria (2,180m). Between these mountain masses, the flat lands of Kastoria, Florina, Ptolemaida and Grevena can be distinguished. In the eastern part of the water department the relief becomes smooth and the plains of Edessa, Naoussa, Veria and Pieria dominate.

The coastline of the WD is almost straight, with a gentle relief and a total length of 80km. Characteristics of the coastline are the existence of the lagoon of the salt flats of Kitros and the delta of the Aliakmons estuary.

Most of the Water Division has a continental climate, while the coastal and mountainous parts have a marine and mountainous climate respectively.

The geographical position and relief of the apartment contribute to its great climatic diversity. The average annual precipitation is equal to 745.9mm, while in the mountainous parts it exceeds 1200mm. Snowfalls are quite common during November - April. The average annual temperature ranges between 14.5°C and 17.0°C, with the coldest month in January and the warmest in July.



Map 3-2: Canvas map of the average annual precipitation (in mm) in WD EL09.

The average annual (naturalized) surface water supply amounts to 2743.1hm<sup>3</sup> or an equivalent runoff height of 210.6mm for a surface area of the WD equal to 13026.2km<sup>2</sup>. The average annual runoff coefficient for the entire WD is estimated to be equal to 0.28. The average annual precipitation is equal to 745.95 mm.

The average annual total water demand (water needs) in the Water District of Western Macedonia (WD EL09), which is covered by the water resources of the WD EL09 itself, amounts to 913hm<sup>3</sup>. From this total amount of water, the needs of the WD EL09 and part of the needs of the WD Central Macedonia (WD EL10) are covered.

The total quantity transferred to the DW EL10 is composed as follows:

- 321hm<sup>3</sup> approximately, are transported annually from the reservoir of Ag. Varvaras through the Aliakmonas-Axios Union Canal to cover the irrigation needs of the Thessaloniki-Lagada Pediada and the irrigation network of the Municipality of Alexandria.
- Approximately 58hm<sup>3</sup> are transported annually from the reservoir of Ag. Varvaras for the coverage of the water needs of the wider area of the Municipality of Thessaloniki, under the responsibility of MEWSS of Thessaloniki (it is noted that the maximum amount of water that can be taken for water supply is approximately 98,820,000m<sup>3</sup>).

### 3.3 Competent Authorities

#### 3.3.1 Identity of Competent Authority

According to N. 3199/2003 (Government Gazette 280/A/2003), as amended and in force, on the Protection and Management of Waters, which harmonizes the National Law with the provisions of the above Directive, the competent authorities for the protection and management of water. More specifically, with regard to the competent authorities, the following applies:

The National Water Commission from 28/03/2023 (Law 5037/2003 (Government Gazette 78/A/28.03.2023)) means the Minister of Environment and Energy, subject to more specific provisions. The Ministry of Environment and Energy draws up the policy for the protection and water management and controls its implementation.

The **General Directorate of Water**, which has the responsibility of drawing up the programs for the protection and management of the country's water resources and the coordination of services and state bodies for every issue related to the protection and management of water. The Secretariat, in collaboration with the Water Directorates of the Decentralized Administrations, draws up the national programs for the protection and management of the country's water potential and monitors and coordinates their implementation.

**Table 3-1: Identity of National Competent Authority.**

OFFICIAL NAME	GENERAL DIRECTORATE OF WATER
Acronym	GDW
Legal Status	Single administrative sector of the Ministry of Environment and Energy
Provisions for Creation and Determination of Competencies	<ul style="list-style-type: none"> <li>• Law 3199/2003 (Government Gazette 280/A/2003) on the Protection and Management of Waters, as amended and in force, in particular by Laws 4117/2013 (Government Gazette 29/A/2013) and L.4315/2014 (Government Gazette 269/A/2014)</li> <li>• PD 132/2017 (Government Gazette 160/A/2017) "Organization of the Ministry of Environment and Energy"</li> <li>• P.D. 81/2019 (A' 119) "Establishment, merger, renaming and abolition of Ministries and determination of their responsibilities - Transfer of services and responsibilities between Ministries"</li> <li>• P.D. 84/2019 (A' 123) "Establishment and abolition of General Secretariats and Special Secretariats/Single Administrative Sectors of the Ministry"</li> <li>• Law 4622/2019 (Government Gazette A' 133/07-08-2019) "Staff State: organization, operation and transparency of the Government, government bodies and central public administration."</li> <li>• N 5037/2023 (Government Gazette A' 78) on the renaming of the Energy Regulatory Authority to the Waste, Energy and Water Regulatory Authority and expanding its scope with responsibilities over water services and urban waste management, strengthening water policy - Modernization of legislation for the use and production of electricity from renewable sources through the integration of EU Directives 2018/2001 and 2019/944 - More specific provisions for renewable energy sources and environmental protection</li> </ul>
<b>Contact info</b>	
Postal address	Mesogeion 119
Postal Code	115 26
City	Athens
Country	Greece
Web Site	<a href="https://ypen.gov.gr/">https://ypen.gov.gr/</a> <a href="http://wfdver.ypeka.gr">http://wfdver.ypeka.gr</a>
Contact	Phone. 213 15113119 e-mail: info.egy@prv.ypeka.gr

In addition, the following Ministries are involved at the National Level in the implementation of Directive 2000/60/EC: of Foreign Affairs, Min. of Rural Development and Food, Min. of Infrastructure and Transport, Min. of Finance, Min. of Development and Investments, Min. of Health, Ministry of of Shipping and Island Policy, Min. Interior.

At regional level, the competent authorities are:

The Water Council of Decentralized Administration (WCDA), which is recommended in each Water Department that extends to the administrative boundaries of one or more Decentralized Administrations and is an instrument of social dialogue and consultation on matters of water protection and management. The WCDA established by decision of the Secretary of the Decentralized Administration. The WCDA convened by its President.

In the event that the Water Department or the river basin belongs to the competence of several Decentralized Administrations, the duties of the President of the WCDA are exercised jointly by the Secretaries of the aforementioned Decentralized Administrations, subject to par. 3 of article 5 of Law 5037/2023.

The WCDA expresses his opinion to the Secretaries of the Decentralized Administrations, if requested, on any issue of water protection and management. Finally, by a joint decision of the Ministers of Environment and Energy and of the Interior, the mode of operation, representation and decision-making of the WCDA, as well as any other necessary issue, are specified. With a similar decision, the composition of the WCDA, in terms of the number and qualities of its members, can be modified.

The Water Directorates of the Decentralized Administration, through which the responsibilities of the Decentralized Administration for the protection and management of water are exercised. After the reorganization of the Local Self-Government services as a result of the administrative reforms of the "Kallikratis" plan, the Water Directorates of the former State Regions are now under the respective Decentralized Administrations.

In the event that, at the request of the Secretary of the Decentralized Administration, the Management Plan is drawn up or modified by the General Directorate of Water, during the preparation, final processing or revision of the Management Plan, the General Directorate of Water cooperates with the competent Water Directorate of the concerned Decentralized Administration. In addition, the Water Directorate of the Decentralized Administration during the process of drawing up, revising or amending the S.D.L.A.P. arranges for its posting in a public consultation, which lasts for a period of six (6) months.

By joint decision of the Ministers of Environment and Energy and of the Interior, every necessary detail for the implementation of this is determined. Further specialization of the exercise of their powers is determined by a decision of the Secretary of the Decentralized Administration.

**The Water Directorates of the Decentralized Administration**, through which the responsibilities of the Decentralized Administration for the protection and management of water are exercised, are:

**Table 3-2: Identity of Regional Competent Authorities.**

Official Name	D.A. of Epirus – Western Macedonia Directorate of Waters of Western Macedonia
<b>Acronym</b>	DoWoWM
<b>Legal status</b>	Organic Unit of the Decentralized Administration of Epirus - Western Macedonia It comes under the General Directorate of Spatial, Environmental and Agricultural Policy

Official Name	
D.A. of Epirus – Western Macedonia Directorate of Waters of Western Macedonia	
<b>Creation Provisions and Definition of Responsibilities</b>	<p>Law 3199/2003 (Government Gazette A' 280), on the Protection and Management of Water</p> <p>Law 3852/2010 (A' 87) Kallikratis Program</p> <p>Law 4117/2013 (Government Gazette A'29) – Article 5 Water tariff policy issues and other provisions</p> <p>PD 141/2010 (A' 234), Organization of the Decentralized Administration of Epirus-Western Macedonia.</p> <p>Law 5037/2023 (Government Gazette A' 78) on the renaming of the Energy Regulatory Authority to the Waste, Energy and Water Regulatory Authority and expanding its scope with responsibilities over water services and urban waste management, strengthening water policy -</p> <p>Modernization of the legislation on the use and production of electricity from renewable sources through the integration of EU Directives 2018/2001 and 2019/944 - More specific provisions for renewable energy sources and environmental protection.</p>
<b>Contact information</b>	
Postal Address	ZEP Area (ZoATP)
Postal Code	50100
City	Kozani
Country	Greece
Web page	<a href="http://www.apdhp-dm.gov.gr">http://www.apdhp-dm.gov.gr</a>
Contact	Phone: 2461 350248 e-mail: dydaton.dm@apdhp-dm.gov.gr
Official Name	
D.A. of Macedonia - Thrace Directorate of Waters of Central Macedonia	
Acronym	DoWoCM
Legal Status	Organic Unit of the Decentralized Administration of Macedonia - Thrace It comes under the General Directorate of Spatial, Environmental and Agricultural Policy.
<b>Creation Provisions and Definition of Responsibilities</b>	<p>Law 3199/2003 (Government Gazette A' 280) on Water Protection and Management</p> <p>Law 3852/2010 (A' 87) Kallikratis Program, as amended and in force</p> <p>Law 4117/2013 (Government Gazette A'29) - Article 5 Matters of water pricing policy and other provisions, as amended and in force with par. 1 of art. 33 of Law 4258/2014 (Official Gazette A' 94)</p> <p>P.D. 142/2010 (Government Gazette A' 235) Organization of the Decentralized Administration of Macedonia-Thrace.</p> <p>Law 5037/2023 (Government Gazette A' 78) on the renaming of the Energy Regulatory Authority to the Waste, Energy and Water Regulatory Authority and expanding its scope with responsibilities over water services and municipal waste management, strengthening the water policy - Modernization of legislation for the use and production of electricity from renewable sources through the integration of EU Directives 2018/2001 and 2019/944 - More specific provisions for renewable energy sources and environmental protection.</p>
<b>Contact information</b>	
Postal Address	Georgikis Sxolis Av 32,
Postal Code	55134
City	Thessaloniki
Country	Greece
Web page	<a href="http://www.damt.gov.gr">http://www.damt.gov.gr</a> <a href="http://dydaton.damt.gov.gr">http://dydaton.damt.gov.gr</a>

Official Name	D.A. of Epirus – Western Macedonia Directorate of Waters of Western Macedonia
Contact	Phone: 2313 309441, 2313 309483, 2313 309488 e-mail: dy-km@damt.gov.gr

In addition, in matters of implementation of the Directive 2000/60/EC, the OTAs of Grade A and Grade B are involved at the Regional Level.

### 3.3.2 Shared Competence in Aliakmon River Basin

The National Water Commission with the no. 706/16.07.2010 Decision (Government Gazette 1383/B/2010 and in particular in its Annex II, as amended by 1572/B/2010), defined the competent, then state, Regions per River Basin in each Watershed Apartment of the country.

Thus, for the WD EL09, it follows that:

- For the Prespes River Basin (with code EL0901), the Region of Western Macedonia is responsible at the Regional level, while the Decentralized Administration of Epirus-Western Macedonia is responsible at the Decentralized Administration level, whose responsibilities are exercised by the Water Directorate of Western Macedonia.
- For the Aliakmonas River Basin (with code EL0902), at the Region level, the Regions of Western and Central Macedonia are jointly responsible. At the level of Decentralized Administration, co-competent authorities are the Decentralized Administration of Epirus-Western Macedonia and the Decentralized Administration of Macedonia-Thrace, the responsibilities of which are respectively exercised by the Water Directorates of Western and Central Macedonia.

**Table 3-3: River basins and Competent Decentralized Administration**

RB Code	RB Name	Regions that geographically extend within the boundaries of River Basins	Competent Decentralized Administration, According to Official Gazette B' 1383, 1572/2010 and Law 3852/2010
EL0901	Prespes	Western Macedonia (98,08%) Central Macedonia (1,92%)	Epirus – Western Macedonia
EL0902	Aliakmon	Western Macedonia (61,77%) Central Macedonia (36,26%) Thessaly (1,51%) Epirus (0,46%)	Epirus – Western Macedonia/ Macedonia - Thrace

According to JMD No. 146896/14 (Government Gazette 2878 B/27-10-2014-Corrected error in 3142 B/21-11-14): "Categories of permits for use and execution of water utilization projects. Procedure and conditions for the issuance of permits, their content and duration of validity and other relevant provisions" article 3 par.1.1, in the cases of competence of Decentralized Administrations on a common river basin, the permit for the execution of a water resources exploitation and/or water use project is issued by the General Secretary of the Decentralized Administration, in whose administrative boundaries the water abstraction point falls after the agreement of the co-competent Water Directorates of the other Decentralized Administrations.

With joint decisions of the General Secretaries of the co-competent Decentralized Administrations, their mode of cooperation is determined in more detail. In the case of private water abstraction projects, the above permits are to be issued by the Secretary of the Decentralized Administration, in whose administrative boundaries the water abstraction point falls, with notification to the co-competent Water Directorate

## 4 DESIGNATION AND CLASSIFICATION OF WATER BODIES

### 4.1 Surface Water Bodies (SWB)

According to Directive 2000/60/EC (Article 2, par. 1) the characterization and definition of surface waters initially aims at the identification of surface water systems and their classification into 4 categories:

- **Rivers:** Inland water systems that flow mostly on the surface of the ground but may for part of their course flow underground.
- **Lakes:** Systems of stagnant inland water
- **Transitional waters:** Surface water systems near estuaries which are partly saline due to their proximity to coastal waters but which may be substantially influenced by freshwater currents.
- **Coastal:** The surface waters lying on the landward side of a line every point of which is within one nautical mile seaward of the nearest point of the baseline from which the extent of the territorial waters is measured and which, where applicable, extends to the outer limit of transitional waters.

Regarding the distinctiveness of a surface water system, the relevant guidance text states that: "For a surface water system to be a distinct surface water feature, it must not overlap with one another or consist of non-contiguous surface water features" .

In particular, in the context of the 2<sup>nd</sup> Revision, five (5) river water bodies were added to the WD of Western Macedonia (EL09) and therefore the water bodies amount to one hundred and seventy four (174) surface water bodies in relation to those identified in the 1<sup>st</sup> Management Plan as well as the 1<sup>st</sup> Revision of the Plan.

The distribution of WBs in the WD and also by RB is summarized in the following table.

**Table 4-1: Number of Surface WBs in the WD of Western Macedonia (EL09) per RB.**

Type of WB	RB of WD		WD Total
	Prespes RB (EL0901)	Aliakmon RB (EL0902)	
River WB	22	133	155
Lake WB and Reservoirs	4	11	15
Transitional WB	0	2	2
Coastal WB	0	2	2
<b>Total of Water Bodies</b>	<b>26</b>	<b>148</b>	<b>174</b>

All of the surface water systems are presented in the following sections, based on the new typology (mainly for River WB) finalized in the context of the 2<sup>nd</sup> Revision.

#### 4.1.1 River Water Bodies

The river Water Systems of the WD of Western Macedonia (EL09) as well as their new typology are presented by River Basin (RB) in the following table and Map.

Table 4-2: River WB and new typology according to the European Decision 2018/229/E3 and MED GIG, for each RB of the Western Macedonia WD (EL09)

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
<b>Prespes RB (EL0901)</b>							
1	Paliorema (Ag. Germanos)	EL0901R000001018N	NAT	2,60	1,7	65,5	R-M1
2	Ag. Germanos (Stara rema)	EL0901R000001019N	NAT	5,18	18,2	63,81	R-M1
3	Kaloneri	EL0901R000001020N	NAT	8,35	25,87	25,87	R-M1
4	Syrakio	EL0901R000002021N	NAT	6,79	19,74	19,73	R-M1
5	Lygkos	EL0901R0F0201001N	NAT	5,01	113,71	862,65	R-M2
6	Kallinikiotiko	EL0901R0F0202002N	NAT	3,76	13,01	116,9	R-M2
7	Kallinikiotiko	EL0901R0F0202003N	NAT	10,00	61,19	103,89	R-M2
8	Kallinikiotiko	EL0901R0F0202004N	NAT	2,50	42,7	42,7	R-M1
9	Lygkos	EL0901R0F0203005N	NAT	5,47	10,65	632,01	R-M2
10	Paleo	EL0901R0F0204006N	NAT	11,98	44,94	177,64	R-M2
11	Paleo	EL0901R0F0204007N	NAT	10,00	56,24	132,72	R-M2
12	Lygkos	EL0901R0F0205008N	NAT	6,29	198,94	443,72	R-M2
13	Florinis	EL0901R0F0206011N	NAT	1,03	1,14	141,67	R-M2
14	Tropeouxos	EL0901R0F0206012N	NAT	6,65	35,39	87,73	R-M1
15	Tropeouxos	EL0901R0F0206013N	NAT	5,00	52,35	52,35	R-M1
16	Florinis	EL0901R0F0206109N	NAT	3,65	3,75	52,8	R-M1
17	Florinis	EL0901R0F0206110H	HMWB	2,12	5,26	47,54	R-M1
18	Florinis	EL0901R0F0206111N	NAT	5,00	43,79	43,79	R-M1
19	Melpe	EL0901R0F0207014N	NAT	7,15	47,76	103,1	R-M2
20	Melpe	EL0901R0F0207015N	NAT	2,50	2,62	55,34	R-M1
21	Asprorema (downstream of Triantafyllia Dam)	EL0901R0F0208016N	NAT	1,80	11,06	11,06	R-M1
22	Drosopigiotiko	EL0901R0F0209017N	NAT	7,28	41,67	41,67	R-M1

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
<b>Aliakmon RB (EL0902)</b>							
23	Koilada (Soulou)	EL0902R0000010122N	NAT	24,76	851,13	1394,16	R-M4
24	Soulou (Mines)	EL0902R0000010123H	HMWB	14,26	169,44	543,02	R-M2
25	Soulou (Sari Giol)	EL0902R0000010124A	AWB	8	373,59	373,59	R-M2
26	Petron – Vegoritida Cnal	EL0902R0000010125A	AWB	2,64	1,61	0	R-M1
27	Amyntas	EL0902R0000010126N	NAT	7,25	54,13	252,43	R-M4
28	Cheimaditida Canal	EL0902R0000010127H	HMWB	7,62	66,82	198,29	R-M2
29	Zazari – Cheimaditida Canal	EL0902R0000010128A	AWB	2,24	1,38	0	R-M1
30	Sklithro	EL0902R0000010129H	HMWB	6,92	94,97	94,97	R-M1
31	Rema Korinos (Morphologically altered)	EL0902R0001000114H	HMWB	3,97	4,85	60,13	R-M5
32	Rema Katerini	EL0902R0001000115N	NAT	23,84	55,25	55,25	R-M1
33	Aliakmonas (Krasopouli to Delta)	EL0902R0002010003H	HMWB	20,28	27,15	8686,36	R-M3
34	Kryoneri (Morphologically altered)	EL0902R0002020001H	HMWB	7,96	10,92	77,5	R-M5
35	Kerasies (Kryoneri stream)	EL0902R0002020002N	NAT	18	66,59	66,59	R-M5
36	Aliakmon (T66 - Krasopouli)	EL0902R0002030007H	HMWB	8,63	14,41	8525,21	R-L2
37	Aliakmon (T66 - Krasopouli)	EL0902R0002030008H	HMWB	7,5	84,58	8510,8	R-M3
38	Krasopouli (Morphologically altered – Old Bed)	EL0902R0002040004H	HMWB	6,26	30,1	45,3	R-M2
39	Krasopouli (Morphologically altered – Old Bed)	EL0902R0002040005H	HMWB	5	15,2	15,2	R-M2
40	Krasopouli	EL0902R0002040006N	NAT	16,73	88,7	88,7	R-M1
41	Krasopouli (Morphologically altered – New Bed)	EL0902R0002040007H	HMWB	6,39	70,1	158,8	R-M2
42	Aliakmon (Aliakmon - T66)	EL0902R0002050009H	HMWB	5,98	12,31	6105,82	R-M3
43	Aliakmon (Aliakmon - T66)	EL0902R0002050010H	HMWB	5,63	42,17	6093,51	R-M3
44	Perifereiaki Tafros (T66)	EL0902R0002060079A	AWB	8,59	44,85	2320,4	R-M3
45	Perifereiaki Tafros (T66)	EL0902R0002060081A	AWB	7,12	40,69	2063,51	R-M3
46	Perifereiaki Tafros (T66)	EL0902R0002060083A	AWB	5,85	1,54	1888,54	R-M3

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
47	Perifereiaki Tafros (T66)	EL0902R0002060086A	AWB	9,52	30,48	1591,1	R-M3
48	Perifereiaki Tafros (T66)	EL0902R0002060088A	AWB	1,47	0,23	1505,64	R-M3
49	Perifereiaki Tafros (T66)	EL0902R0002060095A	AWB	1,68	0,34	1201,02	R-M3
50	Perifereiaki Tafros (T66)	EL0902R0002060100A	AWB	9,06	151,2	151,27	R-M2
51	Tripotamos	EL0902R0002061080N	NAT	16,07	212,05	212,05	R-M2
52	Konticha	EL0902R0002062082N	NAT	22,94	134,28	134,28	R-M2
53	Arapitsas	EL0902R0002063084N	NAT	19,34	185,63	295,89	R-M2
54	Arapitsas	EL0902R0002063085N	NAT	10	110,26	110,26	R-M4
55	Lianorema	EL0902R0002064087N	NAT	16,85	54,98	54,98	R-M1
56	Edeseos (Skydra part)	EL0902R0002065089H	HMWB	4,98	12,44	304,39	R-M2
57	Edeseos (Vodas)	EL0902R0002065090N	NAT	5,66	121,31	291,95	R-M4
58	Edeseos (hydroelectric station part)	EL0902R0002065091H	HMWB	4,47	43,41	170,64	R-M2
59	Edeseos (Groundwater diversion)	EL0902R0002065092H	HMWB	2,19	0,66	0	R-M1
60	Edeseos (diversion towards hydroelectric station)	EL0902R0002065093H	HMWB	1,53	43,77	127,22	R-M1
61	Edeseos (Agra part)	EL0902R0002065094H	HMWB	7,08	83,45	83,45	R-M1
62	Mavropotamos	EL0902R0002066096N	NAT	2,5	10,99	1049,4	R-M3
63	Mavropotamos	EL0902R0002066097N	NAT	23,67	225,77	1038,41	R-M3
64	Megalo Rema (Karavidia)	EL0902R0002066098N	NAT	127,0 1	777,16	812,65	R-M2
65	Aspropotamos	EL0902R0002066099N	NAT	7,02	35,6	35,54	R-M1
66	Aliakmon (Polyfyto – Sfikia)	EL0902R0002070011H	HMWB	4,46	22,62	5812,18	R-M3
67	Skoularitikos Lakkos	EL0902R0002080012N	NAT	3,61	3,96	33,04	R-M1
68	Skoularitikos Lakkos	EL0902R0002080013N	NAT	2,5	29,08	29,08	R-M1
69	Aliakmon	EL0902R0002090024N	NAT	9,59	66,95	4274,7	R-M3
70	Ftelias	EL0902R0002100014N	NAT	15	81,91	114,24	R-M5

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
71	Ftelias	EL0902R0002100015N	NAT	6,01	32,33	32,33	R-M1
72	Aliakmon	EL0902R0002110036N	NAT	3,14	6,53	3351,48	R-M3
73	Agiou Markou	EL0902R0002120016N	NAT	4,7	39,87	39,87	R-M5
74	Aikaterinis Lakkos	EL0902R0002120017N	NAT	8,92	46,4	46,22	R-M1
75	Aliakmon	EL0902R0002130038N	NAT	6,22	35,42	3272,58	R-M3
76	Aliakmon	EL0902R0002150040N	NAT	10,31	25,99	3057,25	R-M3
77	Smiksi	EL0902R0002160018N	NAT	5,55	114,77	114,98	R-M2
78	Aliakmon	EL0902R0002170044N	NAT	3,42	7,01	2951,78	R-M3
79	Vintsa	EL0902R0002180019N	NAT	7,14	35,24	35,24	R-M1
80	Aliakmon	EL0902R0002190047N	NAT	10,59	58,87	2858,17	R-M3
81	Aliakmon	EL0902R0002190048N	NAT	10,49	84,36	2799,3	R-M3
82	Akoniou Lakkos	EL0902R0002200020N	NAT	5,68	44,42	44,42	R-M1
83	Aliakmon	EL0902R0002210054N	NAT	8,86	100,99	2297,97	R-M4
84	Karavida	EL0902R0002220021N	NAT	7,29	35,26	35,26	R-M1
85	Aliakmon	EL0902R0002230056N	NAT	8,28	61,54	2068,51	R-M3
86	Aliakmon	EL0902R0002230057N	NAT	11,34	127,24	2006,97	R-M3
87	Potamia	EL0902R0002240022N	NAT	6,25	50,78	50,78	R-M1
88	Sioutsa	EL0902R0002240023N	NAT	8,55	105,77	105,75	R-M2
89	Aliakmon	EL0902R0002250059N	NAT	13,53	35,47	1788,53	R-M4
90	Aliakmon	EL0902R0002270063N	NAT	1,39	0,95	1441,4	R-M3
91	Venetikos	EL0902R0002280025N	NAT	22,4	107,98	856,26	R-M2
92	Venetikos	EL0902R0002280029N	NAT	12,56	61	547,11	R-M2
93	Venetikos	EL0902R0002280034N	NAT	14,13	63,48	200,4	R-M2
94	Venetikos	EL0902R0002280035N	NAT	20,68	136,93	136,93	R-M2
95	Koutsafira	EL0902R0002281026N	NAT	5,28	8,4	201,17	R-M2

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
96	Stavropotamos	EL0902R0002281027N	NAT	12,62	114,59	114,59	R-M2
97	Koutsafira	EL0902R0002281028N	NAT	12,6	78,13	78,18	R-M1
98	Venetikos	EL0902R0002282030N	NAT	8,41	29,4	285,71	R-M2
99	Venetikos	EL0902R0002282031N	NAT	1,69	4,32	256,3	R-M2
100	Venetikos	EL0902R0002282032N	NAT	27,99	150,11	150,14	R-M2
101	Aspropotamos	EL0902R0002282033N	NAT	22,78	101,83	101,84	R-M2
102	Aliakmon	EL0902R0002290067N	NAT	8,94	57,31	1229,09	R-M3
103	Potamia	EL0902R0002300037N	NAT	14,6	72,36	72,36	R-M1
104	Aliakmon	EL0902R0002310070N	NAT	6,01	22,6	1021,47	R-M3
105	Greveniotikos	EL0902R0002320039N	NAT	27,02	179,91	179,91	R-M2
106	Aliakmon	EL0902R0002330074N	NAT	7,14	18,42	626,73	R-M2
107	Ntroumpeta	EL0902R0002340041N	NAT	3,34	10,67	79,49	R-M1
108	Lyssasmenis	EL0902R0002340042N	NAT	6,21	31,74	31,74	R-M1
109	Potamia	EL0902R0002341043N	NAT	4,76	37,08	37,08	R-M1
110	Aliakmon	EL0902R0002350077N	NAT	3,04	17,17	411,17	R-M2
111	Aliakmon	EL0902R0002350078N	NAT	43,52	394	394	R-M2
112	Mylopotamos	EL0902R0002360045N	NAT	6,14	78,39	86,6	R-M1
113	Mylopotamos	EL0902R0002360046N	NAT	2,5	8,22	8,22	R-M1
114	Pramoritsa	EL0902R0002380049N	NAT	22,11	120,31	416,97	R-M2
115	Pramoritsa	EL0902R0002380050N	NAT	20,52	94,32	296,66	R-M2
116	Koutsomilia	EL0902R0002380051N	NAT	12,46	31,71	96,11	R-M1
117	Koutsomilia	EL0902R0002380052N	NAT	5,59	59,26	59,26	R-M1
118	Paleoxwri	EL0902R0002381053N	NAT	11,79	106,23	106,23	R-M2
119	Myrixos	EL0902R0002400055N	NAT	11,25	128,47	128,47	R-M2
120	Poros	EL0902R0002420058N	NAT	9,56	91,21	91,21	R-M1

s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
121	Gkiole	EL0902R0002440060N	NAT	4,53	15,52	311,66	R-M4
122	Gkiole	EL0902R0002440061N	NAT	5	29,05	296,14	R-M2
123	Xiropotamos	EL0902R0002440062N	NAT	11,67	100,46	100,46	R-M5
124	Velas	EL0902R0002460064N	NAT	13,38	45,19	211,37	R-M2
125	Velas	EL0902R0002460065N	NAT	19,59	124,07	166,18	R-M4
126	Velas	EL0902R0002460066N	NAT	7,5	42,11	42,11	R-M4
127	Stravopotamos	EL0902R0002480068N	NAT	15,73	55,37	150,31	R-M2
128	Stravopotamos	EL0902R0002480069N	NAT	7,5	94,95	94,95	R-M4
129	Aliakmon	EL0902R0002500071N	NAT	11,85	23,51	372,14	R-M2
130	Aliakmon	EL0902R0002500072N	NAT	34,32	237,01	348,63	R-M4
131	Aliakmon	EL0902R0002500073N	NAT	10,68	111,62	111,62	R-M2
132	Vroxopotamos	EL0902R0002520075N	NAT	10	66,26	197,14	R-M2
133	Vroxopotamos	EL0902R0002520076N	NAT	14,58	130,7	130,88	R-M2
134	Chelopotamos	EL0902R0003000116H	HMWB	6,8	18,34	65,06	R-M2
135	Ksirolakki	EL0902R0003000117N	NAT	20,32	239,29	239,35	R-M2
136	Ksirolakki (Diversion)	EL0902R0004011116H	HMWB	5,2	17,92	225,42	R-M2
137	Mavroneri (Morphologically altered)	EL0902R0004010102H	HMWB	4,44	14,84	590,27	R-M2
138	Mavroneri	EL0902R0004010103N	NAT	6,32	31,64	575,35	R-M2
139	Mavroneri P.	EL0902R0004010104N	NAT	3,32	4,28	575,35	R-M2
140	Pelekas	EL0902R0004020104N	NAT	6,55	19,31	227,88	R-M2
141	Pelekas	EL0902R0004020105N	NAT	23,78	135,76	135,76	R-M2
142	Patsiaris	EL0902R0004021106N	NAT	17,05	72,81	72,81	R-M1
143	Mavroneri	EL0902R0004030107N	NAT	14,44	46,4	315,83	R-M2
144	Pisteries	EL0902R0004040108N	NAT	12,18	42,34	64,79	R-M1
145	Pisteries	EL0902R0004040109N	NAT	7,5	22,45	22,45	R-M1

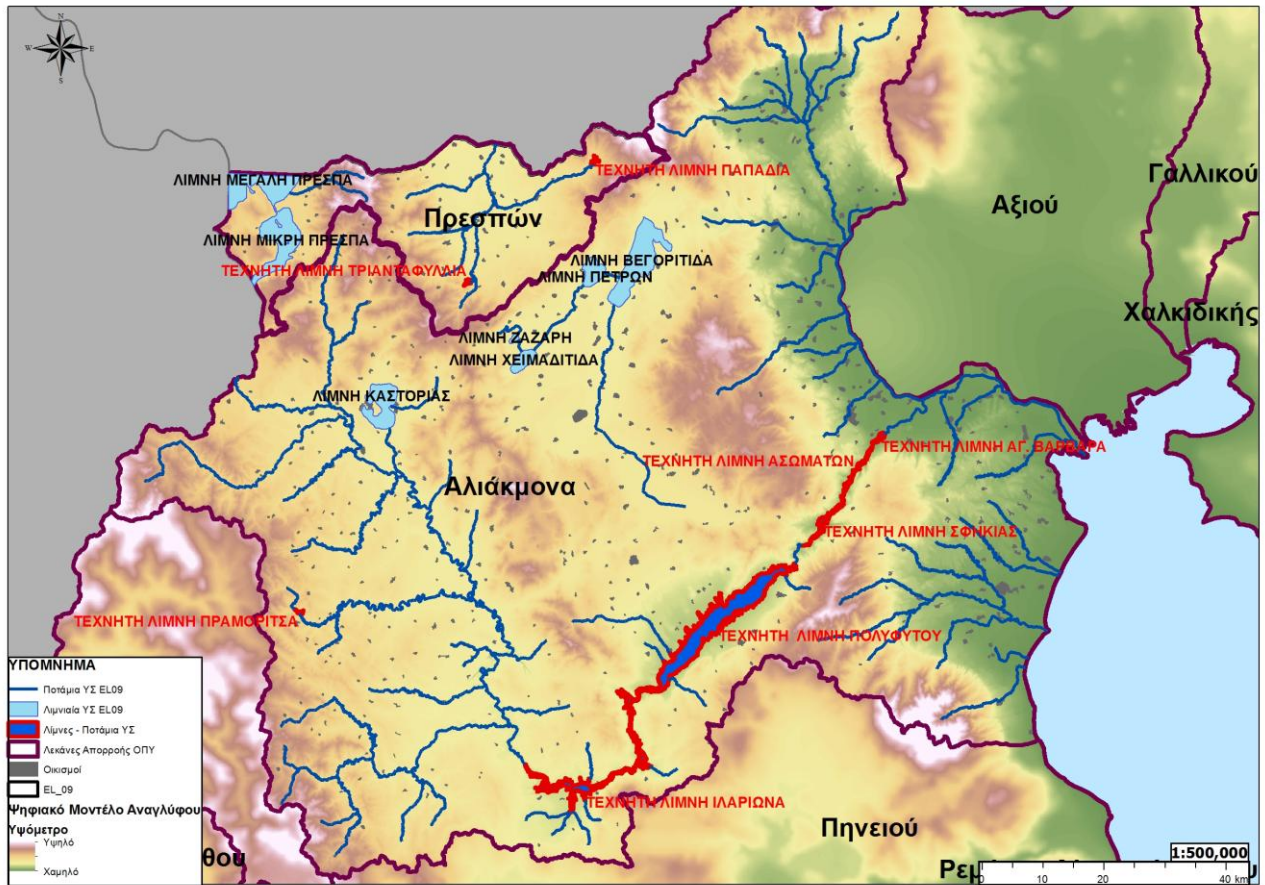
s/n (Map 4-2)	WB Name	WB Code	Category	Length (km)	Direct River Basin (km <sup>2</sup> )	Accumulated River Basin(km <sup>2</sup> )	WB Type
146	Mavroneri	EL0902R0004050110N	NAT	3,5	25,44	204,64	R-M2
147	Petriwtikos	EL0902R0004060111N	NAT	14,12	65,1	65,04	R-M1
148	Mavroneri	EL0902R0004070112N	NAT	12,76	31,08	114,17	R-M2
149	Mavroneri	EL0902R0004070113N	NAT	7,5	83,16	83,08	R-M1
150	Rema Manna (Morphologically altered)	EL0902R0005000118H	HMWB	1,34	51,36	105,79	R-M2
151	Mavrologgos	EL0902R0005000119N	NAT	6,87	7,68	54,34	R-M1
152	Mavrologgos	EL0902R0005000120N	NAT	7,18	11,16	46,66	R-M4
153	Mavrologgos	EL0902R0005000121N	NAT	5	35,46	35,5	R-M4
154	Lakkos R. (Arranged section)	EL0902R0007000130H	HMWB	5,1	6,63	69,44	R-M1
155	Lakkos R.	EL0902R0007000131N	NAT	16,5	62,81	69,44	R-M1

#### 4.1.2 Lake Water Bodies

The following table and corresponding map show the natural lake water systems and reservoirs of the Western Macedonia WD (EL09) with the new typology.

**Table 4-3: Reservoirs based on new typology in per RB and in the whole Western Macedonia WD (EL09) area**

s/n	WB Name	WB Code	Category	Area (km <sup>2</sup> )	WB Type
<b>Prespes RB (EL0901)</b>					
1	Megali Prespa	EL0901LFA0000014N	NAT	281,68 (38,64 Hellas)	GR-DNL
2	Mikri Prespa	EL0901L0A0000013N	NAT	47,38 (42,9 Hellas)	GR-SNL
3	AL Papadia	EL0901L000000001H	HMWB	0,58	L-M 5/7
4	AL Triantafyllia	EL0901L000000002H	HMWB	0,56	L-M 5/7
<b>Aliakmon RB (EL0902)</b>					
5	Vegoritida	EL0902L000000005N	NAT	53,96	GR-DNL
6	Zazari	EL0902L000000002N	NAT	1,7	GR-SNL
7	Kastorias	EL0902L000000012H	HMWB	28,84	GR-SNL
8	Cheimaditida	EL0902L000000003N	NAT	9,57	GR-VSNL
9	Petron	EL0902L000000004N	NAT	12,36	GR-VSNL
10	AL Ilariona	EL0902L000000010H	HMWB	24,92	L-M 5/7
11	AL Polyfytou	EL0902L000000009H	HMWB	74,70	L-M 8
12	AL Sfikia	EL0902L000000008H	HMWB	4,41	L-M 8
13	AL Asomaton	EL0902L000000007H	HMWB	2,62	L-M 8
14	AL Ag. Varvara	EL0902L000000006H	HMWB	1,34	GR-SR
15	AL Pramoritza	EL0902L000000011H	HMWB	0,30	L-M 5/7
NAT: NATURAL WBS, HMWB: HEAVILY MODIFIED WB, AWB: ARTIFICIAL WB					



Maps 4-1: River WB and lake WB in WD EL09.

#### 4.1.3 Transitional Water Bodies

In the Western Macedonia WD (EL09), with regard to the Prespes RB (EL0901) there are no transitional WBs. In the Aliakmon RB there are two (2) transitional WB, the Ekvoliko Sistima Loudia – Aliakmona and the Limnothalassa Kitrous, which are presented in the following table and on Map 4-2. According to the typology of transitional water bodies, the first is included in the category Estuaries / river deltas (TW-2) and the second in the category Lagoons (TW-1).

Tables 4-4: Transitional WB per RB of Western Macedonia WD (EL09)

s/n	WB Name	WB Code	Category	Area (km <sup>2</sup> )	WB Type
<b>Aliakmon RB (EL0902)</b>					
1	EL0902T000000001N	Ekvoliko Sistima Loudia - Aliakmona	NAT	33,23	TW-2
2	EL0902T000000002N	Limnothalassa Kitrous	NAT	4,5	TW-1
NAT: Natural WB, HMWB: Heavily Modified Water Bodies, AWB: Artificial Water Bodies					

#### 4.1.4 Coastal Water Bodies

In the WD of Western Macedonia (EL09), with regard to the RB of Prespes (EL0901) there are no coastal WBs. In the Aliakmonas RB there are two (2) coastal WBs, the Ekso Thermaikos Kolpos – Paralia Katerinis and the Eso Thermaikos Kolpos - Aliakmonas Potamos, which are shown in the following table and map.

Table 4-5: Coastal WBs in the Western Macedonia WD (EL09)

s/n	WB Name	WB Code	Category	Area (km <sup>2</sup> )	WB Type
<b>Aliakmon RB (EL0902)</b>					
1	Ekso Thermaikos Kolpos – Paralia Katerinis	EL0902C0001N	NAT	1.014,22	IIIE
2	Eso Thermaikos Kolpos – Aliakmonas Potamos	EL0902C0002N	NAT	112,92	IIIE
NAT: Natural WB, HMWB: Heavily Modified Water Bodies, AWB: Artificial Water Bodies					



Map 4-2: Surface Water Bodies and typology in Western Macedonia WD (EL09)

## 4.2 Groundwater Bodies

Within the framework of the 2<sup>nd</sup> Revision of the RBMP of the Water District of Western Macedonia (EL09), the differences / variations on the Groundwater Bodies were reviewed.

The main differences in the GWB in relation to the 1<sup>st</sup> Revision of the Management Plan concern the following:

- In the context of the 2<sup>nd</sup> Revision of the Western Macedonia Water Management Plan, the term Groundwater Body (GWB) is used for all GWB regardless of their capacity and size.
- The integration of the five subsystems developed in the Grevena basin was adopted (EL0900030: Porous of the Grevena Basin, EL0900031: granular of Grevena, EL0900032: granular of Kalonerio Kozani, EL0900033: granular of Pylorio Kozani, EL0900034: granular of Agios Georgios, EL0900035: granular bed of Venice) in one system : granular GWB of Grevena Basin (EL0900036). This integration does not affect the ranking (qualitative and quantitative) of the systems in question.
- The consolidation of the two subsystems developed in the lowland part of Kastoria (granular subsystem of Kastoria: EL0900021, granular system of Kastoria: EL0900020) into a single one with code EL0900023 was adopted.

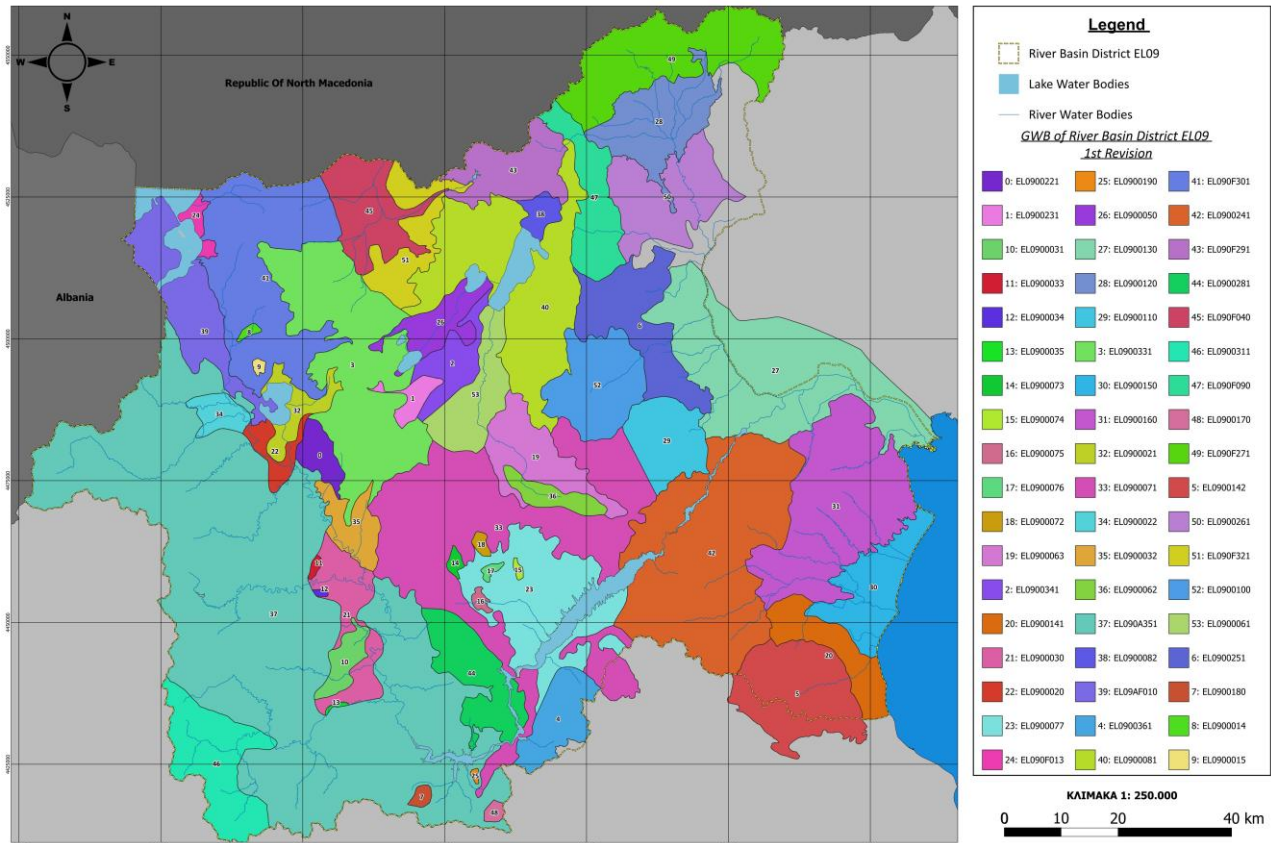
The following Table presents the forty-eight (48) GWB of the Western Macedonia Ministry (EL09), as they emerged after the adoption of the above amendments. The systems that are consolidated are given, in the following table, in distinct font and without numbering:

**Table 4-6: Groundwater Bodies of Western Macedonia WD (EL09)**

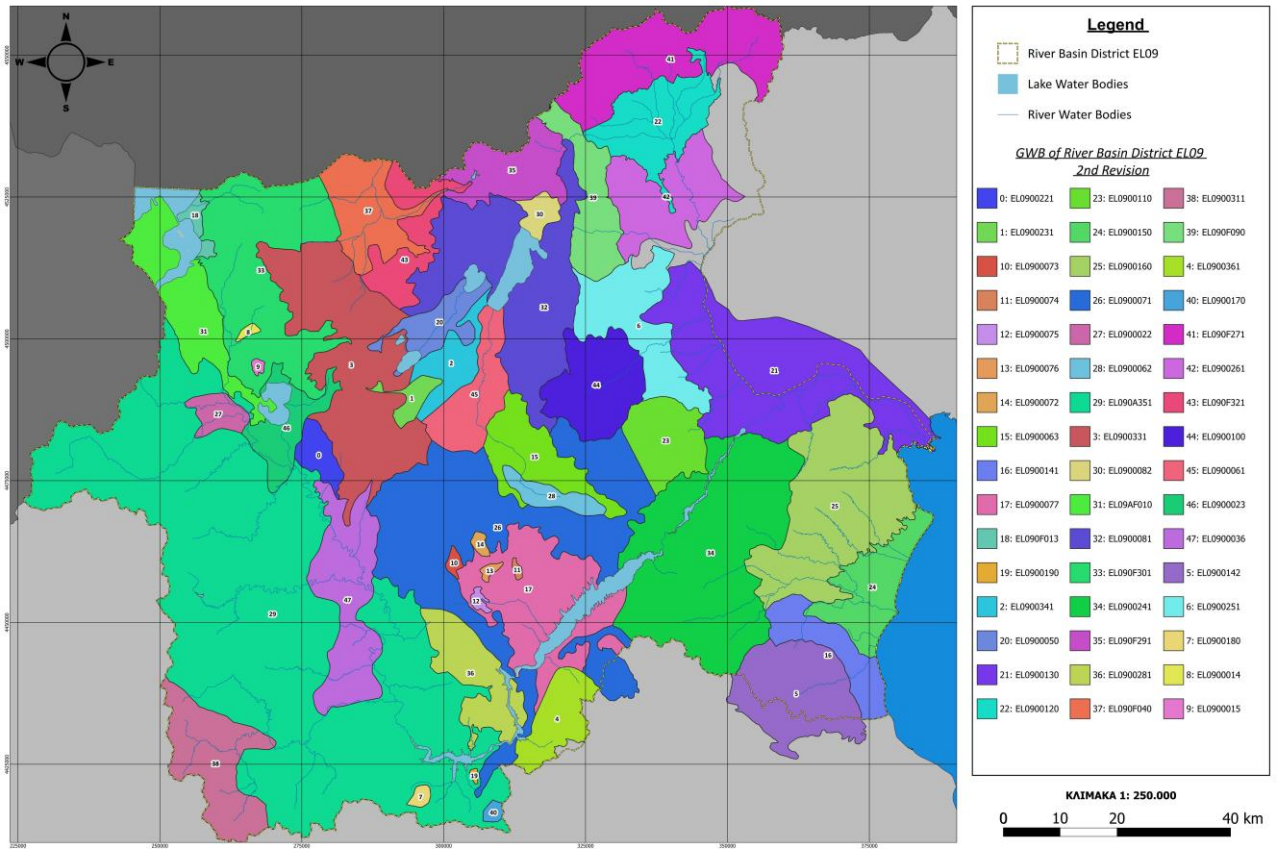
s/n	Groundwater Body Name	GWB Code	Area (km <sup>2</sup> )
<b>Prespes RB</b>			
1	Porodes Systima Prespon	EL09AF013	24,84
2	Porodes Systima Florinas	EL090F040	214,05
3	Rogmodes Systima Vora	EL090F291	192,33
4	Porodes Systima Vevis-Flampourou	EL090F321	162,55
<b>Aliakmon RB</b>			
1	Karstiko Systima Triklariou Orous	EL09AF010	256,43
2	Porodes Systima Chalaras Mavrokampou	EL0900014	6,38
3	Karstiko Systima Aposkepou Kefalariou	EL0900015	5,10
4	Porodes Systima Kastorias	EL0900023	126,78
	<i>Porodes Yposystima Kastorias</i>	<i>EL0900021</i>	<i>71,11</i>
	<i>Porodes Systima Kastorias</i>	<i>EL0900020</i>	<i>55,67</i>
5	Porodes Systima Mesopotamias - Chiliodendrou	EL0900022	57,71
6	Porodes Systima Grevenon	EL0900036	324,46
	Porodes Lekanis Grevenon	<i>EL0900030</i>	<i>162,64</i>
	<i>Porodes Yposystima Grevenon</i>	<i>EL0900031</i>	<i>57,81</i>
	<i>Porodes Yposystima Kaloneriou Kozanis</i>	<i>EL0900032</i>	<i>92,80</i>
	<i>Porodes Yposystima Pyloriou Kozanis</i>	<i>EL0900032</i>	<i>5,62</i>

s/n	Groundwater Body Name	GWB Code	Area (km <sup>2</sup> )
	<i>Porodes Yposystima Ag. Gewrgiou</i>	EL0900033	2,73
	<i>Porodes Yposystima Koitis Venetikou</i>	EL0900034	2,82
7	Porodes Systima Amyntaiou Flwrinas	EL0900050	105,44
8	Porodes Systima Ptolemaidas	EL0900061	176,88
9	Porodes Systima Notiou Pediou	EL0900062	60,52
10	Porodes Systima Karyochoriou – Kleitous - Tetralofou	EL0900063	188,98
11	Karstiko Systima ND Vermiou Orous	EL0900071	915,01
12	Porodes Systima Vaterou	EL0900072	9,39
13	Porodes Systima Ksirolimnis	EL0900073	9,93
14	Porodes Systima Krokou	EL0900074	4,35
15	Karstiko Systima Lefkopigis	EL0900075	9,05
16	Karstiko Systima Argilou - Protoxoriou	EL0900076	6,28
17	Porodes Systima Polyfytou	EL0900077	404,41
18	Karstiko Systima VD Vermiou Orous	EL0900081	572,43
19	Porodes Systima Arnissas Pellas	EL0900082	39,23
20	Karstiko Systima VA Vermiou Orous	EL090F090	191,66
21	Karstiko Systima Kentrikou – Anatolikou Vermiou Orous	EL0900100	247,44
22	Karstiko Systima NA Vermiou Orous	EL0900110	174,51
23	Porodes Systima Almopaiou	EL0900120	254,34
24	Porodes Systima Kato Rou Aliakmona	EL0900130	748,42
25	Kokkodes Systima Litochorou	EL0900141	153,05
26	Karstiko Systima Litochorou	EL0900142	213,46
27	Porodes Systima Katerinis	EL0900150	210,87
28	Porodes Systima Kolindrou	EL0900160	600,84
29	Rogmodes Systima Dasochoriou Grevenon	EL0900170	10,62
30	Porodes Systima Trikokkias Grevenon	EL0900180	11,14
31	Porodes Systima Paliourias Grevenon	EL0900190	2,74
32	Karstiko Systima Korisou Kastorias	EL0900221	59,27
33	Porodes Systima Galateias – Emporiou Kozanis	EL0900231	38,84
34	Rogmodes Systima Pierion	EL0900241	856,81
35	Rogmodes Systima Naousas	EL0900251	279,01
36	Rogmodes Systima Almopias	EL0900261	273,14
37	Rogmodes Systima Aridaias	EL090F271	414,03
38	Rogmodes Systima Vorinou	EL0900281	198,69

s/n	Groundwater Body Name	GWB Code	Area (km <sup>2</sup> )
39	Rogmodes Systima Varnounta - Vernou	EL090F301	568,46
40	Rogmodes Systima Voreias Pindou	EL0900311	274,40
41	Rogmodes Systima Nymfaiou Vlastis	EL0900331	656,03
42	Porodes Systima Perdika - Filota	EL0900341	107,30
43	Rogmodes Systima Mesoellinikis Aulakas	EL090A351	2795,64
44	Rogmodes Systima Elatis - Livaderou	EL0900361	140,57



Map 4-3: Western Macedonia WD – Delineation of GWBs according to the 1<sup>st</sup> Revision of the MP



Maps 4-4: Western Macedonia WD – Delineation of GWBs according to the 2<sup>nd</sup> Revision of the MP

### 4.3 Heavily Modified Water Bodies (HMWB) and artificial Water Bodies (AWB)

#### 4.3.1 Methodology of determination of HMWB - AWB

The following table summarizes the number of HMWB and AWB for each WB category as well as their basic characteristics.

Table 4-7: Supervisory picture of the number and coverage of HMWB in the WD (EL09)

	HMWB		AWB	
	Number of WBs	Area length coverage (%)	Number of WBs	Area length coverage (%)
Lake WBs	2	15,34%	-	-
River Water Bodies (along rivers – streams)	24	8,11%	10	3,65%
Reservoirs	8	100%	-	-
Transitional WBs	0	0%	0	0%
Coastal WBs	0	0%	0	0%

#### 4.3.2 River WBs

In the **RB of Prespes** (EL0901) three (3) WBs have been recorded as Specially Modified rivers:

- the section of P. Florini (Sakulevas) that passes through the city of Florina as it is fully arranged and aligned,
- the reservoir (which is considered a river HMWB) of the Papadia AL with a surface of 0.58km<sup>2</sup> and
- the reservoir (which is considered a river HMWB) of AL Triantafyllia with a surface of 0.56km<sup>2</sup>.

In the **Aliakmonas RB** (EL0902) have been identified:

- **twenty-five (25) Specially Modified WB rivers.** Of these eleven (11) are arrangements of streams, mainly in the plain sections to avoid flooding phenomena, eight (8) concern the diversion of streams, with the aim of either the exploitation of Ptolemaida Mines, or the improvement of hydraulic communication between water systems with aimed at better drainage and finally, six (6) are subject to the effect of the series of large dams of the Aliakmonas River and have been settled, six (6) Reservoirs, which have come from the creation of dams.
- **ten (10) artificial WB rivers**, of which two (2) ensure the hydraulic communication between the lakes of the closed basin of Vegoritida facilitating the drainage of old marshy areas, one (1), concerns the drainage of the old Sarigiol marsh and seven (7) are parts of the T66 Trench.

Table 4-8: Heavily Modified River WBs in the Western Macedonia WD (EL09)

S/N	WB Code	WB Name	Type	Length (km)	River Basin (km <sup>2</sup> )	Designated Use
<b>Prespes RB (EL0901)</b>						
1	EL0901R0F0206110H	Florinis P.	R-M1	2,12	5,26	Arrangement
<b>Aliakmon RB (EL0902)</b>						
2	EL0902R0002070011H	Part of Aliakmon P. – between Polyfytou - Sfikias	R-M3	4,46	22,62	Effect of large dams
3	EL0902R0002050009H	Part of Aliakmon downstream of DEI (PEC) (dams as Delta)	R-M3	5,98	12,31	Arrangement - Effect of large dams
4	EL0902R0002050010H		R-M3	5,63	42,17	
5	EL0902R0002030008H		R-M3	7,50	84,58	
6	EL0902R0002030007H		R-L2	8,63	14,41	

S/N	WB Code	WB Name	Type	Length (km)	River Basin (km <sup>2</sup> )	Designated Use
7	EL0902R0002010003H		R-M3	20,28	27,15	
8	EL0902R0002065094H	Edessaïos (Vodas) – Tmima Skydras ygrotopos Agra	R-M1	7,08	83,45	Arrangement
9	EL0902R0002065093H	Edessaïos (Vodas) Section Surface Diversion to HES Agra	R-M1	1,53	43,77	Diversion
10	EL0902R0002065092H	Edessaïos (Vodas) Section Underground Diversion to HES Agra	R-M1	2,19	0,66	Diversion
11	EL0902R0002065091H	Edessaïos (Vodas) P. Section from HES Agra to HES Edessaïon	R-M2	4,47	43,41	Diversion - Arrangement
12	EL0902R0002065089H	Edessaïos (Vodas) P. Diversion of Skydra	R-M2	4,98	12,44	Diversion - Arrangement
13	EL0902R0000010123H	Rema Soulou – Department within Mines	R-M2	14,26	169,44	Diversion - Arrangement
14	EL0902R0000010127H	Kanali Cheimaditis	R-M2	7,62	66,82	Diversion
15	EL0902R0000010129H	Skirthro rema	R-M1	6,92	94,97	Diversion - Chimaditis swamp drainage
16	EL0902R0002040005H	Krasopouli R. (Settled section – Palaia Koiti)	R-M2	5,00	15,2	Arrangement
17	EL0902R0002040004H		R-M2	6,26	30,1	
18	EL0902R0002040007H	Krasopouli R. (Settled section – Nea Koiti)	R-M2	6,48	70,1	Arrangement
19	EL0902R0002020001H	Kryoneri (Settled section)	R-M5	7,96	10,92	Arrangement
20	EL0902R0004011116H	Ksirolakki (Diversion)	R-M2	5,2	17,92	Diversion and Arrangement
21	EL0902R0004010102H	Mavroneri ekvoles	R-M2	4,44	14,84	Arrangement
22	EL0902R0001000114H	Rema Korinou (Settled section)	R-M5	3,97	4,85	Arrangement
23	EL0902R0005000118H	Rema Manna (Settled section)	R-M2	1,34	51,36	Arrangement
24	EL0902R0003000116H	Chelopotamos	R-M2	6,80	18,34	Arrangement
25	EL0902R0007000130H	Lakkos R. (Arranged section)	R-M1	5,1	6,63	Arrangement

Table 4-9: Artificial Water Bodies in the WD (EL09)

WB Code	WB Name	Type	Length (km)	River Basin (km <sup>2</sup> )	Designated Use
<b>Aliakmon RB (EL0902)</b>					
EL0902R0000010125A	Dioryga Petron Vegoritida	R-M1	2,64	1,61	Hydraulic communication of lakes – Improvement of lakes condition
EL0902R0000010128A	Dioryga Zazari Cheimaditida	R-M1	2,24	1,38	Hydraulic communication of lakes – Improvement of lakes condition
EL0902R0000010124A	Rema Soulou (Sarigiol)	R-M2	8,00	373,59	Sarigiol marsh drainage

WB Code	WB Name	Type	Length (km)	River Basin (km <sup>2</sup> )	Designated Use
EL0902R0002060079A	T66	R-M3	8,59	44,85	Drainage of L. Giannitsa
EL0902R0002060081A		R-M3	7,12	40,69	
EL0902R0002060083A		R-M3	5,85	1,54	
EL0902R0002060086A		R-M3	9,52	30,48	
EL0902R0002060088A		R-M3	1,47	0,23	
EL0902R0002060095A		R-M3	1,68	0,34	
EL0902R0002060100A		R-M2	9,06	151,2	

Table 4-10: Reservoirs on the WD of Western Macedonia (EL09)

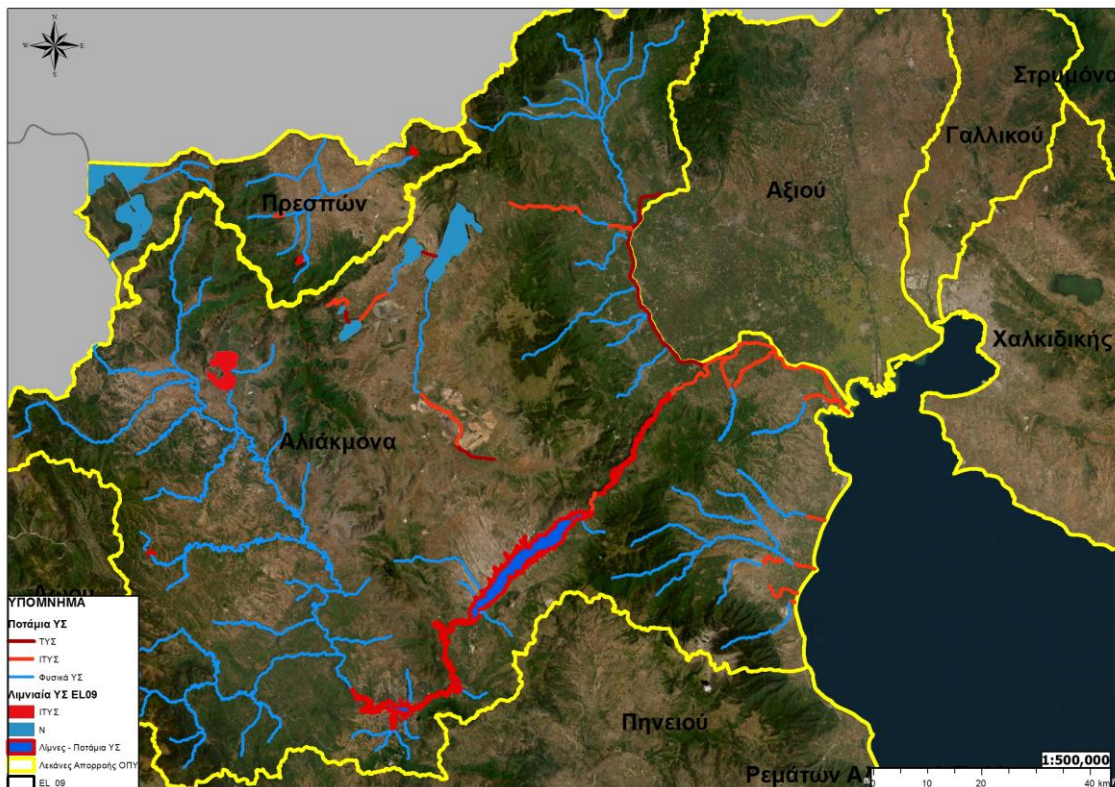
WB Code	WB Name	Type	Area (km <sup>2</sup> )	Designated Use
<b>Prespes RB (EL0901)</b>				
EL0901L000000001H	AL Papadia	L-M 5/7	0,58	Creation of multi-purpose Artificial Lake (AL)
EL0901L000000002H	AL Triantafyllia	L-M 5/7	0,56	Creation of AL for irrigation (water supply in the future) – Networks are not expected to operate within the current management period)
<b>Aliakmon RB (EL0902)</b>				
EL0902L000000010H	AL Ilariona	L-M 5/7	21,9	Creation of multipurpose AL mainly for hydroelectric energy production
EL0902L000000009H	AL Polyfytou	L-M 5/7	74,0	
EL0902L000000008H	AL Sfikias	L-M 5/7	4,3	
EL0902L000000007H	AL Asomaton	L-M 5/7	2,6	
EL0902L000000006H	AL Ag. Varvara	L-M 5/7	1,4	
EL0902L000000011H	AL Pramoritza	L-M 5/7	0,3	

#### 4.3.3 Lake WBs

In the Aliakmon RB, Lake Kastoria has been identified as a Specially Modified Lake WB, which refers to a natural lake, in which there have been man-made interventions on its coast for residential development, as well as interventions on its outlet for flood protection (4-11).

Table 4-11: Heavily Modified Lakes WBs in the WD (EL09)

s/n	WB Code	WB Name	Type	Area (km <sup>2</sup> )	Intervention
<b>Aliakmon RB (EL0902)</b>					
1	EL0902L000000012H	Lake Kastoria	GR-SNL	28,8	Residential development/ Flood protection



Map 4-5: HMWB and AWB in the WD of Western Macedonia (EL09)

#### 4.4 Protected Areas

In accordance with Article 6 of Directive 2000/60/EC, Member States ensure the creation of a register of all areas located inside each RB, which have been characterized as needing special protection based on the specific provisions of Community legislation for the protection of surface and their groundwater or the conservation of water-dependent habitats and species. This Register of Protected Areas includes, in accordance with Annex V of PD 51/2007 (annex IV of Directive 2000/60/EC), the following types of areas:

- Areas intended for abstraction of water for human consumption, in accordance with Article 7.
- Areas intended for the protection of aquatic species of economic importance.
- Water Systems that have been designated as recreational waters, including areas that have been designated as bathing waters, pursuant to Directive 2006/7/EC on bathing waters.
- Areas sensitive to the presence of nutrients, which include areas sensitive to urban waste water according to Directive 91/271/EEC for the treatment of urban waste water, as well as areas characterized as vulnerable zones according to Directive 91/676/EEC for the protection against nitrate pollution.
- Areas designated for the protection of habitats or species when the maintenance or improvement of the water status is important for their protection, including the relevant sites of the "Natura 2000" program, determined by virtue of the Habitats Directives (92/43/ EEC), for birds (2009/147/EC) and 79/409/EEC.

Protected Areas category	Number of Water Bodies related to Protected Areas					
	Rivers	Reservoirs	Lakes	Transitional	Coastal	GWB
Water Abstraction for human consumption	3	3	-	-	-	10

Protected Areas category		Number of Water Bodies related to Protected Areas					
		Rivers	Reservoirs	Lakes	Transitional	Coastal	GWB
Recreation Waters		-	-	-	-	2	-
Sensitive to the presence of nutrients	Vulnerable zones	30	3	1	-	-	23
	Sensitive areas	22	-	1	-	-	-
Habitat or species protection		37	3	7	2	-	-
Protection of aquatic species with economic significance		6	-	-	1	1	-

## 5 PRESSURES AND THEIR IMPACTS

Anthropogenic pressures on water systems are defined as the set of human activities that affect or can affect the water systems of the area in which they are developed. These pressures are characterized as significant since they are a reason for the GWB to be at risk of not achieving the environmental objectives, according to the EU Guidance Document No 03.

Next, data-results of the analysis of anthropogenic pressures that has been carried out, for the needs of the 2<sup>nd</sup> Revision of the RBMPs, are presented in the context of the Annex "Analysis of anthropogenic pressures and their effects on surface and underground water systems". When presenting the pressures, the categorization of the pressures made at the European level based on the EU Guideline No 35 is taken into account.

### 5.1 Point Sources of Pollution

The following table lists the correlation of the point pressures examined based on the common methodology developed at the national level, with the categorization of the pressures made at the European Level, the main factors/activities related to them, as well as a summary of the main results obtained from this analysis.

In the relevant table are given the loads of conventional pollutants which can be quantified as well as the other chemical compounds/elements related to these activities.

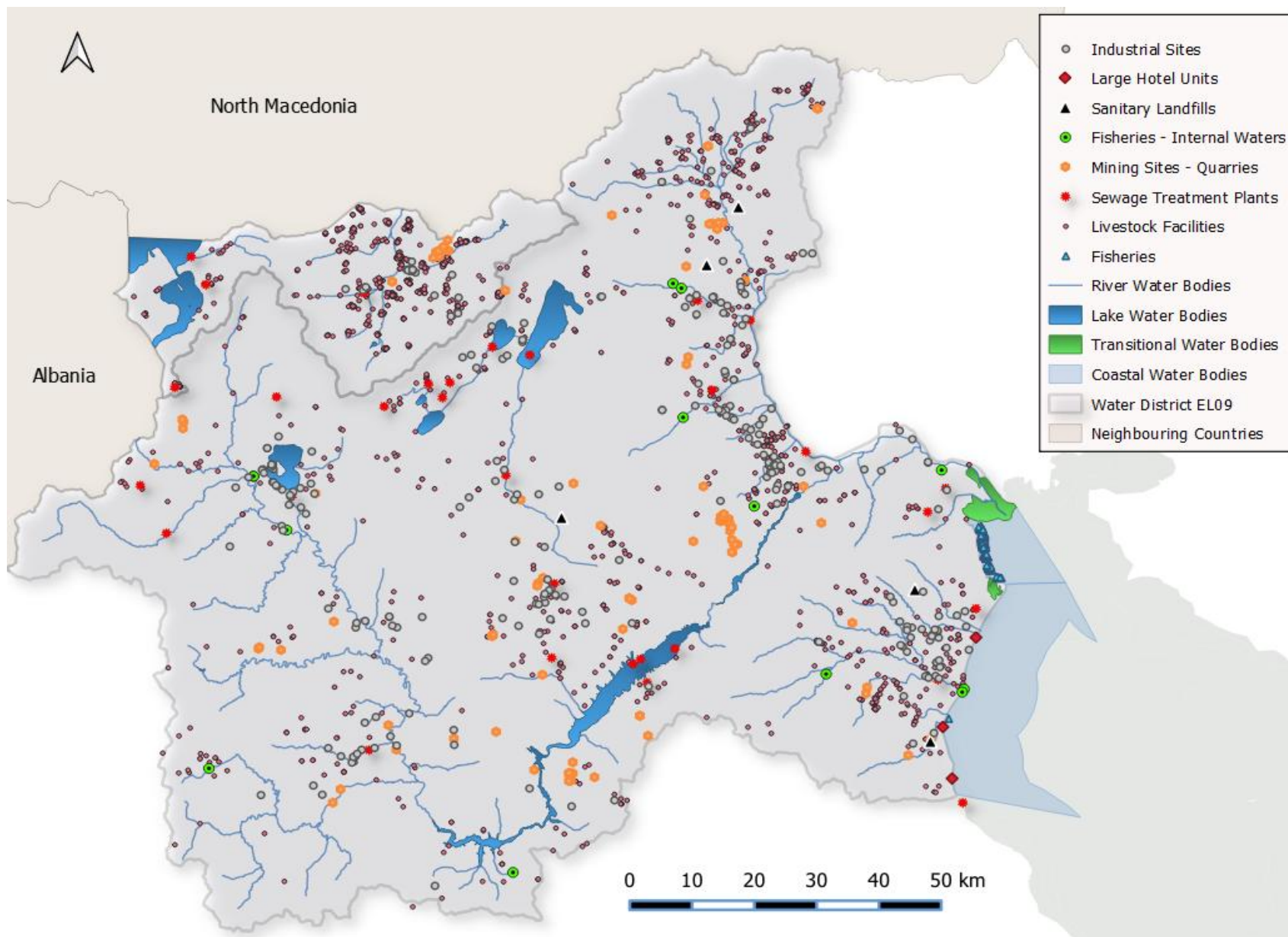
The following map shows the point sources of pollution in the Water District.

**Table 5-1: List of point sources of pressured that were examined**

Pressure that is analyzed based on national methodology	Pressure category based on directory of EU/ Main Factors and activities	Description (Based on directory of EU)	Summary assessment of stress in the WD
<b>Wastewater Treatment Plants (WWTP)</b>	1.1 – Point source - Urban sewage/ Urban development	Units that collect urban and other wastewater, which after treatment is channeled to a neighboring receiver. Significant pressures from WWTPs are understood to be those related to priority settlements within the meaning of Directive 91/271/EEC and the relevant JMD 5673/400/1997.	The implementation of the Urban Wastewater Treatment Directive in the WD is at an advanced stage. BOD, N and P loads from existing facilities are calculated (see details below). Settlements not served by WWTP are treated as diffuse sources of pollution.
<b>Discharge of sewage networks to a natural receiver</b>	1.1 – Point source - Municipal sewage 1.2 - Punctuation - Rainfall overflows	This is point pressure from urban and other wastewaters that are discharged from sewage networks into natural receivers without prior treatment.	Very limited such phenomena have been identified in the WD.
<b>Large Hotel Units</b>	7 - Man-made pressure - Other	It concerns hotel units with a capacity of more than 300 beds, which produce municipal wastewater, which is treated in autonomous wastewater treatment facilities.	The industrial activity is one of the important activities in the WD with a significant contribution to the produced loads. The food industries dominate, while the presence of ready-mixed concrete units and fur industry is also important. In addition, 2 SEPS units operate in the area (Melitis and Agios Dimitriou), while the "Ptolemaida V" unit is also under construction. At the beginning of 2023, the testing phase, provided for by the construction protocol, began, while the unit is expected to enter the positioning process for its operation in the second half of the year. SEPS Amyntaio, Ptolemaidas IV and Kardias were definitively terminated in the framework of the Apolinitization policies.
<b>Industrial units (IED or not)</b>	1.3 – Point source pollution from facilities IED Directive	It concerns all industrial units which dispose of treated liquid waste, depending on the relevant provisions of Greek legislation as well as thermal power plants.	

Pressure that is analyzed based on national methodology	Pressure category based on directory of EU/ Main Factors and activities	Description (Based on directory of EU)	Summary assessment of stress in the WD
	1.4 – Point source pollution from facilities which do not fall under IED directive	It is necessary to distinguish the liquid industrial waste that falls under the IED, SEVESO directives, as well as the provisions of Directive 91/271/EEC and the relevant JMD 5673/400/1997, specifically those referred to in article 8 and Annex III of the JMD and for the which is managed in autonomous WWTPs within the industrial units.	They are an activity with significant production of BOD, N and P loads in the WD.
<b>Livestock units</b>	1.9 – Point source – Other	All units with stabled animals, which manage the waste produced by their activities.	They are an activity with significant production of BOD, N and P loads in the WD.
<b>Fish farms</b>	1.8 – Point source - Aquaculture	Fish breeding units in fresh or sea water. Contaminants from food, drugs, and human excrement.	They are found mainly in the coastal waters of the WD. Inland water units have also been identified. The coastal aquaculture facilities cover a total area of 1495 acres and are located in the ESO THERMAIKOS - ALIAKMONAS coastal system, while those in the inland waters cover an area of 213 acres and belong to the Aliakmonas RB.  Fish farms, as an activity, do not affect the carrying capacity of the liquid medium because they do not consume natural resources (fish are fed synthetic feed and oxygen consumption is directly restored by natural dissolution). In land-based fish farms, on the banks of rivers, lakes or the sea, the used water undergoes degradation processes in biological purification facilities. In any case, pollutant concentrations are limited because they come from the rearing areas, where any exceedance of limits would cause significant effects on farmed fish.
<b>Disposition spaces of solid waste</b>	1.6 – Point source - Waste disposal areas	It refers to sewage produced by municipal solid waste collection units, which are collected through the sewage network and whose pollutant loads are channeled to surface and underground receivers through a disposal pipeline, with or without treatment. The cases in which there is no collection, transport network and disposal of drains are dealt with in the diffuse	There are no sanitary landfills recorded in the Western Macedonia Directorate.  There are 4 Sanitary Burial facilities operating in the WD. 3 landfills operate in the section of ELO9 that belongs to the Province of Central Macedonia. The Katerinis Landfill has stopped operating since 2017. Since then, its sewage has been managed by transfer to the WWTP

Pressure that is analyzed based on national methodology	Pressure category based on directory of EU/ Main Factors and activities	Description (Based on directory of EU)	Summary assessment of stress in the WD
		sources of pollution (including the sanitary landfill sites and any operating if there are such based on the data of the Ministry of the Interior).	of the municipality of Dion - Olympus and then with an on-site reverse osmosis unit. EL09's Sanitary Landfills and Residual Landfills do not exert significant pressures on water bodies.
<b>Mining Activities (mines, mining)</b>	1.7 – Point source - mine waters	Point sources due to the collection of water in a surface or underground mine that must be led to the surface in order for the mine to continue working. It does not include wastewater from industrial processes.	In the region of Western Macedonia have been recorded: twenty-three (23) aggregate production sites, one (1) asbestos mining site (inactive), forty (40) marble and decorative tile quarries, twenty-five (25) industrial mineral mining sites, five (5) ore mining sites, three (3) lignite mining sites, one (1) native gas exploitation site In the cases of control at various water points, it is possible to assess whether or not a chemical element has been exceeded, but it is not possible to quantify the pollutant load / time unit.



Map 5-1: Point sources of pollution in the WD of Western Macedonia (EL09)

Table 5-2: Estimated loads from point source pollution in Prespes RB (EL0901)

Activity	BOD <sub>5</sub> tn/year	N tn/year	P tn/year
Wastewater Treatment Plant (WWTP)	48,80	32,90	3,80
Discharge of sewage networks to a natural recipient without treatment	-	-	-
Large Hotel Units	-	-	-
Industrial units	20,50	0,40	0,10
Steam – electric power stations 1 unit (Meliti unit)	-	4,98	0,27
Livestock facilities	47,79	20,66	6,42
Fish farms	-	-	-
Sanitary landfills	-	-	-
Mining sites	-	-	-
<b>TOTALS</b>	<b>117,09</b>	<b>58,94</b>	<b>10,59</b>

Table 5-3: Estimated loads from point source pollution in Aliakmon RB (EL0902)

Activity	BOD <sub>5</sub> tn/year	N tn/year	P tn/year
Wastewater Treatment Plant (WWTP)	683,8	411,5	67,1
Discharge of sewage networks to a natural recipient without treatment	167,67	47,93	9,98
Large Hotel Units	0,52	0,21	0,05
Industrial units	2.120,37	380,96	73,09
Steam – electric power stations 1 station operating (Agios Dimitrios unit) 1 unit under construction	-	13,17	0,56
Livestock facilities	399,87	172,04	78,97
Fish farms	1.187,2	238,67	40,12
Sanitary landfills	0,00052	0,00035	0,00005
Mining sites	-	-	-
<b>TOTALS</b>	<b>4.559,43</b>	<b>1.264,47</b>	<b>269,86</b>

\*The full correlation of industrial units and OP / EP is based on the Updated Methodology for the Analysis of Anthropogenic Pressures and the Impacts on Surface and Underground Water Systems formulated by the Ministry of Water Resources and Environment in the context of the 2nd Revision of the Country's Water Management Plans.

## 5.2 Diffuse sources of pollution

The following table lists the correlation of the diffuse pressures examined based on the common methodology developed by the categorization of the pressures made at the European Level, the main factors/activities related to them, as well as a summary presentation of the main results obtained from this analysis.

**Table 5-4: Diffuse pressures examined. Compliance with WFD Reporting Guidance 2022.**

Pressure considered based on national methodology	EU directory text Pressure Category/Main Factors activities	Description (Based on EU Directory text)	Summary assessment of stress in the WD
Agricultural activities	2.2 - Diffuse – Agriculture	It concerns pollutants produced by fertilization, pesticides and insecticides used in agricultural production.	Loads from agricultural activities in the WD are analyzed and calculated in detail. The activity is a significant pressure on the WD.
Municipal sewage that does not end up in WWTP	2.6 – Diffuse - Discharges not connected to a sewer system	It concerns areas that are not served by a collection network and wastewater treatment facilities and dispose of urban wastewater through cesspools in underground and/or surface receivers	Loads from settlements that do not have WWTP are examined.
Livestock	2.10 - Diffuse – Other	It concerns free range livestock and the pollutants produced by these animals, in natural pastures and meadows	Loads from pastoral livestock are considered.
Other activities / sources	2.1 - Diffuse – Urban runoff 2.3 - Widespread – Forestry 2.5 - Widespread - Contaminated facilities or abandoned industrial facilities 2.7 - Diffuse - Atmospheric deposits 2.8 - Pervasive – Mining 2.9 - Diffused – Aquaculture 1.9 – Point source – Other	Water pollution from other sources. It includes other diffuse and point sources of pollutants that are not included in the above categories and may indicatively include: – Rainfall overflows and discharges in urbanized areas that are not classified as point sources. – Diffuse pollution from road, rail, air and sea transport and related infrastructure projects – Pollution caused by an abandoned industrial facility or an area that has been polluted due to past industrial activities, illegal dumping of industrial waste or a pollution accident and is classified as a diffuse source. This category does not cover active industrial activities – Diffuse contamination from atmospheric deposits of any origin – Pollution from mining activities characterized as diffuse – Point pollution from road, rail, air and sea transport and related infrastructure projects.	

**Table 5-5: Estimated loads (tn/yr) from diffuse sources in RB Prespes (EL0901).**

Activity	BOD <sub>5</sub>	N	P
Agriculture	-	369,92	148,07
Urban waste water that does not end up in a WWTP	224,07	64,02	13,34
Livestock farming	76,60	26,40	4,00
Other Source	-	12,14	0,69
<b>TOTALS</b>	<b>300,67</b>	<b>472,48</b>	<b>166,10</b>

**Table 5-6: Estimated loads (tn/yr) from diffuse sources in RB Aliakmon (EL0902)**

Activity	BOD <sub>5</sub>	N	P
Agriculture	-	1.585,12	640,07
Urban waste water that does not end up in a WWTP	2.405,48	687,28	143,18
Livestock farming	355,20	132,00	22,70
Other Source	-	49,89	5,92
<b>TOTALS</b>	<b>2.760,68</b>	<b>2.454,29</b>	<b>811,87</b>

### 5.3 Hydromorphological Pressures

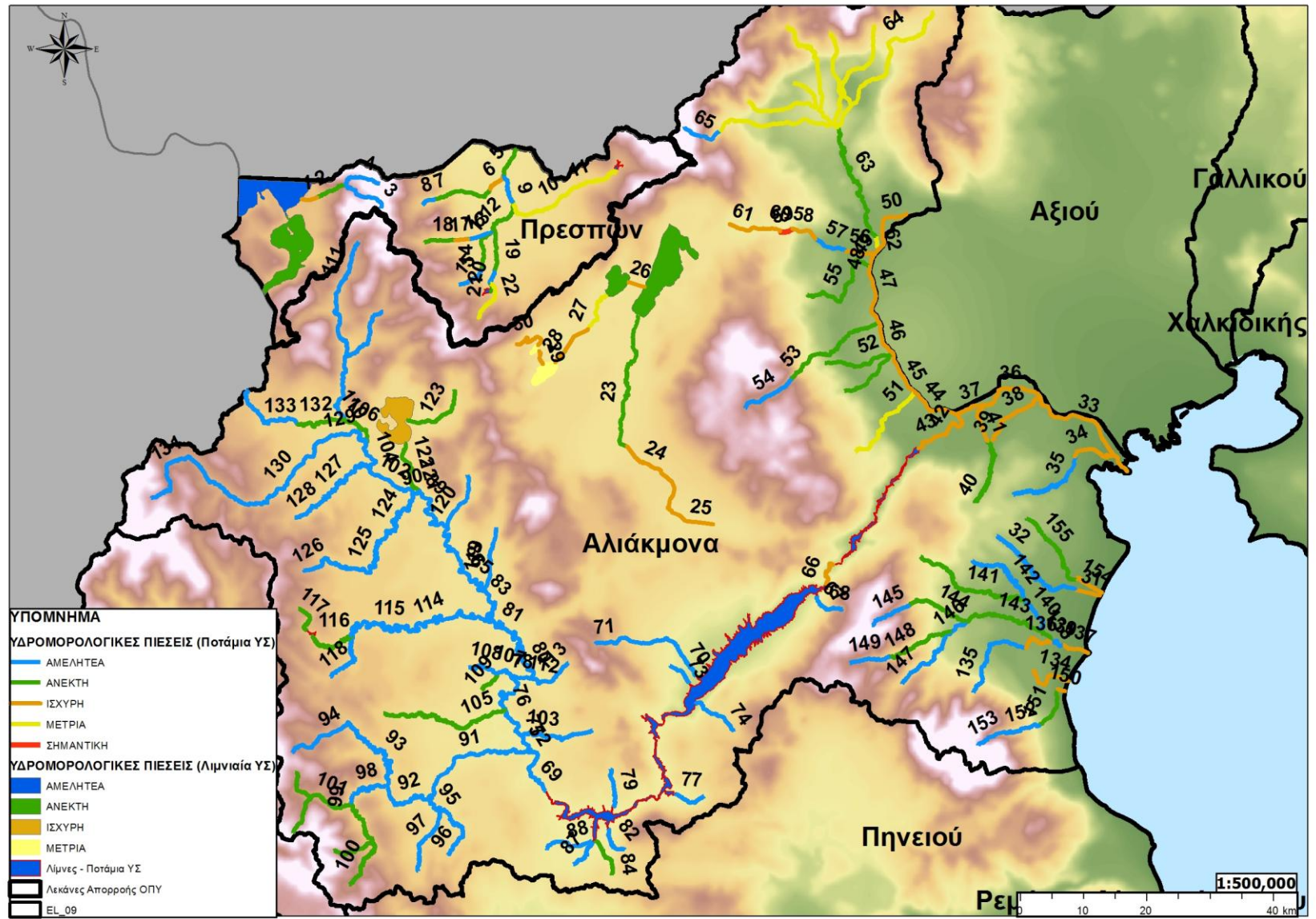
The following table and map show aggregate data for the WBs that are subject to hydromorphological pressures.

**Table 5-7: Evaluation of the hydromorphological pressures in the WBs of Western Macedonia RBD**

	PRESPEs RB					AWB	ALIAKMON RB					AWB
	Negligible	Tolerable	Moderate	High	Significant		Negligible	Tolerable	Moderate	High	Significant	
<b>River WBs (reservoirs not included)</b>												
Number	8	8	3	3	0	-	70	25	4	33	1	10
Length in km	39,80	42,33	29,30	8,50	0	--	737,73	360,53	152,9	209,37	2,2	56,1
% of number	36,36	36,36	13,64	13,64	0,00	--	52,63	18,80	3,01	24,81	0,75	7,52
% of length	33,19	6,67	0,00	0,00	0,00	--	50,44	24,65	10,45	14,31	0,15	3,84
<b>Lakes*</b>												
Number	1	1	-	-	-	-	-	4	-	1	-	-
Area in km <sup>2</sup>	42,9	38,64	-	-	-	-	-	77,59	-	28,84	-	-
% of number	14%	14%	-	-	-	-	-	57%	-	14%	-	-
% of Area	23%	21%	-	-	-	-	-	41%	-	15%	-	-

	PRESPEB RB						ALIAKMON RB					
	Negligible	Tolerable	Moderate	High	Significant	AWB	Negligible	Tolerable	Moderate	High	Significant	AWB
<b>Transitional</b>												
Number	-	-	-	-	-	-	1	1	-	-	-	-
Area in km <sup>2</sup>	-	-	-	-	-	-	34,9	4,5	-	-	-	-
% of number	-	-	-	-	-	-	50%	50%	-	-	-	-
% of Area	-	-	-	-	-	-	89%	11%	-	-	-	-
<b>Coastal</b>												
Number	-	-	-	-	-	-	2		-	-	-	-
Area in km <sup>2</sup>	-	-	-	-	-	-	1127,14		-	-	-	-
% of number	-	-	-	-	-	-	100%		-	-	-	-
% of Area	-	-	-	-	-	-	100%		-	-	-	-

The following map (Map 5-2) shows the assessment of the hydromorphological pressures in the YS rivers of the Western Macedonia Region.



Maps 5-2: Evaluation of the hydromorphological pressures in river WBs in the WD of Western Macedonia

### 5.3.1 Sand and gravel mining

Sand and gravel mining, depending on the amount of aggregates taken, can alter the geometric characteristics of the river bed and be a cause of hydromorphological modification of the specific water systems.

- In the Prespes RB (EL0901), sand dredging has been carried out in the past and found:
- In the areas northeast of the mouth of the stream of Ag. Germanou, for more than 35 years until today.

In the "Kopinata" location, between the two lakes, where in 2008, temporary restoration work was carried out on the deep excavation formed during the extraction.

In the Aliakmon RB (EL0902), no obvious negative effects have been identified on the water systems included in it.

Sand and gravel mining is the taking of aggregates from rivers for the construction of technical works or for other purposes. The process, depending on the amount of aggregates taken, can alter the geometric characteristics of the river bed and be a cause of hydromorphological modification of the specific water systems.

## 5.4 Water abstraction

This section includes data on the total annual water withdrawals for all activities and uses. The detailed calculations of water needs and withdrawals have been made in the Documentary Text "ANALYSIS OF MAN-GENERATED PRESSURES AND ITS EFFECTS ON SURFACE AND GROUNDWATER SYSTEMS".

The list of categories of activities and uses examined under the common methodology includes:

- Water supply
- Irrigation
- Livestock water
- Industrial water
- Other

The following table shows the aggregated needs of the EL09 WD.

**Table 5-8: Total withdrawals in the Western Macedonia WD (EL09) for each pressure category.**

Use / Activity	Categorization pursuant the Guidance provided by the EU	RB / WD	Total withdrawals in million m <sup>3</sup>	Percentage of withdrawals from SWB	Percentage of withdrawals from GWB
Water supply	3.2 – Abstraction or diversion of flow – Water supply	Prespes RB	6,27	88,36%	11,64%
		Aliakmon RB*	133,25	69,17%	30,81%
		<b>Total</b>	<b>139,52</b>	<b>70,03%</b>	<b>29,97%</b>
Irrigation	3.1 – Abstraction or diversion of flow – Agriculture	Prespes RB	21,58	24,70%	75,30%
		Aliakmon RB**	714,88	50,97%	49,03%
		<b>Total</b>	<b>736,46</b>	<b>50,20%</b>	<b>49,80%</b>
Livestock	3.1 – Abstraction or diversion of flow – Agriculture	Prespes RB	0,39	0,00%	100%
		Aliakmon RB*	7,34	0,00%	100%
		<b>Total</b>	<b>7,73</b>	<b>0%</b>	<b>100%</b>
<b>Industrial Activities</b>					
Industrial units		Prespes RB	0,33	51,52%	48,48%

Use / Activity	Categorization pursuant the Guidance provided by the EU	RB / WD	Total withdrawals in million m <sup>3</sup>	Percentage of withdrawals from SWB	Percentage of withdrawals from GWB
	3.3 – Abstraction or diversion of flow – Industry	Aliakmon RB	9,26 (+2,24) = 11,50 ****	11,56%	88,44%
		<b>Total</b>	<b>11,83</b>	<b>12,93%</b>	<b>87,07%</b>
Lignite mines		Prespes RB	-	-	-
	Aliakmon RB***	14,95 *****	0,00%	100,00%	
	<b>Total</b>	<b>14,95</b>	<b>0,00%</b>	<b>100,00%</b>	
Steam – electric power plants****	3.4 – Abstraction or diverting flow – cooling water (Industry, Power - non-hydro)	Prespes RB	6,40	100,00%	0,00%
		Aliakmon RB	41,77 *****	100,00%	0,00%
		<b>Total</b>	<b>48,17</b>	<b>100,00%</b>	<b>0,00%</b>
<b>TOTAL OF WD EL09</b>			<b>956,42</b>	<b>54,07%</b>	<b>45,93%</b>

- \* Included are the withdrawals from the EL09 WD from the reservoir of Ag. Varvaras for the water supply of Thessaloniki which, based on the city's public water supply company's data for 2020, is of the order of 57,78hm<sup>3</sup>/year. The losses of the water supply networks are also included in the total withdrawals intended for the WD EL09, i.e. 139,52hm<sup>3</sup> – 57,78hm<sup>3</sup> = 81,74hm<sup>3</sup>.
- \*\* Includes the withdrawals from the EL09 WD from the reservoir of Ag. Varvaras for the irrigation of the Thessaloniki Plain which is of the order of 320,76 hm<sup>3</sup>/year.
- \*\*\* Refers to withdrawals for the needs of access to the deposit. Out of the total 14,95hm<sup>3</sup>, 3,1hm<sup>3</sup> refer to Abstraction from the underlying aquifer deposit, which is under pressure (at the Mavropigis mine).
- \*\*\*\* According to the operation data of the SEPP as obtained from the DAET (decision to approve environmental terms) of each unit.
- \*\*\*\*\* The water withdrawals of 41,77 hm<sup>3</sup> are determined based on the applicable *AEPO*. It is emphasized that in the context of lignitization, water withdrawals from the Aliakmon RB are of the order of 33,12hm<sup>3</sup>.

### 5.4.1 Water abstraction from Groundwater Bodies

The degradation of the quantitative status of the Groundwater water bodies in the Western Macedonia Region is due to the combination of the following uses: irrigation, water supply, industry, energy and other uses (livestock, recreation, etc.). The importance of each use varies from region to region depending on local conditions and activities. Particularly:

- In karstic GWB the main use is water supply. Of the karstic GWB positioned in the region of Western Macedonia, none indicates a poor quantitative condition. The NW VERMIOU OROUS system (EL0900081), which in the context of the 1<sup>st</sup> Revision of the RBMP was assessed as presenting a quantitative degradation, an improvement in the quantitative situation is recorded (surplus groundwater balance, relative rise in groundwater level in 5/7 monitoring sites).
- The main use in fractured GWBs is irrigation and drinking water supply. Among the fractured GWBs that develop in the region of Western Macedonia, none of them presents a poor quantitative status.
- The main use in the granular GWBs is for irrigation and for the GWBs that develop in the Amyntaio – Ptolemaida basin, the main use is for industry. Of the GWBs developed in the region of Western Macedonia, the following show a quantitative degradation:
  - GWB Amyntaio – Florina, Ptolemaida, Notiou Pediou or Sarigiol, Karyochori – Kleitos-Tetralofou, with main pressures from agriculture and industry / energy.
  - GWB Almopaiou, porous Litochoro, Katerinis, Kolindros, Ano rou Aliakmonas, with main pressures from agriculture.

In the following tables, data are given regarding the groundwater inflows of the GWB and the groundwater abstractions for each use, according to the data of this 2<sup>nd</sup> Revision.

Table 5-9: Annual groundwater inflows and withdrawals from the Prespes RB (EL0901).

Code	Name	Average Annual Groundwater Inflows (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Irrigation (10 <sup>6</sup> m <sup>3</sup> )	Livestock (10 <sup>6</sup> m <sup>3</sup> )	Drinking water supply (10 <sup>6</sup> m <sup>3</sup> )	Industry (10 <sup>6</sup> m <sup>3</sup> )	Other (10 <sup>6</sup> m <sup>3</sup> )	Quantitative status
EL090F013	PORODES PRESPON	2,54	0,28	0,27	0,01	0,00	0,00	0,00	Good
EL090F040	PORODES FLORINAS	24,88	14,28	13,38	0,22	0,55	0,10	0,03	Good
EL090F291	ROGMODES VORA	6,92	0,57	0,48	0,09	0,00	0,00	0,00	Good
EL090F321	PORODES VEVIS FLABOUROU	15,69	2,43	2,12	0,07	0,18	0,06	0,00	Good
Total		50,03	17,56	16,25	0,39	0,73	0,16	0,03	

Table 5-10: Annual groundwater inflows and withdrawals from the Aliakmon RB (EL0902).

Code	Name	Average Annual Groundwater Inflows (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Irrigation (10 <sup>6</sup> m <sup>3</sup> )	Livestock (10 <sup>6</sup> m <sup>3</sup> )	Drinking water supply (10 <sup>6</sup> m <sup>3</sup> )	Industry (10 <sup>6</sup> m <sup>3</sup> )	Other (10 <sup>6</sup> m <sup>3</sup> )	Quantitative status
EL09AF010	KARSTIKO TRIKLARIOU OROUS	79,85	0,26	0,15	0,05	0,05	0,01	0,00	Good
EL0900023	PORODES KASTORIAS	14,68	12,21	11,83	0,08	0,00	0,23	0,07	Good
EL0900022	PORODES MESOPOTAMIAS - XILIODENDROU	5,66	4,40	4,32	0,03	0,00	0,03	0,02	Good
EL0900036	PORODES LEKANIS GREVENON	43,38	4,29	3,25	0,08	0,63	0,30	0,03	Good
EL0900050	PORODES AMYNTAIOU FLORINAS	9,82	24,97	21,94	0,13	0,41	2,44	0,05	Poor
EL0900061	PORODES PTOLEMAIDAS	19,95	37,03	32,07	0,04	1,10	3,78	0,04	Poor
EL0900062	PORODES NOTIOU PEDIOU	6,50	15,28	5,80	0,02	0,11	6,80	2,55	Poor
EL0900063	PORODES KARYOCHORIOU – KLEITOUS TETRALOFOU	14,87	6,43	3,35	0,16	0,24	2,03	0,64	Poor
EL0900071	KARSTIKO ND VERMIOU OROUS	324,61	6,76	0,94	0,40	5,21	0,20	0,01	Good
EL0900072	PORODES VATEROU	0,98	0,96	0,72	0,00	0,21	0,02	0,01	Good

Code	Name	Average Annual Groundwater Inflows (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Irrigation (10 <sup>6</sup> m <sup>3</sup> )	Livestock (10 <sup>6</sup> m <sup>3</sup> )	Drinking water supply (10 <sup>6</sup> m <sup>3</sup> )	Industry (10 <sup>6</sup> m <sup>3</sup> )	Other (10 <sup>6</sup> m <sup>3</sup> )	Quantitative status
EL0900073	PORODES KSIROLIMNIS	0,95	0,75	0,66	0,01	0,09	0,00	0,00	Good
EL0900074	PORODES KROKOU	0,38	0,14	0,01	0,00	0,13	0,00	0,00	Good
EL0900075	KARSTIKO LEUKOPIGIS	2,75	0,10	0,02	0,00	0,08	0,00	0,00	Good
EL0900076	KARSTIKO ARGILOU PROTOCHORIOU	1,78	0,12	0,00	0,00	0,11	0,00	0,01	Good
EL0900077	PORODES POLYFYTOU	43,35	7,24	4,55	0,35	2,17	0,07	0,11	Good
EL0900081	KARSTIKO VD VERMIOU OROUS	136,15	19,00	13,26	0,15	4,91	0,31	0,37	Good
EL0900082	PORODES ARNISSAS PELLAS	6,54	5,10	4,87	0,03	0,20	0,00	0,00	Good
EL090F090	KARSTIKO VA VERMIOU OROUS	53,72	5,71	3,09	0,07	2,55	0,00	0,00	Good
EL0900100	KARSTIKO KENTRIKOU ANATOLIKOU VERMIOU OROUS	78,62	1,81	0,01	0,09	1,60	0,11	0,00	Good
EL0900110	KARSTIKO NA VERMIOU OROUS	62,90	1,78	0,34	0,05	0,55	0,00	0,84	Good
EL0900120	PORODES ALMOPAIU	57,65	59,09	57,45	0,32	0,77	0,52	0,03	Poor
EL0900130	PORODES KATO ROU ALIAKMONA	79,08	77,56	71,37	0,56	0,82	4,74	0,07	Poor
EL0900141	KOKKODES LITOCHEOROU	31,38	3,79	2,92	0,18	0,65	0,04	0,01	Poor
EL0900142	KARSTIKO LITOCHEOROU	88,22	3,65	0,00	0,01	3,64	0,00	0,00	Good
EL0900150	PORODES KATERINIS	37,60	48,57	46,48	1,15	0,20	0,71	0,03	Poor
EL0900160	PORODES KOLINDROU	85,98	26,33	22,02	1,25	2,73	0,32	0,01	Poor
EL0900170	ROGMODES DASOCHORIOU GREVENON	1,29	0,00	0,00	0,00	0,00	0,00	0,00	Good
EL0900180	PORODES TRIKOKKIAS GREVENON	2,40	1,79	1,76	0,00	0,00	0,00	0,03	Good
EL0900190	PORODES PALIOURIAS GREVENON	0,74	0,28	0,27	0,01	0,00	0,00	0,00	Good

Code	Name	Average Annual Groundwater Inflows (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Irrigation (10 <sup>6</sup> m <sup>3</sup> )	Livestock (10 <sup>6</sup> m <sup>3</sup> )	Drinking water supply (10 <sup>6</sup> m <sup>3</sup> )	Industry (10 <sup>6</sup> m <sup>3</sup> )	Other (10 <sup>6</sup> m <sup>3</sup> )	Quantitative status
EL0900221	KARSTIKO KORISOU KASTORIAS	21,84	0,10	0,01	0,01	0,06	0,02	0,00	Good
EL0900231	PORODES GALATEIAS – EMPORIOU KOZANIS	9,24	10,44	9,52	0,03	0,90	0,00	0,00	Good
EL0900241	ROGMODES PIERION	74,58	5,45	3,99	0,21	1,23	0,02	0,01	Good
EL0900251	ROGMODES NAOUSAS	34,17	1,13	0,33	0,14	0,45	0,21	0,00	Good
EL0900261	ROGMODES ALMOPIAS	22,43	9,47	4,71	0,20	4,56	0,00	0,00	Good
EL090F271	ROGMODES ARIDAIAS	40,76	6,40	5,83	0,09	0,48	0,00	0,00	Good
EL0900281	ROGMODES VOURINOY	11,04	0,39	0,15	0,05	0,17	0,02	0,00	Good
EL090F301	ROGMODES VARNOUNTA VERNOU	26,06	1,90	1,50	0,19	0,17	0,04	0,00	Good
EL0900311	ROGMODES VORIAS PINDOU	17,88	0,20	0,00	0,09	0,11	0,00	0,00	Good
EL0900331	ROGMODES NYMFAIOY VLASTIS	55,73	2,03	1,62	0,18	0,23	0,00	0,00	Good
EL0900341	PORODES PERDIKKA FILOTA	6,87	4,78	4,42	0,03	0,33	0,00	0,00	Poor
EL090A351	ROGMODES MESOELLINIKIS AVLAKAS	260,96	7,78	3,95	0,80	1,28	0,11	1,64	Good
EL0900361	ROGMODES ELATIS LIVADEROU	11,94	3,10	1,09	0,08	1,74	0,04	0,15	Good
EL0900014	PORODES CHALARAS MAVROKAMPOY	0,63	0,00	0,00	0,00	0,00	0,00	0,00	Good
EL0900015	KARSTIKO APOSKEPOY KEFALARIOY	2,24	0,21	0,00	0,00	0,21	0,00	0,00	Good
<b>Total</b>		1.888,13	428,82	350,54	7,34	41,08	23,14	6,72	

## 5.5 Other Pressures

In this section, information is collected on the remaining types of pressures included in the Documentary Text "ANALYSIS OF ANTHROPOGENIC PRESSURES AND THEIR IMPACTS ON THE SURFACE AND GROUNDWATER SYSTEMS" and which have not been mentioned above. These other pressures refer briefly to the following:

- Artificial enrichment of groundwater,
- Change in underground level and amount of underground water due to underground mining or construction of large underground projects.

### **Artificial enrichment of groundwater,**

In the area of the Western Macedonia WD (EL09) an artificial enrichment program has been implemented in the area of the FD EL0900130 and specifically in the area of Rizo - Petraia - Arsenio.

### **Change in underground level and quantity of underground water due to underground mining or construction of large underground works**

In the area of the Water District of Western Macedonia (EL09) phenomena of quantitative degradation of the underground aquifers are observed in the WSSs that are associated with: the exploitation of lignite deposits. In these areas, the stratigraphic sequence of the formations imposes the drainage of the aquifer that develops within the deposits above the lignite-bearing horizons.

In particular, and with the aim of protecting the lignite mines from surface and underground water, a series of boreholes are drilled around the perimeter of the mine, which are systematically pumped with the aim of:

- the reduction of the quantities of underground water flowing into the mine area and the carrying out of "dry" excavations and,
- the improvement of the stability conditions of the slopes of the open, deep, lignite extraction excavations.

The water entering the excavation is collected in the Abstraction stations and pumped afterwards. The location of the internal Abstraction stations and water wells changes according to the progress of the mining operations. The result of the drainage is the gradual lowering of the aquifer level of the overlying layers, around the excavation limits.

According to the data provided by PPC SA,

- ❖ The extractions for the protection of the Amyntaio mine for the period 2018 are of the order of  $1.8 \times 10^6 \text{m}^3/\text{y}$ , while the operation of the Amyntaio Mines has been completed in the year 2020.
- ❖ The Abstractions from GWBs & Abstraction stations of Mavropigi Mine, South Field and Kardia for the year 2021 amount to  $7.94 \times 10^6 \text{m}^3/\text{y}$ .

In the area of the Amyntaio Mines, the restoration of the aquifer level due to the minimization of Abstraction takes place at a rate of rise of 2 m per year (PPC, 2022) and is limited to the area of the drainage cone of the main body of the drainage wells. In the area of the Amyntaio Mines, the restoration of the aquifer level due to the minimization of Abstraction takes place at a rate of rise of 2 m per year (PPC, 2022) and is limited to the area of the drainage cone of the main body of the drainage wells.

The associated GWBs are the alluvial-type GWBs: Amyntaio EL0900050, Ptolemaida GWB EL0900061, Notiou Pedi or Sarigiol GWB EL0900061 and the Karyochori - Kleitus - Tetralfou GWB EL0900063.

### **Water Abstraction and storing**

The Abstraction and saving in the Aliakmonas reservoir system is done at the Sfikias Waterworks. It is the first pump-storage station built in Greece, with a total installed capacity of 315MW.

The station draws water during the night from the downstream reservoir of Asomata and produces peak electricity during the day. Its average annual energy production is estimated at 380GWh (including 200 GWh produced by Abstraction).

The project basically consists of a 490m long diversion tunnel, an 82m high rock-cut dam with a total volume of 1.62hm<sup>3</sup>, a reservoir with a useful capacity of 18hm<sup>3</sup>, two spillway tunnels with sluice gates, with a maximum discharge of 1,600m<sup>3</sup>/s, three intake tunnels, each 160m long and a semi-outdoor generating station equipped with three reversible vertical axis Francis units, each with an installed capacity of 105MW. Construction of the project began in 1979 and the station was put into commercial operation in 1985/86.

The average annual volume of water pumped from the Asomatons HES to the Sfikias HES is equal to 1,224.3hm<sup>3</sup> with a maximum value in the hydrological year 2007-08 equal to 2,853.4hm<sup>3</sup>.

## 5.6 Pressure aggregates

In the RB of WD EL09 the total annual loads resulting from the sum of individual point, diffuse and other anthropogenic pressures are 9,450.74 tons/year BOD, 5,102.66 tons/year N and 1,429.81 tons/year P, as shown and in the following table.

**Table 5-11: Total annual loads of BOD, N and P produced by all sources of pollution in the RBs of the State of Western Macedonia (EL09)**

Pollution Sources	BOD <sub>5</sub> (tn/year)	N (tn/year)	P (tn/year)
<b>Prespes RB (EL 0901)</b>			
Point source	117,09	58,94	10,59
Diffuse	300,67	472,48	166,10
<b>RB Total</b>	<b>417,76</b>	<b>531,42</b>	<b>176,69</b>
<b>Aliakmon RB (EL 0902)</b>			
Point source	4.559,43	1.264,47	269,86
Diffuse	2.760,68	2.454,29	811,87
<b>RB Total</b>	<b>7.320,11</b>	<b>3.718,76</b>	<b>1.081,73</b>
<b>WD Total</b>	<b>7.737,87</b>	<b>4.250,18</b>	<b>1.258,42</b>

Table 5-12: Aggregated data from significant pressures in Western Macedonia RBD (EL09)

WB Category	Significant stress or substance responsible for failure	Pressure indicator	Indicator values 2020	Documentation		Other auxiliary elements for monitoring the evolution of the pressure sources			
				How to calculate pressure index – Affected WBs	Indicative values of main pressure parameters taken into account		Length (in km) /Area in km <sup>2</sup>	% WB	% of Area/Length
					Pressure	Value			
Rivers	2.2 – Diffuse – Agriculture/ Agriculture	Number of surface YS with less than good condition that are subjected to the specified pressure	11	The YS are taken within cultivated areas which show an ecological condition inferior to good.	Nitrogen load as calculated under the 2 <sup>nd</sup> Revision	~ 4,2 tn/y	61,89	7,28	3,92
	2.6 - Diffuse - Discharges not connected to sewers/ Urban development		32	The YS with an ecological status lower than good that receive BOD, N and P loads from Settlements without EEL which are greater than those of the other diffuse pressures are taken.	BOD load as calculated under the 2 <sup>nd</sup> Revision	~ 826 tn/y	348,63	20,65	22,11
	2.10 - Widespread - Other (herding)		15	The WB with less than good ecological status are obtained which receive BOD, N and P loads which are greater than those of the other diffuse pressures.	BOD load as calculated under the 2 <sup>nd</sup> Revision	~ 1 tn/y	74,08	9,68	4,7
Lakes	2.2 – Diffuse – Agriculture	Number of surface WBs with less than good condition that are subjected to the specified pressure	6	Lakes with a condition lower than good are taken where, from the data of the monitoring network, it appears that phosphorus concentrations are typical for mesotrophic to hypertrophic ecosystems (Megali Prespa, Mikri Prespa, Vegoritis, Zazaris, Petron, Kastoria). Total loads from agricultural activities are given	Phosphorus Loads (Total loads from agricultural activities are given)	~ 3,6 tn/year	178,4	40	60
Rivers	Withdrawals Diversions (Includes 3.1 – Abstraction or diversion of flow –	Number of surface WBs with less than good condition that are	5	It refers to the dams downstream of the Dams of the Aliakmonas Complex (Hilarion, Polyphytou, Asomaton, Sfikia, Ag. Varvara)	Volume (in million m <sup>3</sup> ) of water to be reduced in order to	The total volume of the required environmental supply required to achieve the	52,5km	3,9%	3,3%

WB Category	Significant stress or substance responsible for failure	Pressure indicator	Indicator values 2020	Documentation		Other auxiliary elements for monitoring the evolution of the pressure sources			
				How to calculate pressure index – Affected WBs	Indicative values of main pressure parameters taken into account		Length (in km) /Area in km <sup>2</sup>	% WB	% of Area/Length
					Pressure	Value			
	Agriculture and 3.2 – Abstraction or diversion of flow – Public water supply	subjected to the specified pressure			achieve the targets.	GED* is obtained *Good Ecological Potential			
<b>Groundwater Bodies</b>	Withdrawals (Includes 3.1 – Abstraction or diversion of flow –3.2 Abstraction or diversion of flow – Water Supply Agriculture 3.3 – Abstraction or diversion of flow – Industry	Number of Ground WB with a quantitative condition lower than good that are subjected to the specific pressure	11	Regarding GWB Florina (EL090F040) Amyntaiu (EL0900050), GWB Ptolemais (EL0900061), GWB of South Field or Sarigiol (EL0900062), GWB Karyochori - Kleitos - Tetralofou (EL0900063), Almopaio (EL0900120), Kato Rou Aliakmona (EL0900130), Litochoro Granular (EL0900141) Katerinis (EL0900150), Coriander (EL0900160), Galatea – Emporio Kozani (EL0900231 Perdicka – Filota (EL0900341),	Volume of water in million m <sup>3</sup> pumped plus renewable as calculated during the 2 <sup>nd</sup> Revision	~ 69 million m <sup>3</sup>	2.608,52 km <sup>2</sup>	21%	19,35%
<b>Rivers</b>	4.1.1 - Physical change of channel/ bottom/ riparian area/ bank - Flood protection	Number of surface WB in less than good condition existing on specific pressure	9	In Prespes RB - Florinis (EL0901R0F0206110H) and Kallinikiotiko (EL0901R0F0202002N) due to arrangements and in Aliakmon RB the following SWBs: R. Soulou (Mines) (EL0902R0000010123H), Krasopouli (Arranged Section) (EL0902R0002040004H), Krasopouli (Arranged) (EL0902R0002040005H), Krasopouli (Arranged – New Bed)	Length (in km) of the GWB affected	52,6 km	52,6km	5,8%	3,3%

WB Category	Significant stress or substance responsible for failure	Pressure indicator	Indicator values 2020	Documentation			Other auxiliary elements for monitoring the evolution of the pressure sources		
				How to calculate pressure index – Affected WBs	Indicative values of main pressure parameters taken into account		Length (in km) /Area in km <sup>2</sup>	% WB	% of Area/Length
					Pressure	Value			
				EL0902R0002040007H, Mavroneri (Arranged) (EL0902R0004010102H), Ksirolakki (Diversion) (EL0902R0004011116H), Lakkos R. (Arranged Bed) EL0902R0007000130H					

WB Category	Significant stress or substance responsible for failure	Pressure indicator	Indicator values 2020	Documentation			Other auxiliary elements for monitoring the evolution of the pressure sources		
				How to calculate pressure index – Affected WBs	Indicative values of main pressure parameters taken into account		Length (in km) /Area in km <sup>2</sup>	% WB	% of Area/Length
					Pressure	Value			
Lakes	4.1.1 - Physical change of channel/ bottom/ riparian area/ bank - Flood protection	Number of surface WBs with less than good condition that are subjected to the specified pressure	1	It concerns Lake Kastoria	Area (in km <sup>2</sup> ) of affected WBs	28,8 km <sup>2</sup>	28,8 km <sup>2</sup>	11.1%	7,0%
Rivers	4.1.4 - Physical alteration of channel/ bottom/ riparian area/ bank – Other (Mining activities)	Number of surface WBs with less than good condition that are subjected to the specified pressure	1	Refers to R. Soulou (Mines) (EL0902R000010123H)	Length (in km) of the WBs affected	14,2 km	14,2 km	0,65%	0,90%
Rivers	4.1.4 - Physical alteration of channel/ bottom/ riparian area/ bank - Other (YES)		4	Refers to the WB Edessaïos (underground diversion) (EL0902R0002065092H), Edessaïos (diversion to HES) (EL0902R0002065093H), Edessaïos (Agra section) (EL0902R0002065094H), Aliakmonas	Length (km) of affected WBs	20,30 km	20,30 km	2,6%	1,3%

WB Category	Significant stress or substance responsible for failure	Pressure indicator	Indicator values 2020	Documentation		Other auxiliary elements for monitoring the evolution of the pressure sources			
				How to calculate pressure index – Affected WBs	Indicative values of main pressure parameters taken into account		Length (in km) /Area in km <sup>2</sup>	% WB	% of Area/Length
					Pressure	Value			
Rivers	4.3.1 - Hydrological modification - Hydroelectric power / 4.3.1 - Hydrological modification - Agriculture / 4.3.4 - Hydrological modification - Public water supply	Number of surface YS with less than good condition that are subjected to the specified pressure	5	It refers to the dams downstream of the Dams of the Aliakmonas Complex (Hilarion, Polyphytou, Asomaton, Sfikia, Ag. Varvara)	Length (in km) of the affected WBs	48,0 km	48,0 km	3,2%	3,0%
Rivers	4.3.1 - Hydrological modification – Hydroelectric power	Number of surface YS with less than good condition that are subjected to the specified pressure	4	Refers to the Edessaïos WBs (sections EL0902R0002065091H, EL0902R0002065092H, EL0902R0002065093H, EL0902R0002065094H)	Length (in km) of the affected WBs	20,30 km	20,30 km	2,6%	1,3%

## 5.7 Assessment of impacts

### 5.7.1 Assessment of impacts on Surface Water Bodies

During the assessment of the impacts and the characterization of the SI based on the probability of achieving the environmental objectives of the Directive, the following are evaluated per water system:

- ◆ The intensity of pressure from pollution sources and intakes: high (H), medium (M), low (L)
- ◆ The available data and results of the monitoring program
- ◆ Investigator's judgment when no data are available.

From the set of criteria, the YS were ranked in relation to whether or not they are likely to achieve the environmental objectives of Directive 2000/60/EC and the summary results are presented in the following tables and the following map.

- At Risk - AR
- Probably At Risk - PAR
- Probably Not at Risk - PNR
- Not at Risk - NR

Table 5-13: Statistical data for the assessment of the revised risk of non-achievement of surface WBs targets of the Prespes RB (EL0901) - Number of WBs.

WB type	Risk Assessment Categories								Total Number of WBs
	AR		PAR		PNR		NR		
	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	
Rivers	2	7,69%	1	3,85%	4	18,18%	15	68,18%	22
Reservoirs	-	-	-	-	1	50,00%	1	50,00%	2
Lakes	-	-	2	7,69%	-	-	-	-	2
Coastal	-	-	-	-	-	-	-	-	-
Transitional	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2</b>	<b>7,69%</b>	<b>3</b>	<b>11,54%</b>	<b>2</b>	<b>19,23%</b>	<b>19</b>	<b>61,54%</b>	<b>26</b>

Tables 5-14: Statistical data for the assessment of the revised risk of non-achievement of surface WBs targets of the Aliakmon RB (EL0902) - Number of WBs.

WB Type	Risk Assessment Categories								Total Number of WBs
	AR		PAR		PNR		NR		
	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	
Rivers	11	7,43%	35	22,30%	18	14,19%	69	45,94%	133
Reservoirs	-	-	1	16,67	4	2,70%	1	16,67	6
Lakes	1	20,00%	2	40,0%	2	0,68%	-	-	5
Coastal	-	-	1	50,0%	-	-	1	50,0%	2

	Risk Assessment Categories								Total
	AR		PAR		PNR		NR		
WB Type	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs	% WB number	Number of WBs
Transitional	-	-	2	100,0%	-	-	-	-	2
<b>Total</b>	<b>12</b>	<b>8,11%</b>	<b>41</b>	<b>27,70%</b>	<b>24</b>	<b>16,22%</b>	<b>71</b>	<b>47,97%</b>	<b>148</b>

### 5.7.2 Assessment of impacts on Groundwater Bodies

In the Prespes RB (EL0901), 4 groundwater bodies have been delineated, the status of which is given in the table below.

In the Aliakmon RB (EL0902), 48 groundwater systems/subsystems have been delineated, the status of which is given in the table below.

Table 5-15: Assessment of the Groundwater bodies' chemical and quantitative status

Code	Name	Geology / aquifer type	Average Annual Groundwater Inflow (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Existing Conditions of Overexploitation	Artificial Recharge	Seawater intrusion	Quantitative Status
<b>Prespes RB (EL0901)</b>								
EL090F013	PORODES PRESPON	Quaternary deposits POROUS	2,54	0,28	-	No	No	Good
EL090F040	PORODES FLORINAS	Quaternary and Neogene deposits POROUS	18,66	14,28	Local Overexploitation	No	No	Good
EL090F291	ROGMODES VORA	Disintegrated shale/gneiss mantle FRACTURED	6,92	0,57	No existing monitoring sites	No	No	Good
EL090F321	PORODES VEVIS FLAMPOUROU	Quaternary and Neogene deposits POROUS	15,69	2,43	No existing monitoring sites	No	No	Good
<b>Aliakmon RB (EL0902)</b>								
EL09AF010	KARSTIKO TRIKLARIOU OROUS	Limestone KARST	79,85	0,26	-	No	No	Good
EL0900022	PORODES KASTORIAS	Quaternary deposits POROUS	5,66	12,21	Local Overexploitation	No	No	Good
EL0900023	PORODES MESOPOTAMIAS - XILIODENDROU	Quaternary deposits POROUS	14,68	4,40	Local Overexploitation	No	No	Good
EL0900036	PORODES LEKANIS GREVENON	Quaternary deposits POROUS	43,38	4,29	-	No	No	Good
EL0900050	PORODES AMYNTAIOU FLORINAS	Quaternary deposits POROUS	9,82	26,95	Overexploitation	No	No	Poor
EL0900061	PORODES PTOLEMAIDAS	Quaternary deposits POROUS	22,50	41,38	Overexploitation	No	No	Poor
EL0900062	PORODES NOTIOU PEDIU	Quaternary deposits POROUS	6,50	10,05	-	No	No	Poor
EL0900063	PORODES KARYOCHORIOU – KLEITOUS TETRALOFOU	Quaternary deposits POROUS	14,87	5,32	-	No	No	Poor (poor quantitative status remains due to the existence of a complex system)

Code	Name	Geology / aquifer type	Average Annual Groundwater Inflow (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Existing Conditions of Overexploitation	Artificial Recharge	Seawater intrusion	Quantitative Status
								of groundwater abstractions)
EL0900071	KARSTIKO ND VERMIUO OROUS	Limestone KARST	324,62	6,76	-	No	No	Good
EL0900072	PORODES VATEROU	Quaternary and Neogene deposits POROUS	0,83	0,96	-	No	No	Good
EL0900073	PORODES KSIROLIMNIS	Quaternary and Neogene deposits POROUS	0,95	0,75	-	No	No	Good
EL0900074	PORODES KROKOU	Quaternary and Neogene deposits POROUS	0,37	0,14	No existing monitoring sites	No	No	Good
EL0900075	KARSTIKO LEUKOPIGIS	Limestone KARST	2,75	0,10	No existing monitoring sites	No	No	Good
EL0900076	KARSTIKO ARGILOU PROTOCHORIOU	Limestone KARST	1,78	0,12	No existing monitoring sites	No	No	Good
EL0900077	PORODES POLYFYTOU	Quaternary and Neogene deposits POROUS	43,36	7,24	-	No	No	Good
EL0900081	KARSTIKO VD VERMIUO OROUS	Carbonate formations KARST	136,15	19,00	-	No	No	Good
EL0900082	PORODES ARNISSAS PELLAS	Quaternary deposits POROUS	6,54	5,10	-	No	No	Good
EL090F090	KARSTIKO VA VERMIUO OROUS	Carbonate formations KARST	53,71	5,71	-	No	No	Good
EL0900100	KARSTIKO KENTRIKOU ANATOLIKOU VERMIUO OROUS	Carbonate formations KARST	78,62	1,80	-	No	No	Good
EL0900110	KARSTIKO NA VERMIUO OROUS	Carbonate formations KARST	62,90	1,78	-	No	No	Good
EL0900120	PORODES ALMOPAIOU	Quaternary deposits POROUS	57,65	59,09	Local Overexploitation	No	No	Poor
EL0900130	PORODES KATO ROU ALIAKMONA	Quaternary deposits POROUS	79,08	77,56	Overexploitation	Yes (Rizou area – Petraia and Arseniou)	Yes (In the coastal zone)	Poor

Code	Name	Geology / aquifer type	Average Annual Groundwater Inflow (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Existing Conditions of Overexploitation	Artificial Recharge	Seawater intrusion	Quantitative Status
EL0900141	KOKKODES LITOCOROU	Quaternary deposits POROUS	24,65	3,79	Seawater intrusion (bibliography)	No	Yes	Poor
EL0900142	KARSTIKO LITOCOROU	Carbonate formations KARST	88,22	0,45	No existing monitoring sites	No	No	Good
EL0900150	PORODES KATERINIS	Quaternary and Neogene deposits POROUS	37,60	50,27	Overexploitation	No	Yes	Poor
EL0900160	PORODES KOLINDROU	Quaternary deposits FRACTURED	85,98	27,83	Overexploitation	No	Yes	Poor
EL0900170	ROGMODES DASOCHORIOU GREVENON	Schist rocks FRACTURED	1,29	0,00	No existing monitoring sites	No	No	Good
EL0900180	PORODES TRIKOKKIAS GREVENON	Quaternary deposits POROUS	2,40	1,79	-	No	No	Good
EL0900190	PORODES PALIOURIAS GREVENON	Quaternary deposits POROUS	0,74	0,28	No existing monitoring sites	No	No	Good
EL0900221	KARSTIKO KORISOU KASTORIAS	Limestone KARST	21,84	0,10	Local Overexploitation	No	No	Good
EL0900231	PORODES GALATEIAS – EMPORIOU KOZANIS	Quaternary and Neogene deposits POROUS	5,74	10,45	-	No	No	Good
EL0900241	ROGMODES PIERION	Metamorphic rocks FRACTURED	74,58	5,45	-	No	No	Good
EL0900251	ROGMODES NAOUSAS	Metamorphic rocks, Flyschic formations FRACTURED	34,17	1,13	-	No	No	Good
EL0900261	ROGMODES ALMOPIAS	Metamorphic rocks, Flyschic formations FRACTURED	22,43	9,47	Local Overexploitation	No	No	Good
EL090F271	ROGMODES ARIDAIAS	Metamorphic rocks, Flyschic formations FRACTURED	40,76	6,39	-	No	No	Good
EL0900281	ROGMODES VOURINOY	Metamorphic rocks, Flyschic formations FRACTURED	11,04	0,39	-	No	No	Good
EL090F301	ROGMODES VARNOUNTA VERNOU	Metamorphic rocks, Flyschic formations	26,06	1,90	-	No	No	Good

Code	Name	Geology / aquifer type	Average Annual Groundwater Inflow (10 <sup>6</sup> m <sup>3</sup> )	Average Annual Groundwater abstractions (10 <sup>6</sup> m <sup>3</sup> )	Existing Conditions of Overexploitation	Artificial Recharge	Seawater intrusion	Quantitative Status
		FRACTURED						
EL0900311	ROGMODES VORIAS PINDOU	Ophiolitic and Flyschic formations FRACTURED	17,88	0,20	No existing monitoring sites	No	No	Good
EL0900331	ROGMODES NYMFAIOU VLASTIS	Metamorphic rocks FRACTURED	55,73	2,03	No existing monitoring sites	No	No	Good
EL0900341	PORODES PERDIKKA FILOTA	Quaternary deposits FRACTURED	6,87	4,78	No existing monitoring sites	No	No	Poor
EL090A351	ROGMODES MESOELLINIKIS AVLAKAS	Flysch and Molasses formations KARST	260,96	7,78	No existing monitoring sites	No	No	Good
EL0900361	ROGMODES ELATIS LIVADEROU	Metamorphic rocks FRACTURED	11,94	3,10	No existing monitoring sites	No	No	Good
EL0900014	PORODES CHALARAS MAVROKAMPOU	Quaternary deposits POROUS	0,63	0,00	No existing monitoring sites	No	No	Good
EL0900015	KARSTIKO APOSKEPOU KEFALARIOU	Carbonate formations KARST	2,24	0,21	No existing monitoring sites	No	No	Good

## **6 CLASSIFICATION OF WATER BODIES' STATUS**

### **6.1 Classification of surface water bodies' status**

The classification of the state of surface water bodies is based on the quality data, which are defined in Annex V of Directive 2000/60/EC. The quality elements used differ depending on the category of the water body, i.e. whether it is a river, lake, transitional or coastal system. For specially modified and artificial water bodies (HMWB/AWB) the concept of good ecological potential is used, instead of good ecological status.

Table 6-1: Classification of River WBs status in Western Macedonia WD (EL09).

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
<b>PRESPEs RIVER BASIN (EL0901)</b>									
1.	EL0901R000001018N	Paliorema (Ag. Germanos)		√	Good	Good	1	1	Good
2.	EL0901R000001019N	Ag. Germanos (Stara rema)		√	Good	Good	1	1	Good
3.	EL0901R000001020N	Kaloneri		√	Good	Good	1	1	Good
4.	EL0901R000002021N	Syrakio		√	Good	Good	1	1	Good
5.	EL0901R0F0201001N	Lygkos		√	Good	Good	1	1	Good
6.	EL0901R0F0202002N	Kallinikiotiko		√	Good	Good	1	1	Good
7.	EL0901R0F0202003N	Kallinikiotiko		√	Moderate	Failing to achieve good	1	1	Moderate
8.	EL0901R0F0202004N	Kallinikiotiko		√	Good	Good	1	1	Good
9.	EL0901R0F0203005N	Lygkos		√	Good	Good	1	1	Good
10.	EL0901R0F0204006N	Paleo		√	Moderate	Failing to achieve good	1	1	Moderate
11.	EL0901R0F0204007N	Paleo		√	Good	Good	1	1	Good
12.	EL0901R0F0205008N	Lygkos		√	Poor	Good	3	3	Poor
13.	EL0901R0F0206011N	Florinis		√	Good	Good	1	1	Good
14.	EL0901R0F0206012N	Tropeouxos		√	Good	Good	1	1	Good
15.	EL0901R0F0206013N	Tropeouxos		√	Good	Good	1	1	Good
16.	EL0901R0F0206109N	Florinis		√	Good	Good	1	1	Good
17.	EL0901R0F0206110H	Florinis	√	√	Good	Good	1	1	Good
18.	EL0901R0F0206111N	Florinis		√	Good	Good	1	1	Good
19.	EL0901R0F0207014N	Melpo		√	Good	Good	1	1	Good
20.	EL0901R0F0207015N	Melpo		√	Good	Good	1	1	Good
21.	EL0901R0F0208016N	Asprorema (downstream of Triantafyllia Dam)		√	Good	Good	1	1	Good
22.	EL0901R0F0209017N	Drosopigiotiko		√	Good	Good	1	1	Good
<b>ALIAKMON RIVER BASIN (EL0902)</b>									
23.	EL0902R0000010122N	Koilada (Soulou)		√	Poor	Good	3	3	Poor

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
24.	EL0902R0000010123H	Soulou (Mines)	√	√	Moderate	Failing to achieve good	1	1	Moderate
25.	EL0902R0000010124A	Soulou (Sari Giol)	√	√	Moderate	Failing to achieve good	1	1	Moderate
26.	EL0902R0000010125A	Petron – Vegoritida Cnal	√	√	Moderate	Good	1	1	Moderate
27.	EL0902R0000010126N	Amyntas			Poor	Good	3	1	Poor
28.	EL0902R0000010127H	Cheimaditida Canal	√	√	Good	Good	1	1	Good
29.	EL0902R0000010128A	Zazari – Cheimaditida Canal	√	√	Moderate	Good	1	1	Moderate
30.	EL0902R0000010129H	Sklithro	√	√	Good	Good	1	1	Good
31.	EL0902R0001000114H	Rema Korinos (Morphologically altered)	√		Good	Good	3	1	Good
32.	EL0902R0001000115N	Rema Katerini			Good	Good	1	1	Good
33.	EL0902R0002010003H	Aliakmonas (Krasopouli to Delta)	√	√	Moderate	Good	1	1	Moderate
34.	EL0902R0002020001H	Kryoneri (Morphologically altered)	√	√	Good	Good	3	1	Good
35.	EL0902R0002020002N	Kerasies (Kryoneri stream)			Good	Good	3	1	Good
36.	EL0902R0002030007H	Aliakmon (T66 - Krasopouli)	√	√	Bad	Good	3	1	Bad
37.	EL0902R0002030008H	Aliakmon (T66 - Krasopouli)	√	√	Moderate	Good	1	1	Moderate
38.	EL0902R0002040004H	Krasopouli (Morphologically altered – Old Bed)	√	√	Moderate	Good	1	1	Moderate
39.	EL0902R0002040005H	Krasopouli (Morphologically altered – Old Bed)	√	√	Moderate	Good	1	1	Moderate
40.	EL0902R0002040007H	Krasopouli	√	√	Moderate	Good	1	1	Moderate
41.	EL0902R0002040006N	Krasopouli (Morphologically altered – New Bed)		√	Moderate	Good	3	1	Moderate
42.	EL0902R0002050009H	Aliakmon (Aliakmon - T66)	√	√	Moderate	Good	1	1	Moderate
43.	EL0902R0002050010H	Aliakmon (Aliakmon - T66)	√	√	Moderate	Good	1	1	Moderate
44.	EL0902R0002060079A	Perifereiaki Tafros (T66)	√	√	Bad	Good	3	3	Bad
45.	EL0902R0002060081A	Perifereiaki Tafros (T66)	√	√	Moderate	Unknown	1	0	Unknown
46.	EL0902R0002060083A	Perifereiaki Tafros (T66)	√	√	Moderate	Good	1	1	Moderate
47.	EL0902R0002060086A	Perifereiaki Tafros (T66)	√	√	Poor	Good	3	3	Poor

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
48.	EL0902R0002060088A	Perifereiaki Tafros (T66)	√	√	Moderate	Good	1	1	Moderate
49.	EL0902R0002060095A	Perifereiaki Tafros (T66)	√	√	Moderate	Good	1	1	Moderate
50.	EL0902R0002060100A	Perifereiaki Tafros (T66)	√	√	Moderate	Good	1	1	Moderate
51.	EL0902R0002061080N	Tripotamos		√	Good	Good	3	3	Good
52.	EL0902R0002062082N	Konticha		√	Poor	Good	1	3	Poor
53.	EL0902R0002063084N	Arapitsas		√	Good	Failing to achieve good	3	3	Moderate
54.	EL0902R0002063085N	Arapitsas		√	Good	Good	3	1	Good
55.	EL0902R0002064087N	Lianorema		√	Moderate	Good	1	1	Moderate
56.	EL0902R0002065089H	Edeseos (Skydra part)	√	√	Moderate	Good	1	1	Moderate
57.	EL0902R0002065090N	Edeseos (Vodas)		√	Moderate	Good	3	3	Moderate
58.	EL0902R0002065091H	Edeseos (hydroelectric station part)	√	√	Moderate	Good	1	1	Moderate
59.	EL0902R0002065092H	Edeseos (Groundwater diversion)	√	√	Moderate	Good	1	1	Moderate
60.	EL0902R0002065093H	Edeseos (diversion towards hydroelectric station)	√	√	Moderate	Good	1	1	Moderate
61.	EL0902R0002065094H	Edeseos (Agra part)	√	√	Moderate	Good	1	1	Moderate
62.	EL0902R0002066096N	Mavropotamos		√	Moderate	Good	1	1	Moderate
63.	EL0902R0002066097N	Mavropotamos		√	Good	Failing to achieve good	3	1	Moderate
64.	EL0902R0002066098N	Megalo Rema (Karavidia)		√	Good	Good	3	1	Good
65.	EL0902R0002066099N	Aspropotamos		√	Good	Good	1	1	Good
66.	EL0902R0002070011H	Aliakmon (Polyfyto – Sfikia)	√		Good	Failing to achieve good	1	1	Moderate
67.	EL0902R0002080012N	Skoularitikos Lakkos			Good	Good	1	1	Good
68.	EL0902R0002080013N	Skoularitikos Lakkos		√	Good	Good	1	1	Good
69.	EL0902R0002090024N	Aliakmon			Good	Good	3	1	Good
70.	EL0902R0002100014N	Ftelias			Good	Failing to achieve good	3	3	Moderate
71.	EL0902R0002100015N	Ftelias		√	Good	Good	1	1	Good
72.	EL0902R0002110036N	Aliakmon			Good	Good	1	1	Good

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
73.	EL0902R0002120016N	Agiou Markou			Good	Good	3	1	Good
74.	EL0902R0002120017N	Aikaterinis Lakkos			Good	Good	1	1	Good
75.	EL0902R0002130038N	Aliakmon			Good	Good	1	1	Good
76.	EL0902R0002150040N	Aliakmon			Good	Good	1	1	Good
77.	EL0902R0002160018N	Smiksi			Good	Good	1	1	Good
78.	EL0902R0002170044N	Aliakmon			Moderate	Good	1	1	Moderate
79.	EL0902R0002180019N	Vintsa			Good	Good	1	1	Good
80.	EL0902R0002190047N	Aliakmon			Good	Good	1	1	Good
81.	EL0902R0002190048N	Aliakmon			Moderate	Good	1	1	Good
82.	EL0902R0002200020N	Akoniou Lakkos			Good	Good	1	1	Good
83.	EL0902R0002210054N	Aliakmon			Moderate	Good	1	1	Moderate
84.	EL0902R0002220021N	Karavida			Good	Good	1	1	Good
85.	EL0902R0002230056N	Aliakmon			Moderate	Unknown	1	0	Unknown
86.	EL0902R0002230057N	Aliakmon			Moderate	Good	1	1	Moderate
87.	EL0902R0002240022N	Potamia			Good	Good	1	1	Good
88.	EL0902R0002240023N	Sioutsa			Good	Good	1	1	Good
89.	EL0902R0002250059N	Aliakmon			Good	Good	3	1	Good
90.	EL0902R0002270063N	Aliakmon			Good	Good	1	1	Good
91.	EL0902R0002280025N	Venetikos			Moderate	Good	1	1	Moderate
92.	EL0902R0002280029N	Venetikos		√	Good	Good	1	1	Good
93.	EL0902R0002280034N	Venetikos		√	Good	Good	1	1	Good
94.	EL0902R0002280035N	Venetikos		√	Good	Good	1	1	Good
95.	EL0902R0002281026N	Koutsafira			Good	Good	1	1	Good
96.	EL0902R0002281027N	Stavropotamos			Good	Good	1	1	Good
97.	EL0902R0002281028N	Koutsafira			Good	Good	1	1	Good
98.	EL0902R0002282030N	Venetikos		√	Good	Good	1	1	Good
99.	EL0902R0002282031N	Venetikos		√	Good	Good	1	1	Good
100.	EL0902R0002282032N	Venetikos		√	Good	Good	3	1	Good
101.	EL0902R0002282033N	Aspropotamos		√	Good	Good	1	1	Good
102.	EL0902R0002290067N	Aliakmon			Moderate	Good	1	1	Moderate

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
103.	EL0902R0002300037N	Potamia			Good	Good	1	1	Good
104.	EL0902R0002310070N	Aliakmon			Moderate	Unknown	1	0	Unknown
105.	EL0902R0002320039N	Greveniotikos		√	Poor	Good	3	3	Poor
106.	EL0902R0002330074N	Aliakmon		√	Good	Good	1	1	Good
107.	EL0902R0002340041N	Ntroumpeta			Good	Good	1	1	Good
108.	EL0902R0002340042N	Lyssasmenis			Good	Good	1	1	Good
109.	EL0902R0002341043N	Potamia			Good	Good	1	1	Good
110.	EL0902R0002350077N	Aliakmon		√	Good	Good	1	1	Good
111.	EL0902R0002350078N	Aliakmon		√	Good	Good	1	1	Good
112.	EL0902R0002360045N	Mylopotamos			Moderate	Good	1	1	Moderate
113.	EL0902R0002360046N	Mylopotamos		√	Good	Good	1	1	Good
114.	EL0902R0002380049N	Pramoritsa			Good	Good	3	1	Good
115.	EL0902R0002380050N	Pramoritsa			Good	Good	1	1	Good
116.	EL0902R0002380051N	Koutsomilia			Good	Good	1	1	Good
117.	EL0902R0002380052N	Koutsomilia			Good	Good	1	1	Good
118.	EL0902R0002381053N	Paleoxwri			Good	Good	1	1	Good
119.	EL0902R0002400055N	Myrixos			Good	Good	1	1	Good
120.	EL0902R0002420058N	Poros			Good	Good	1	1	Good
121.	EL0902R0002440060N	Gkiole			Moderate	Good	3	1	Moderate
122.	EL0902R0002440061N	Gkiole			Moderate	Good	1	1	Good
123.	EL0902R0002440062N	Xiropotamos		√	Good	Good	3	3	Good
124.	EL0902R0002460064N	Velas			Good	Good	1	1	Good
125.	EL0902R0002460065N	Velas			Good	Good	1	1	Good
126.	EL0902R0002460066N	Velas			Good	Good	1	1	Good
127.	EL0902R0002480068N	Stravopotamos			Moderate	Good	1	1	Moderate
128.	EL0902R0002480069N	Stravopotamos			Good	Good	1	1	Good
129.	EL0902R0002500071N	Aliakmon			Moderate	Good	1	1	Moderate
130.	EL0902R0002500072N	Aliakmon		√	Good	Good	1	1	Good
131.	EL0902R0002500073N	Aliakmon		√	Good	Good	1	1	Good
132.	EL0902R0002520075N	Vroxopotamos			Good	Good	1	1	Good

s/n	WB Code	WB Name	HMWB/ AWB	Association Protected Areas	ECOLOGICAL STATUS/ POTENTIAL	CHEMICAL STATUS	Confidence level		Total status
							Ecological	Chemical	
133.	EL0902R0002520076N	Vroxopotamos			Good	Good	1	1	Good
134.	EL0902R0003000116H	Chelopotamos	√		Good	Good	1	1	Good
135.	EL0902R0003000117N	Ksirolakki		√	Good	Good	1	1	Good
136.	EL0902R0004011116H	Ksirolakki (Diversion)	√	√	Moderate	Good	1	1	Moderate
137.	EL0902R0004010102H	Mavroneri (Morphologically altered)	√		Poor	Failing to achieve good	3	3	Poor
138.	EL0902R0004010103N	Mavroneri			Moderate	Failing to achieve good	1	1	Moderate
139.	EL0902R0004010104N	Mavroneri P.			Good	Good	1	1	Good
140.	EL0902R0004020104N	Pelekas			Good	Good	1	1	Good
141.	EL0902R0004020105N	Pelekas			Good	Good	1	1	Good
142.	EL0902R0004021106N	Patsiaris			Good	Good	1	1	Good
143.	EL0902R0004030107N	Mavroneri			Good	Good	1	1	Good
144.	EL0902R0004040108N	Pisteries			Good	Good	3	1	Good
145.	EL0902R0004040109N	Pisteries		√	Good	Good	1	1	Good
146.	EL0902R0004050110N	Mavroneri			Good	Good	1	1	Good
147.	EL0902R0004060111N	Petriwtikos			Good	Good	1	1	Good
148.	EL0902R0004070112N	Mavroneri		√	Good	Good	1	1	Good
149.	EL0902R0004070113N	Mavroneri		√	Good	Good	1	1	Good
150.	EL0902R0005000118H	Rema Manna (Morphologically altered)	√		Good	Good	1	1	Good
151.	EL0902R0005000119N	Mavrologgos			Good	Good	1	1	Good
152.	EL0902R0005000120N	Mavrologgos		√	Good	Good	1	1	Good
153.	EL0902R0005000121N	Mavrologgos		√	Good	Good	1	1	Good
154.	EL0902R0007000130H	Lakkos R. (Arranged section)	√		Moderate	Good	1	1	Moderate
155.	EL0902R0007000131N	Lakkos R.			Good	Good	1	1	Good

Table 6-2: Comparison of River WB classification status results of the Approved 1<sup>st</sup> RBMP, the Approved 1<sup>st</sup> Revision of the RBMP and the present 2<sup>nd</sup> Revision of Western Macedonia RBD

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
<b>Prespes RB (EL0901)</b>								
EL0901R000001018N	Paliorema (Ag. Germanos)	Unknown	Good	Good	Unknown	Good	Good	
EL0901R000001019N	Ag. Germanos (Stara rema)	Unknown	Good	Good	Unknown	Good	Good	
EL0901R000001020N	Kaloneri	Unknown	Good	Good	Good	Good	Good	
EL0901R000002021N	Syrakio	Unknown	Good	Good	Good	Good	Good	
EL0901R0F0201001N	Lygkos	Poor	Good	Good	Unknown	Unknown	Good	
EL0901R0F0202002N	Kallinikiotiko	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0202003N	Kallinikiotiko	Poor	Good	Moderate	Unknown	Unknown	Failing to achieve good	Degradation of ecological and chemical status
EL0901R0F0202004N	Kallinikiotiko	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0203005N	Lygkos	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0204006N	Paleo	Poor	Moderate	Moderate	Failing to achieve good	Unknown	Failing to achieve good	Degradation of chemical status
EL0901R0F0204007N	Paleo	Poor	Good	Good	Unknown	Unknown	Good	
EL0901R0F0205008N	Lygkos	Poor	Moderate	Poor	Failing to achieve good	Good	Good	Degradation of ecological status

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0901R0F0206011N	Florinis	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0206012N	Tropeouxos	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0206013N	Tropeouxos	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0206109N	Florinis	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0206110H	Florinis	Poor	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0901R0F0206111N	Florinis	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0207014N	Melpo	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0207015N	Melpo	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0208016N	Asprorema (downstream of Triantafyllia Dam)	Poor	Good	Good	Unknown	Good	Good	
EL0901R0F0209017N	Drosopigiotiko	High	Good	Good	Good	Good	Good	
<b>Aliakmon RB (EL0902)</b>								
EL0902R0000010122N	Koilada (Soulou)	Poor	Poor	Poor	Failing to achieve good	Failing to achieve good	Good	Improvement of chemical status
EL0902R0000010123H	Soulou (Mines)	Poor	Moderate	Moderate	Failing to achieve good	Unknown	Failing to achieve good	
EL0902R0000010124A	Soulou (Sari Giol)	Poor	Moderate	Moderate	Failing to achieve good	Unknown	Failing to achieve good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0000010125A	Petron – Vegoritida Canal	Unknown	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0000010126N	Amyntas	Unknown	Poor	Poor	Unknown	Good	Good	
EL0902R0000010127H	Cheimaditida Canal	Unknown	Moderate	Good	Unknown	Unknown	Good	Improvement of ecological status
EL0902R0000010128A	Zazari – Cheimaditida Canal	Unknown	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0000010129H	Sklithro	Unknown	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0001000114H	Rema Korinos (Morphologically altered)	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0001000115N	Rema Katerini	Unknown	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0002010003H	Aliakmonas (Krasopouli to Delta)	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002020001H	Kryoneri (Morphologically altered)	Unknown	Poor	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0002020002N	Kerasies (Kryoneri stream)	Unknown	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0002030007H	Aliakmon (T66 - Krasopouli)	Poor	Moderate	Bad	Failing to achieve good	Good	Good	Degradation of ecological status
EL0902R0002030008H	Aliakmon (T66 - Krasopouli)	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002040004H	Krasopouli (Morphologically altered – Old Bed)	Unknown	Moderate	Moderate	Unknown	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002040005H	Krasopouli (Morphologically altered – Old Bed)	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002040007H	Krasopouli	-		Good	-		Good	<b>New Water Body</b>
EL0902R0002040006N	Krasopouli (Morphologically altered – New Bed)	Unknown	Poor	Moderate	Unknown	Good	Good	<b>Improvement of ecological status</b>
EL0902R0002050009H	Aliakmon (Aliakmon - T66)	Poor	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002050010H	Aliakmon (Aliakmon - T66)	Poor	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002060079A	Perifereiaki Tafros (T66)	Bad	Moderate	Bad	Failing to achieve good	Failing to achieve good	Good	<b>Degradation of ecological status</b> <b>Improvement of chemical status</b>
EL0902R0002060081A	Perifereiaki Tafros (T66)	Bad	Moderate	Moderate	Failing to achieve good	Unknown	Unknown	
EL0902R0002060083A	Perifereiaki Tafros (T66)	Bad	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002060086A	Perifereiaki Tafros (T66)	Poor	Poor	Poor	Failing to achieve good	Failing to achieve good	Good	<b>Improvement of chemical status</b>
EL0902R0002060088A	Perifereiaki Tafros (T66)	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002060095A	Perifereiaki Tafros (T66)	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002060100A	Perifereiaki Tafros (T66)	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002061080N	Tripotamos	Moderate	Moderate	Good	Unknown	Unknown	Good	<b>Improvement of ecological status</b>

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002062082N	Konticha	Unknown	Moderate	Poor	Unknown	Unknown	Good	Degradation of ecological status
EL0902R0002063084N	Arapitsas	Poor	Moderate	Good	Unknown	Unknown	Failing to achieve good	Improvement of ecological status
EL0902R0002063085N	Arapitsas	Good	Good	Good	Good	Good	Good	
EL0902R0002064087N	Lianorema	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002065089H	Edeseos (Skydra part)	Poor	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002065090N	Edeseos (Vodas)	Poor	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002065091H	Edeseos (hydroelectric station part)	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002065092H	Edeseos (Groundwater diversion)	Unknown	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0002065093H	Edeseos (diversion towards hydroelectric station)	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002065094H	Edeseos (Agra part)	Unknown	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002066096N	Mavropotamos	Poor	Good	Moderate	Unknown	Good	Good	Degradation of ecological status
EL0902R0002066097N	Mavropotamos	Poor	Moderate	Good	Unknown	Good	Failing to achieve good	Degradation of chemical status Improvement of ecological status
EL0902R0002066098N	Megalo Rema (Karavidia)	Poor	Good	Good	Good	Unknown	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002066099N	Aspropotamos	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002070011H	Aliakmon (Polyfyto – Sfikia)	Unknown	Moderate	Good	Unknown	Good	Failing to achieve good	Degradation of chemical status Improvement of ecological status
EL0902R0002080012N	Skoularitikos Lakkos	Good	Good	Good	Good	Good	Good	
EL0902R0002080013N	Skoularitikos Lakkos	Good	Good	Good	Good	Good	Good	
EL0902R0002090024N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002100014N	Ftelias	Unknown	Poor	Good	Unknown	Good	Failing to achieve good	Degradation of chemical status Improvement of ecological status
EL0902R0002100015N	Ftelias	Good	Good	Good	Good	Good	Good	
EL0902R0002110036N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002120016N	Agiou Markou	Good	Moderate	Good	Good	Good	Good	Improvement of ecological status
EL0902R0002120017N	Aikaterinis Lakkos	Good	Good	Good	Good	Good	Good	
EL0902R0002130038N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002150040N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002160018N	Smiksi	Good	Good	Good	Good	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002170044N	Aliakmon	Moderate	Good	Moderate	Unknown	Good	Good	Degradation of ecological status
EL0902R0002180019N	Vintsa	Good	Good	Good	Good	Good	Good	
EL0902R0002190047N	Aliakmon	Good	Good	Good	Unknown	Good	Good	
EL0902R0002190048N	Aliakmon	Good	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0002200020N	Akoniou Lakkos	Good	Good	Good	Good	Good	Good	
EL0902R0002210054N	Aliakmon	Moderate	Moderate	Moderate	Unknown	Good	Good	
EL0902R0002220021N	Karavida	Good	Good	Good	Good	Good	Good	
EL0902R0002230056N	Aliakmon	Moderate	Moderate	Moderate	Unknown	Unknown	Unknown	
EL0902R0002230057N	Aliakmon	Moderate	Good	Moderate	Unknown	Good	Good	Degradation of ecological status
EL0902R0002240022N	Potamia	Good	Good	Good	Good	Good	Good	
EL0902R0002240023N	Sioutsa	Good	Good	Good	Good	Good	Good	
EL0902R0002250059N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002270063N	Aliakmon	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002280025N	Venetikos	Moderate	Good	Moderate	Unknown	Good	Good	Degradation of ecological status

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002280029N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002280034N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002280035N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002281026N	Koutsafira	Good	Good	Good	Good	Good	Good	
EL0902R0002281027N	Stavropotamos	Good	Good	Good	Good	Good	Good	
EL0902R0002281028N	Koutsafira	Good	Good	Good	Good	Good	Good	
EL0902R0002282030N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002282031N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002282032N	Venetikos	Good	Good	Good	Good	Good	Good	
EL0902R0002282033N	Aspropotamos	Good	Good	Good	Good	Good	Good	
EL0902R0002290067N	Aliakmon	Moderate	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0002300037N	Potamia	Moderate	Good	Good	Unknown	Good	Good	
EL0902R0002290070N	Aliakmon	Moderate	Moderate	Moderate	Good	Unknown	Unknown	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002320039N	Greveniotikos	Bad	Moderate	Poor	Failing to achieve good	Failing to achieve good	Good	Improvement of chemical status Degradation of ecological status
EL0902R0002330074N	Aliakmon	Moderate	Good	Good	Good	Good	Good	
EL0902R0002340041N	Ntroumpeta	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002340042N	Lyssasmenis	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002341043N	Potamia	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002350077N	Aliakmon	High	Good	Good	Good	Good	Good	
EL0902R0002350078N	Aliakmon	High	Good	Good	Good	Good	Good	
EL0902R0002360045N	Mylopotamos	Unknown	Good	Moderate	Unknown	Good	Good	
EL0902R0002360046N	Mylopotamos	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002380049N	Pramoritsa	Moderate	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0002380050N	Pramoritsa	Good	Good	Good	Good	Good	Good	
EL0902R0002380051N	Koutsomilia	Good	Good	Good	Good	Good	Good	
EL0902R0002380052N	Koutsomilia	Good	Good	Good	Good	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002381053N	Paleoxwri	Good	Good	Good	Good	Good	Good	
EL0902R0002400055N	Myrixos	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002420058N	Poros	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0002440060N	Gkiole	Bad	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902R0002440061N	Gkiole	Bad	Moderate	Moderate	Failing to achieve good	Unknown	Good	
EL0902R0002440062N	Xiropotamos	Unknown	Poor	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0002460064N	Velas	Good	Good	Good	Good	Good	Good	
EL0902R0002460065N	Velas	Good	Good	Good	Good	Good	Good	
EL0902R0002460066N	Velas	Good	Good	Good	Good	Good	Good	
EL0902R0002480068N	Stravopotamos	Unknown	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0002480069N	Stravopotamos	Good	Good	Good	Good	Good	Good	
EL0902R0002500071N	Aliakmon	Unknown	Moderate	Moderate	Unknown	Unknown	Good	
EL0902R0002500072N	Aliakmon	Good	Good	Good	Good	Good	Good	
EL0902R0002500073N	Aliakmon	Good	Good	Good	Good	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0002520075N	Vroxopotamos	Good	Good	Good	Good	Good	Good	
EL0902R0002520076N	Vroxopotamos	Good	Good	Good	Good	Good	Good	
EL0902R0003000116H	Chelopotamos	Unknown	Moderate	Good	Good	Good	Good	Improvement of ecological status
EL0902R0003000117N	Ksirolakki	Good	Good	Good	Good	Good	Good	
EL0902R0004011116H	Ksirolakki (Diversion)			Moderate			Good	New WB
EL0902R0004010102H	Mavroneri (Morphologically altered)	Poor	Poor	Poor	Unknown	Good	Failing to achieve good	Degradation of chemical status
EL0902R0004010103N	Mavroneri	Poor	Moderate	Moderate	Unknown	Unknown	Failing to achieve good	
EL0902R0004010104N	Mavroneri P.			Good			Good	New WB
EL0902R0004020104N	Pelekas	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0004020105N	Pelekas	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0004021106N	Patsiaris	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0004030107N	Mavroneri	Unknown	Good	Good	Unknown	Good	Good	
EL0902R0004040108N	Pisteries	Good	Good	Good	Good	Good	Good	
EL0902R0004040109N	Pisteries	Good	Good	Good	Good	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks 2 <sup>nd</sup> Revision of RBMP
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902R0004050110N	Mavroneri	Good	Good	Good	Unknown	Good	Good	
EL0902R0004060111N	Petriwtikos	Good	Good	Good	Good	Good	Good	
EL0902R0004070112N	Mavroneri	Good	Good	Good	Good	Good	Good	
EL0902R0004070113N	Mavroneri	Good	Good	Good	Good	Good	Good	
EL0902R0005000118H	Rema Manna (Morphologically altered)	Unknown	Moderate	Good	Unknown	Good	Good	Improvement of ecological status
EL0902R0005000119N	Mavrologgos	Good	Good	Good	Unknown	Good	Good	
EL0902R0005000120N	Mavrologgos	Good	Good	Good	Good	Good	Good	
EL0902R0005000121N	Mavrologgos	Good	Good	Good	Good	Good	Good	
EL0902R0007000130H	Lakkos R. (Arranged section)			Moderate			Good	New WB
EL0902R0007000131N	Lakkos R.			Good			Good	New WB

### 6.1.1 Evaluation of Lake Water Bodies' Status

The results of the classification of the status of the lake water systems of the Water District, including reservoirs, are listed in the following Tables (Table 6-3 for reservoirs and Table 6-4 for lake WBs) .

The Tables record, for each water system, the ecological, chemical and overall status, if it includes protected areas, as well as the confidence level of the results of the ecological and chemical classification ("0" = No information, "1" = Low trust, "2" = Moderate trust, "3" = High trust).

Also in the following table (Table 6-4) shows the differences in the ecological and chemical status of the lake WBs of WD EL09, including the reservoirs, between the first and the revised RBMP are recorded.

Table 6-3: Classification of Reservoir WBs (Heavily Modified River WBs) of the WD of Western Macedonia EL09

s/n	WB Code	WB Name	Association with Protected Areas	Ecological status / potential	Chemical status	Level of Confidence		Total Status
						Ecological	Chemical	
<b>Prespes RB (EL0901)</b>								
1	EL0901L000000001H	A.L. Papadia	√	Unknown	Good	0	1*	Unknown
2	EL0901L000000002H	A.L. Triantafyllia		Unknown	Good	0	1*	Unknown
<b>Aliakmon RB (EL0902)</b>								
3	EL0902L000000006H	A.L. Agia Varvara	√	Unknown	Good	0	0	Unknown
4	EL0902L000000007H	A.L. Assomaton	√	Good	Good	3	3	Good
5	EL0902L000000008H	A.L. Sfikias	√	Good	Good	3	3	Good
6	EL0902L000000009H	A.L. Polyfytou		Good	Failing to achieve good	3	3	Moderate
7	EL0902L000000010H	A.L. Ilariona		Unknown	Unknown	0	0	Unknown
8	EL0902L000000011H	A.L. Pramoritisa	√	Unknown	Good	0	1*	Unknown

\* Classification was carried through Expert Judgement based on the pressures the specific WBs are under, due to little or no data and inability to classify them with by grouping

Table 6-4: Classification of Lake WBs of the WD of Western Macedonia EL09

s/n	WB Code	WB Name	HMWB	Association with Protected Areas	Ecological status / potential	Chemical status	Confidence level		Total status
							Ecological	Chemical	
<b>Prespes RB (EL0901)</b>									
1.	EL0901L0A0000013N	Mikri Prespa		√	Moderate	Good	3	3	Moderate
2.	EL0901LFA0000014N	Megali Prespa		√	Moderate	Good	3	3	Moderate
<b>Aliakmon RB (EL0902)</b>									
3.	EL0902L000000002N	Zazari		√	Poor	Good	3	3	Poor
4.	EL0902L000000003N	Cheimaditida		√	Good	Good	3	3	Good
5.	EL0902L000000004N	Petron		√	Moderate	Good	3	3	Moderate
6.	EL0902L000000005N	Vegoritida		√	Moderate	Good	3	3	Moderate
7.	EL0902L000000012H	Kastorias	√	√	Moderate	Good	3	3	Moderate

Table 6-5: Comparison of status results of Lakes of the Approved 1<sup>st</sup> RBMP, the 1<sup>st</sup> Revision and the present 2<sup>nd</sup> Revision of the WD of Western Macedonia

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks / 2 <sup>nd</sup> Revision of the RBMP EL09
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
<b>Prespes RB (EL0901)</b>								
EL0901LFA0000014N	Megali Prespa	Moderate	Good	Moderate	Failing to achieve good	Good	Good	Degradation of ecological status
EL0901LOA0000013N	Mikri Prespa	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0901L000000001H	A.L. Papadia	Unknown	Unknown	Unknown	Unknown	Unknown	Good	
EL0901L000000002H	A.L. Triantafyllia	New WB		Unknown	New WB		Good	New WB
<b>Aliakmon RB (EL0902)</b>								
EL0902L000000002N	Zazari	Bad	Poor	Poor	Unknown	Good	Good	
EL0902L000000003N	Cheimaditida	Bad	Bad	Good	Unknown	Good	Good	Improvement of ecological status
EL0902L000000004N	Petron	Unknown	Poor	Moderate	Failing to achieve good	Good	Good	Improvement of ecological status
EL0902L000000005N	Vegoritida	Poor	Moderate	Moderate	Unknown	Good	Good	
EL0902L000000012H	Kastorias	Poor	Moderate	Moderate	Failing to achieve good	Good	Good	
EL0902L000000006H	A.L. Agia Varvara	Unknown	Unknown	Unknown	Unknown	Unknown	Good	
EL0902L000000007H	A.L. Asomaton	Unknown	Good	Good	Unknown	Good	Good	
EL0902L000000008H	A.L. Sfikias	Unknown	Good	Good	Unknown	Good	Good	

WB Code	WB Name	Ecological status / potential			Chemical status			Remarks / 2 <sup>nd</sup> Revision of the RBMP EL09
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
EL0902L000000009H	A.L. Polyfytou	Moderate	Good	Good	Unknown	Good	Failing to achieve good	Degradation of chemical status
EL0902L000000010H	A.L. Ilariona	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
EL0902L000000011H	A.L. Pramoritsa	Unknown	Unknown	Unknown	Unknown	Unknown	Good	

### 6.1.2 Evaluation of Transitional Water Bodies status

The results of the status classification of the transitional water bodies of the Water District are presented in the following Table (Table 6-7). The columns of the Table record, for each water system, the ecological, chemical and overall status, if it is particularly modified (HMWB) and if it includes protected areas. The degree of confidence of the ecological and chemical classification results is also recorded ("0" = No information, "1" = Low confidence, "2" = Moderate confidence, "3" = High confidence).

**Table 6-6: Classification of the Transitional WBs in Western Macedonia WD**

s/n	WB Code	WB Name	HMWB / AWB	Association with protected areas	Ecological status	Chemical status	Confidence Level		Total status
							Ecological	Chemical	
<b>Prespes RB (EL0901)</b>									
No transitional water bodies are located in the RB									
<b>Aliakmon RB (EL0902)</b>									
1	EL0902T000000001N	Ekvoliko Systima Loudia - Aliakmona		√	Moderate	Good	3	3	Moderate
2	EL0902T000000002N	Limnothalassa Kitrous		√	Moderate	Good	3	3	Moderate

The following Table lists the differences in the ecological and chemical status of the transitional water bodies of the EL09 WD between the approved (1<sup>st</sup>), the revised River Basin Management Plan and the present 2<sup>nd</sup> Revision.

**Table 6-7: Comparison of Transitional WBs classification status results of the Approved RBMP, the 1<sup>st</sup> Revision and the present 2<sup>nd</sup> Revision.**

WB Code	WB Name	Ecological status / potential			Chemical status			Remark
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	2 <sup>nd</sup> Revision	
<b>Prespes RB (EL0901)</b>								
No transitional water bodies are located in the RB								
<b>Aliakmon RB (EL0902)</b>								
EL0902T000000001N	Ekvoliko Systima Loudia - Aliakmona	Poor	Poor	Moderate	Unknown	Good	Good	Improvement of ecological status
EL0902T000000002N	Limnothalassa Kitrous	Moderate	Poor	Moderate	Unknown	Good	Good	

### 6.1.3 Evaluation of Coastal Water Bodies' Status

The results of the classification of the status of the coastal water bodies of the Water District are presented in the following Table (Table 6-9). The columns of the Table record, for each water system, the ecological, chemical and overall status, if it is particularly modified (HMWB) and if it includes protected areas.

The degree of confidence of the ecological and chemical classification results is also recorded ("0" = No information, "1" = Low confidence, "2" = Moderate confidence, "3" = High confidence).

**Table 6-8: Classification of the Coastal WBs in Western Macedonia WD**

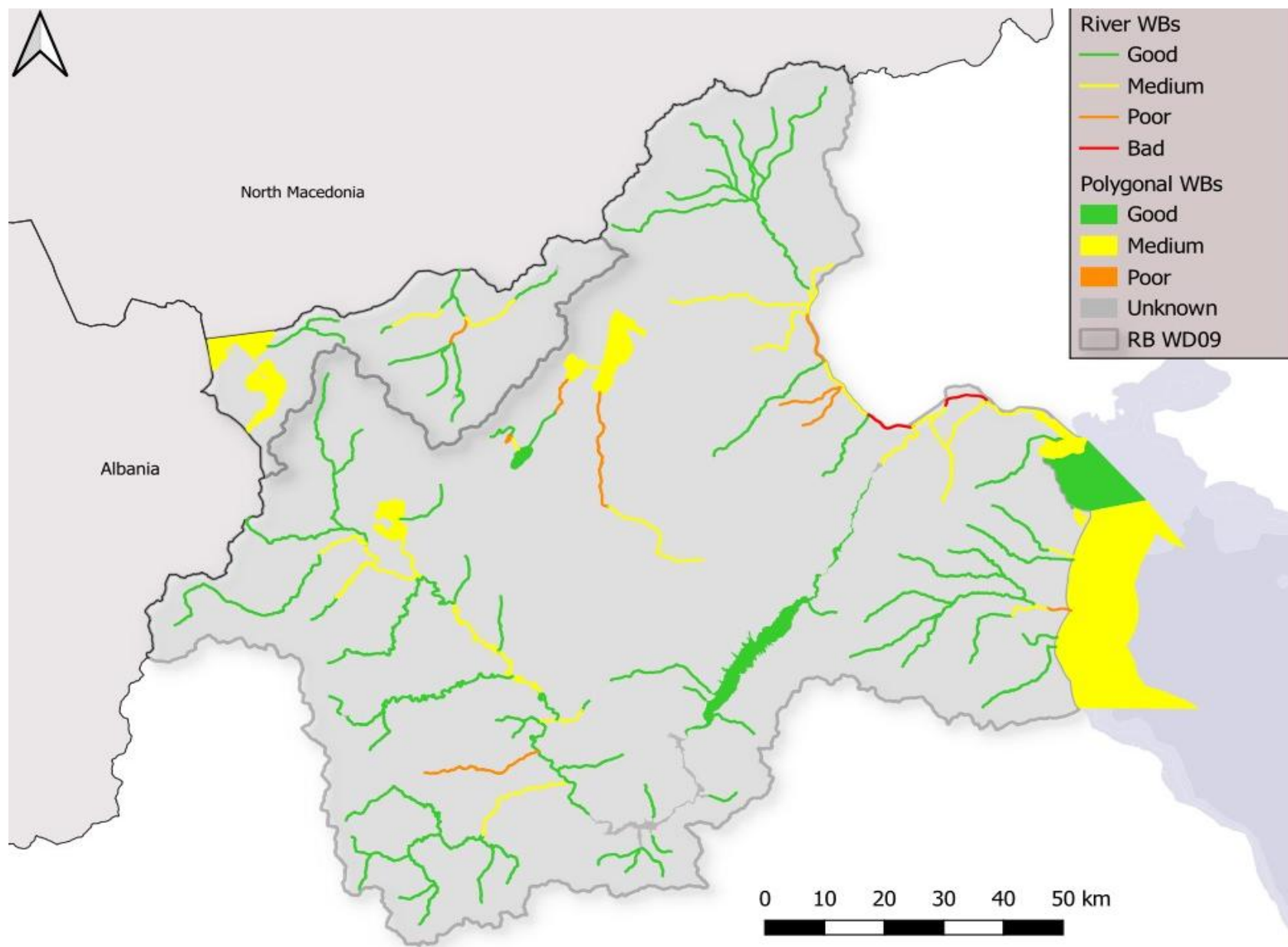
s/n	WB Code	WB Name	HMWB / AWB	Association with Protected Areas	Ecological Status	Chemical Status	Confidence level <sup>1</sup>		Total Status
							Ecological	Chemical	
<b>Prespes RB (EL0901)</b>									
No Coastal WBs are located in the RB									
<b>Aliakmon RB (EL0902)</b>									
1	EL0902C0001N	Ekso Thermaikos Kolpos – Aktes Katerinis		√	Moderate	Good	3	3	Moderate
2	EL0902C0002N	Eso Thermaikos Kolpos - Aliakmonas		√	Good	Good	3	3	Good

The following Table lists the differences in the ecological and chemical status of the coastal water systems of the WD EL09 between the approved (1<sup>st</sup>), the revised River Basin Management Plan and the present 2<sup>nd</sup> Revision.

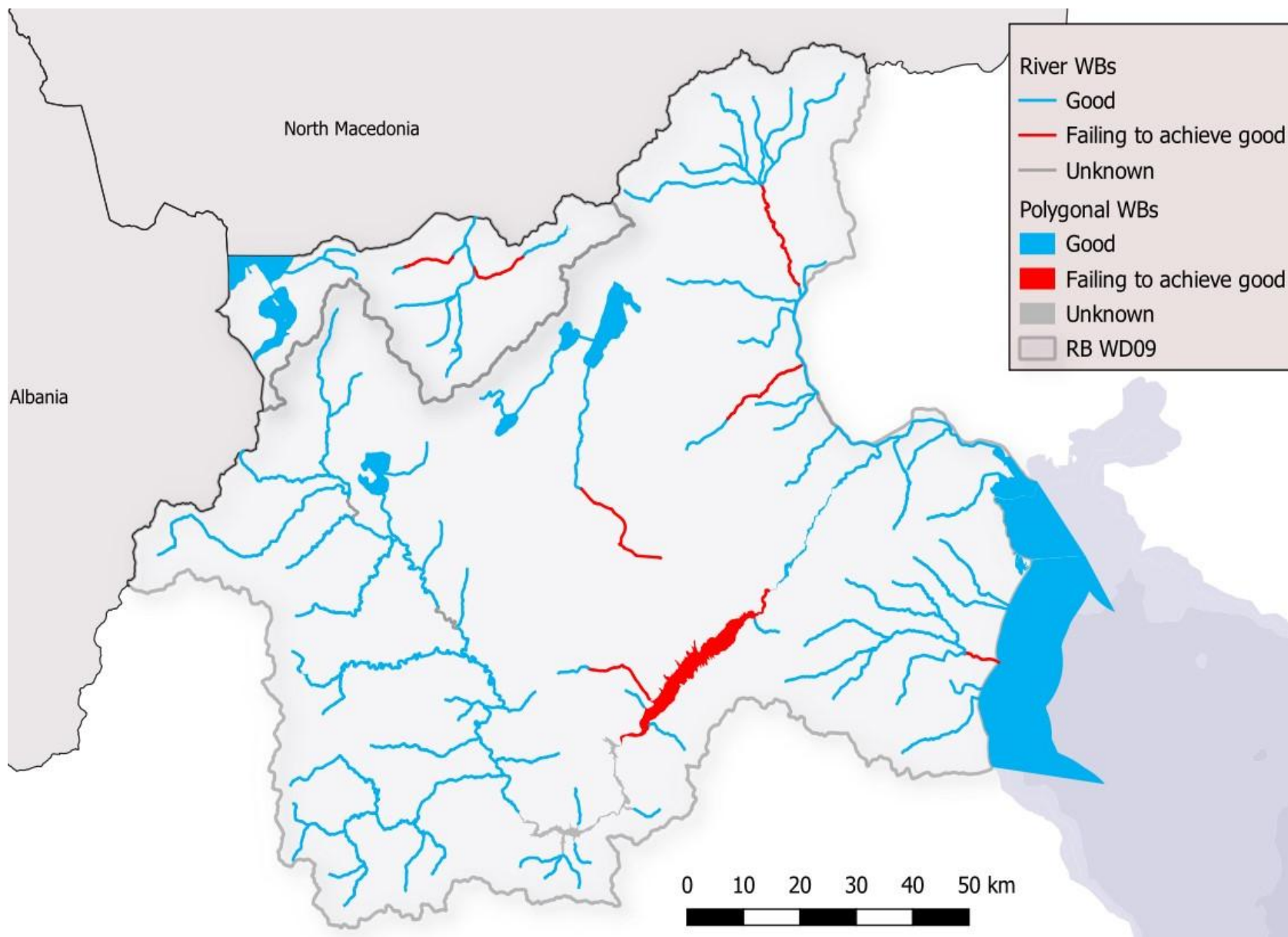
**Table 6-9: Comparison of Coastal WBs classification status results of the Approved RBMP, the 1st Revision and the present 2nd Revision.**

WB Code	WB Name	Ecological status / potential			Chemical status			Ecological status / potential
		1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	1 <sup>st</sup> RBMP	1 <sup>st</sup> Revision	
<b>Prespes RB (EL0901)</b>								
No Coastal WBs are located in the RB								
<b>Aliakmon RB (EL0902)</b>								
EL0902C0001N	Ekso Thermaikos Kolpos – Aktes Katerinis	Good	Moderate	Moderate	Unknown	Good	Good	-
EL0902C0002N	Eso Thermaikos Kolpos - Aliakmonas	Moderate	Moderate	Good	Unknown	Good	Good	Improvement of ecological status

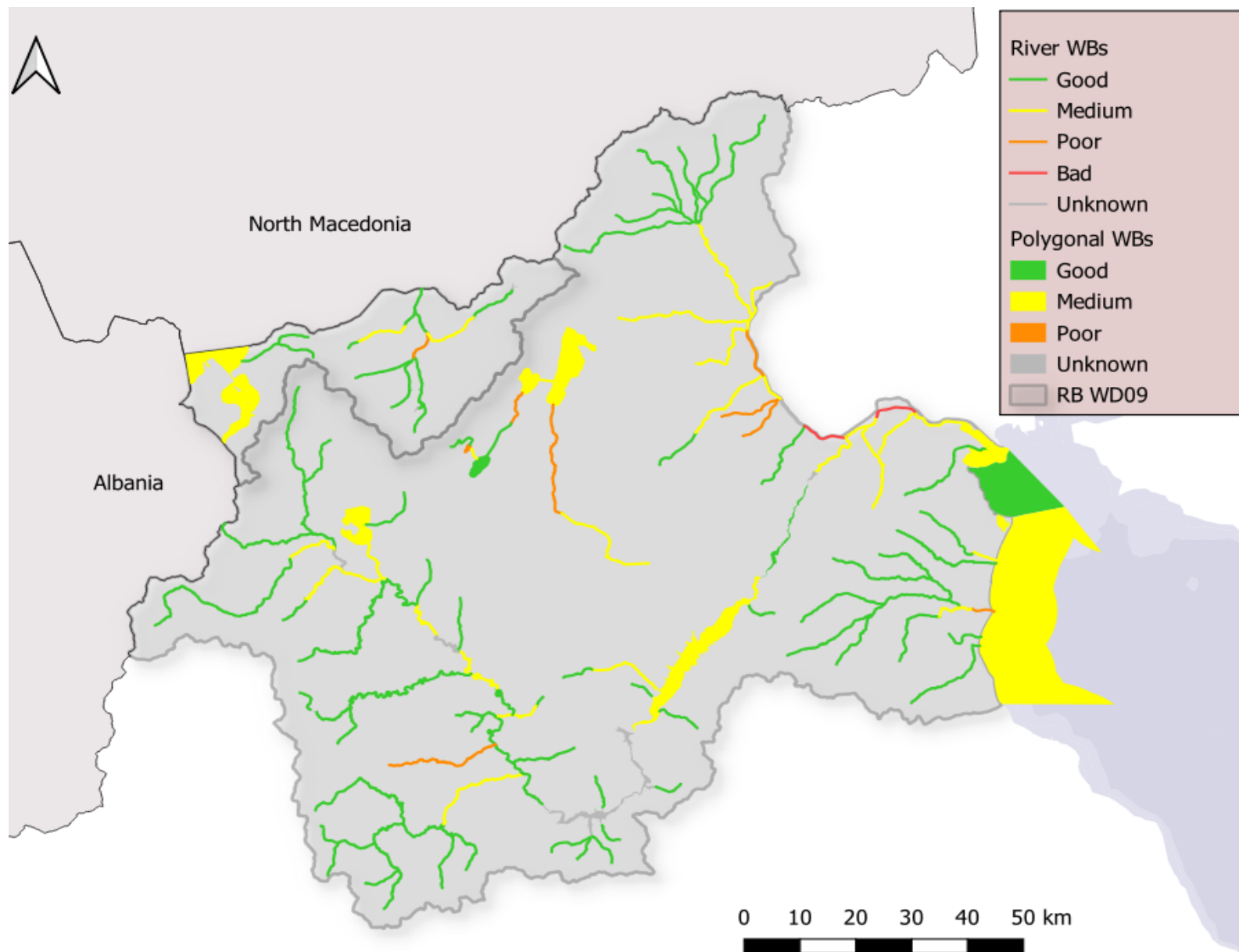
<sup>1</sup> «0» = No data, «1» = Low confidence, «2» = Moderate confidence, «3» = High confidence. Refers to ecological and chemical status



Map 6-1: Ecological status of surface WBs in the Western Macedonia WD (EL09)



Map 6-2: Chemical status of the surface WBs in the Western Macedonia WD (EL09)



Map 6-3: Overall status of the surface WBs in the WD of Western Macedonia (EL09)

## 6.2 Classification of Groundwater Bodies' status

The characterization of the status of a groundwater body depends on both the assessment of its chemical and quantitative status. The good chemical status of the groundwater body aims to protect groundwater from degradation and pollution, while the good quantitative status ensures the available water resources and the non-depletion of the aquifer.

### 6.2.1 Groundwater bodies' status assessment

#### 6.2.1.1 PRESPEB RB

In the Prespes RB (EL0901), 4 groundwater bodies have been delineated, the status of which is given in the table below. All four groundwater bodies are in good chemical and quantitative status.

**Table 6-10: Table of Groundwater bodies' chemical and quantitative status of Prespes RB (EL0901)**

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
1	EL09AF040	PORODES FLORINAS	Good	Overexploitation (1/6) EL09040902 Surplus groundwater balance with local indications of overexploitation.	Good	Local exceedance of chemical threshold NO <sub>3</sub> , NH <sub>4</sub> : agricultural and livestock activities.	NO <sub>3</sub>
2	EL090F291	POGMATIKO VORA	Good	Surplus groundwater balance	Good	-	-
3	EL090F321	PORODES VEVIS - FLAMPOUROU	Good	Surplus groundwater balance	Good	-	-
4	EL09AF013	PORODES PRESPON	Good	No (0/1)  Surplus groundwater balance	Good	-	-

#### 6.2.1.2 ALIAKMON RB

In the Aliakmon RB (EL0902), 44 groundwater bodies have been delineated, the status of which is given in the table below. Among of the 44 groundwater bodies of Aliakmon RB, 4 of them are in poor chemical condition and 10 of them are in poor quantitative condition due to overexploitation of the groundwater resources.

**Table 6-11: Table of Groundwater bodies' chemical and quantitative status of Aliakmon RB (EL0902)**

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
1	EL09AF010	KARSTIKO TRIKLARIOU OROUS	Good	No (0/5)	Good	No	No

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
				Surplus groundwater balance			
2	EL0900023	PORODES KASTORIAS	Good	Overexploitation (3/6) EL09020903 EL09020905 EL09020906  Surplus groundwater balance with local indications of overexploitation.	Poor	NO <sub>3</sub> , NH <sub>4</sub> : agricultural and livestock activities.	NO <sub>3</sub>
3	EL0900022	PORODES MESOPOTAMIAS – CHILIODENDROU	Good	Overexploitation (2/3) EL09020907 EL09020908  Surplus groundwater balance with local indications of overexploitation.	Good	Local exceedance of chemical threshold NO <sub>3</sub> : agricultural and livestock activities.	NO <sub>3</sub>
4	EL0900036	PORODES GREVENON	Good	Overexploitation (4/13) EL09030904 EL09030909 EL09030910 EL09020911  Surplus groundwater balance with local indications of overexploitation.	Good	Local exceedance of chemical threshold NO <sub>3</sub> : agricultural and livestock activities.	NO <sub>3</sub>
5	EL0900050	PORODES AMYNTAIYOU FLORINAS	Poor	Overexploitation (1/6) EL09050903  Deficient groundwater balance	Good	Local exceedance of chemical threshold NO <sub>3</sub> , NO <sub>2</sub> : agricultural and livestock activities. SO <sub>4</sub> : Industry Coal mines	SO <sub>4</sub>
6	EL0900061	PORODES PTOLEMAIDAS	Poor	Overexploitation (3/8) EL09060904 EL09060905 EL09060906  Deficient groundwater balance	Poor	NO <sub>3</sub> : agricultural and livestock activities SO <sub>4</sub> : Industry Coal mines	NO <sub>3</sub>

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
7	EL0900062	PORODES NOTIOU PEDIUOY	Poor	No (0/3) Deficient groundwater balance	Poor	NO <sub>3</sub> : agricultural and livestock activities	NO <sub>3</sub>
8	EL0900063	PORODES KARYOXORIOU – KLEITOUS – TETRALOFOU	Poor	No (0/1) Surplus groundwater balance	Poor	No (The Chemical status of the groundwater body remains poor, due to the lack of sufficient number of monitoring sites.)	No
9	EL0900071	KARSTIKO ND VERMIOU	Good	No (0/1) Surplus groundwater balance	Good	No	No
10	EL0900072	PORODES VATEROU	Good	No (0/1) Surplus groundwater balance	Good	No	No
11	EL0900073	PORODES KSIROLIMNIS	Good	No (0/1) Surplus groundwater balance	Good	No	No
12	EL0900074	PORODES KROKOU	Good	No monitoring sites Surplus groundwater balance	Good	-	-
13	EL0900075	KARSTIKO LEVKOPIGIS	Good	Surplus groundwater balance	Good	-	-
14	EL0900076	KARSTIKO ARGILOU - PROTOXORIOU	Good	Surplus groundwater balance	Good	-	-
15	EL0900077	PORODES POLYFYTOU	Good	Overexploitation (1/2) Surplus groundwater balance	Good	No	No
16	EL0900081	KARSTIKO VD VERMIOY	Good	No (0/8) Surplus groundwater balance	Good	No	No

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
17	EL0900082	PORODES ARNISSAS PELLAS	Good	No (0/8)  Surplus groundwater balance	Good	No	No
18	EL090F090	KARSTIKO VA VERMIOU	Good	No (0/8)  Surplus groundwater balance	Good	No	No
19	EL0900100	KARSTIKO KENTRIKOU ANATOLIKOU VERMIOU OROUS	Good	Overexploitation (1/4) EL09100902  Surplus groundwater balance	Good	No	No
20	EL0900110	KARSTIKO NA VERMIOU	Good	Overexploitation (1/3) EL09110903  Surplus groundwater balance	Good	No	No
21	EL0900120	PORODES ALMOPAIU	Poor	Overexploitation (4/4) EL09120901 EL09120902 EL09120903 EL09120904  Deficient groundwater balance	Good	No	No
22	EL0900130	PORODES KATO ROU ALIAKMONA	Poor	Overexploitation (7/9) EL09130901 EL09130903 EL09130904 EL09130905 EL09130907 EL09130911 EL09130912  Deficient groundwater balance	Good	NO <sub>3</sub> , NH <sub>4</sub> : agricultural and livestock activities	No
23	EL0900141	KOKKODES LITOXOROU	Poor	No (0/1)  Surplus groundwater balance	Good	No  There are references of seawater intrusion in the coastal zone and	No

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
						intertemporal drawdown of the water table	
24	EL0900142	KARSTIKO LITOXOROU	Good	No existing monitoring sites Surplus groundwater balance	Good	-	-
25	EL0900150	PORODES KATERINIS	Poor	No (0/7) Deficient groundwater balance	Good	Local exceedance of chemical threshold NO <sub>3</sub> : agricultural and livestock activities. Seawater intrusion in the coastal zone.	NO <sub>3</sub>
26	EL0900160	PORODES KOLINDROU	Poor	Overexploitation (5/9) EL09160901 EL09160904 EL09160907 EL09160903 EL09160906  Deficient groundwater balance	Good	Local exceedance of chemical threshold NO <sub>3</sub> : agricultural and livestock activities. Seawater intrusion in the coastal zone.	NO <sub>3</sub>
27	EL0900170	ROGMODES DASOXORIOU GREVENON	Good	Surplus groundwater balance	Good	-	-
28	EL0900180	PORODES TRIKOKKIAS GREVENON	Good	No (0/1) Surplus groundwater balance	Good	Local exceedance of chemical threshold NO <sub>3</sub> : agricultural and livestock activities.	No
29	EL0900190	PORODES PALIOURIAS GREVENON	Good	Surplus groundwater balance	Good	-	-
30	EL0900221	KARSTIKO KORISOU KASTORIAS	Good	Overexploitation EL09220901 (1/1)  Surplus groundwater balance	Good	No	No
31	EL0900231	PORODES GALATEIAS – EMPORIOU KOZANIS	Good	No (0/1) Slightly deficient groundwater balance	Good	No	No

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
32	EL0900241	ROGMODES PIERION	Good	No (0/1) Surplus groundwater balance	Good	No	No
33	EL0900251	ROGMODES NAOUSAS	Good	No (0/2) Surplus groundwater balance	Good	No	No
34	EL0900261	ROGMODES ALMOPIAS	Good	Overexploitation (2/3) EL09260901 EL09260902 Surplus groundwater balance with local indications of overexploitation.	Good	No	No
35	EL090F271	ROGMODES ARIDAIAS	Good	No (0/2) Surplus groundwater balance	Good	-	No
36	EL0900281	ROGMODES VOURINOU	Good	No (0/1) Surplus groundwater balance	Good	No	No
37	EL090F301	ROGMODES VARNOUNTA – VERNOU	Good	Overexploitation (1/1) EL09300902 Surplus groundwater balance	Good	NO <sub>3</sub> : agricultural and livestock activities.	No
38	EL0900311	ROGMODES B. PINDOU	Good	Surplus groundwater balance	Good	-	-
39	EL0900331	ROGMODES NYMFAIOY – VLASTIS	Good	Surplus groundwater balance	Good	-	-
40	EL0900341	PORODES PERDIKKA – FILOTA	Poor	Deficient groundwater balance	Good	-	-
41	EL090A351	ROGMODES MESOELLINIKIS AVLAKAS	Good	Surplus groundwater balance	Good	No	No
42	EL0900361	ROGMODES ELATIS – LIVADEROU	Good	Surplus groundwater balance	Good	No	No

s/n	Code	Name	Quantitative status	Trend of drawdown in the water table/ yield	Chemical status	Chemical problems due to Anthropogenic activities	Significant Trend of Pollutant
43	EL0900014	PORODES CHALARAS – MAVROKAPOU	Good	Surplus groundwater balance	Good	-	-
44	EL0900015	KARSTIKO APOSKEPOU KEFALARIOU	Good	Surplus groundwater balance	Good	-	-

## 6.2.2 Results of the 2nd Revision in comparison with the 1st Revision of River Management Basin Plan

According to all the available data that were evaluated, the following differences were emerged with regard to the chemical and the quantitative status of the Groundwater Bodies, compared to the classification results of the 1<sup>st</sup> Revision of River Management Basin Plan.

### ➤ Chemical status

**EL0900023:** Porodes Kastorias: **degradation of the chemical status** is being recorded due to NO<sub>3</sub>, NH<sub>4</sub> and specific pollutants.

### ➤ Quantitative status

**EL0900081:** Karstiko BD Vermiou Orous: **improvement of the quantitative status** is being recorded that is represented by the rise of the groundwater level in 6/6 monitoring sites and the rise and/ or stability of the yield in 2/2 monitoring sites.

**EL0900082:** Porodes Arnissas Pellas: **improvement of the quantitative status** is being recorded that is represented by the rise of the groundwater level in 1/1 monitoring sites.

In the following table the differences of the chemical and quantitative status of the groundwater bodies are being recorded in accordance with the previous River Management Basin Plans of the River Basin District of Western Macedonia (EL09).

**Table 6-12: Changes of the Chemical and Quantitative status of the groundwater bodies among the River Basin Management Plan, 1<sup>st</sup> Revision and 2<sup>nd</sup> Revision.**

Code	Groundwater Body Name	River Basin Management Plan		1 <sup>st</sup> Revision of the River Management Basin Plan		2 <sup>nd</sup> Revision of the River Management Basin Plan	
		Chemical Status	Quantitative status	Chemical Status	Quantitative status	Chemical Status	Quantitative status
<b>Prespes RB</b>							
EL09AF040	PORODES FLORINAS	Good	Good	Good	Good	Good	Good
EL090F291	POGMATIKO VORA	Good	Good	Good	Good	Good	Good
EL090F321	PORODES VEVIS - FLAMPOUROU	Good	Good	Good	Good	Good	Good
EL09AF013	PORODES PRESPON	Good	Good	Good	Good	Good	Good
<b>Aliakmon RB</b>							
EL09AF010	KARSTIKO TRIKLARIOU OROUS	Good	Good	Good	Good	Good	Good
EL0900023	PORODES KASTORIAS	Good	Good	Good	Good	Poor	Good
EL0900022	PORODES MESOPOTAMIAS	Good	Good	Good	Good	Good	Good

Code	Groundwater Body Name	River Basin Management Plan		1 <sup>st</sup> Revision of the River Management Basin Plan		2 <sup>nd</sup> Revision of the River Management Basin Plan	
		Chemical Status	Quantitative status	Chemical Status	Quantitative status	Chemical Status	Quantitative status
	– CHILIODENDROU						
EL0900036	PORODES GREVENON	Good	Good	Good	Good	Good	Good
EL09AF040	PORODES FLORINAS	Good	Good	Good	Good	Good	Good
EL0900050	PORODES AMYNTAIOY FLORINAS	Good	Poor	Good	Poor	Good	Poor
EL0900061	PORODES PTOLEMAIDAS	Poor	Poor	Poor	Poor	Poor	Poor
EL0900062	PORODES NOTIOU PEDIUOY	Poor	Poor	Poor	Poor	Poor	Poor
EL0900063	PORODES KARYOCHORIOY – KLEITOUS – TETRALOFOU	Poor	Poor	Poor	Poor	Poor	Poor
EL0900071	KARSTIKO ND VERMIOU OROUS	Good	Good	Good	Good	Good	Good
EL0900072	PORODES VATEROU	Good	Good	Good	Good	Good	Good
EL0900073	PORODES KSIROLIMNIS	Good	Good	Good	Good	Good	Good
EL0900074	PORODES KROKOU	Good	Good	Good	Good	Good	Good
EL0900075	KARSTIKO LEVKOPIGIS	Good	Good	Good	Good	Good	Good
EL0900076	KARSTIKO ARGILOY – PROTOCHORIOY	Good	Good	Good	Good	Good	Good
EL0900077	PORODES POLYFYTOY	Good	Good	Good	Good	Good	Good
EL0900081	KARSTIKO BD VERMIOU OROUS	Good	Poor	Good	Poor	Good	Good
EL0900082	PORODES ARNISSAS PELLAS	Good	Poor	Good	Poor	Good	Good
EL090F090	KARSTIKO BA VERMIOU OROUS	Good	Good	Good	Good	Good	Good
EL0900100	KARSTIKO KENTRIKOU ANATOLIKOU VERMIOU OROUS	Good	Good	Good	Good	Good	Good
EL0900110	KARSTIKO NA VERMIOU	Good	Good	Good	Good	Good	Good
EL0900120	PORODES ALMOPAIUOY	Good	Poor	Good	Poor	Good	Poor

Code	Groundwater Body Name	River Basin Management Plan		1 <sup>st</sup> Revision of the River Management Basin Plan		2 <sup>nd</sup> Revision of the River Management Basin Plan	
		Chemical Status	Quantitative status	Chemical Status	Quantitative status	Chemical Status	Quantitative status
EL0900130	PORODES KATO ROU ALIAKMONA	Good	Poor	Good	Poor	Good	Poor
EL0900141	KOKKODES LITOCOROU	Good	Poor	Good	Poor	Good	Poor
EL0900142	KARSTIKO LITOCOROU	Good	Good	Good	Good	Good	Good
EL0900150	PORODES KATERINIS	Good	Poor	Good	Poor	Good	Poor
EL0900160	PORODES KOLINDROU	Good	Poor	Good	Poor	Good	Poor
EL0900170	ROGMODES DASOCHORIOU GREVENON	Good	Good	Good	Good	Good	Good
EL0900180	PORODES TRIKOKKIAS GREVENON	Good	Good	Good	Good	Good	Good
EL0900190	PORODES PALIOURIAS GREVENON	Good	Good	Good	Good	Good	Good
EL0900221	KARSTIKO KORISOY KASTORIAS	Good	Good	Good	Good	Good	Good
EL0900231	PORODES GALATEIAS – EMPOREIOU KOZANIS	Good	Good	Good	Good	Good	Good
EL0900241	ROGMODES PIERION	Good	Good	Good	Good	Good	Good
EL0900251	ROGMODES NAOUSAS	Good	Good	Good	Good	Good	Good
EL0900261	ROGMODES ALMOPIAS	Good	Good	Good	Good	Good	Good
EL090F271	ROGMODES ARIDAIAS	Good	Good	Good	Good	Good	Good
EL0900281	ROGMODES VOURINOY	Good	Good	Good	Good	Good	Good
EL090F291	PORODES VORA	Good	Good	Good	Good	Good	Good
EL090F301	ROGMODES VARNOUNTA - VERNOU	Good	Good	Good	Good	Good	Good
EL0900311	ROGMODES B. PINDOU	Good	Good	Good	Good	Good	Good
EL090F321	PORODES FLAMPOUROU – VEVIS	Good	Good	Good	Good	Good	Good
EL0900331	ROGMODES NYMFAIOU – VLASTIS	Good	Good	Good	Good	Good	Good
EL0900341	PORODES PERDIKKA – FILOTA	Good	Poor	Good	Poor	Good	Poor

Code	Groundwater Body Name	River Basin Management Plan		1 <sup>st</sup> Revision of the River Management Basin Plan		2 <sup>nd</sup> Revision of the River Management Basin Plan	
		Chemical Status	Quantitative status	Chemical Status	Quantitative status	Chemical Status	Quantitative status
EL090A351	ROGMODES MESOELLINIKIS AVLAKAS	Good	Good	Good	Good	Good	Good
EL0900361	ROGMODES ELATIS – LIVADEROU	Good	Good	Good	Good	Good	Good
EL09AF013	PORODES PRESPON	Good	Good	Good	Good	Good	Good
EL0900014	PORODES CHALARAS - - MAVROKAMPOU	Good	Good	Good	Good	Good	Good
EL0900015	KARSTIKO APOSKEPOU - KEFALARIOU	Good	Good	Good	Good	Good	Good

### 6.3 Monitoring network of the water bodies' status

During the preparation of the 2<sup>nd</sup> Revision of the Management Plan, the results from 53 monitoring stations of Surface WS were evaluated. The monitoring stations concerned 28 operational and 25 supervisory ones, while their distribution by type of EWS follows below:

- ◆ River WBs – **38** Monitoring Sites (15 operational and 23 supervisory)
- ◆ Lake WBs – **12** Monitoring Sites (10 operational and 2 supervisory)
- ◆ Transitional WBs – **2** Monitoring Sites (2 operational)
- ◆ Coastal WBs – **1** Monitoring Sites (1 operational)

Of the monitoring stations that provide data (as they are presented in the related results), 40 stations recorded data for the assessment of the Ecological status and 31 for the corresponding assessment of the Chemical status. Below is the relevant breakdown:

**Table 6-13: Monitoring site data of surface water bodies in the WD EL09**

Type of WB	Monitoring sites with data of Ecological Status	Monitoring sites with data of Chemical Status
River WBs	25	16
Lake WBs	12	12
Transitional WBS	2	2
Coastal WBs	1	1

In the 1<sup>st</sup> Revision of the Management Plan, the monitoring network of the Surface WBs was based on the results of 43 monitoring stations, of which 22 were supervisory and 21 were operational. Of these, 43 stations recorded data on ecological status and 12 on chemical status.

#### Network of Monitoring Sites of the Groundwater bodies

In the 1<sup>st</sup> Revision of the River Management Basin Plan the network of the monitoring sites was based on 88 monitoring sites, of which the 44 were surveillance monitoring sites and the rest were operational monitoring sites. All the monitoring sites were used for the evaluation of the chemical and quantitative status of the groundwater bodies.

In the 2<sup>nd</sup> Revision of the River Management Basin Plan the network of the monitoring sites was based on 115 monitoring sites, of which the 37 were surveillance monitoring sites and the 78 were operational monitoring site. Among the 115 monitoring sites the 114 of them were used for the evaluation of the chemical and quantitative status of the groundwater bodies.

Prespes RB: 4 surveillance and 5 operational monitoring sites are included.

Aliakmon RB: 33 surveillance and 73 operational monitoring sites are included.

## 7 ECONOMICAL ANALYSIS OF WATERS USES

The economic analysis of water uses is carried out in accordance with the current legislation and the specific directions of the General Directorate of Water.

### 7.1 Financial Cost of Water Services in RBD and recovery rate in the WD (EL09)

#### 7.1.1 Water services for drinking water supply, waste water collection and treatment facilities

In WD (EL09) 14 MEWSS are in operation, whereas the 8 Municipalities with the absence of MEWSS are responsible for the drinking water supply and wastewater collection and treatment.

In the following table the main water/sewage providers in the RDB (EL09) are presented.

**Table 7-1: Water/Sewage service providers in the RBs of RBD (EL09)**

Regional Unit	Municipality	Provider of Drinking water, sewage	RB
Kozanis	Velventou	Municipality of Velvento	Aliakmon
	Voiou	Municipality of Voio	Aliakmon
	Eordaias	MEWSS of Eordaia	Aliakmon
	Kozanis	MEWSS of Kozani	Aliakmon
	Servion	Municipality of Servia*	Aliakmon
Florinas	Amyntaiou	Municipality of Amyntaio	Prespes & Aliakmon
	Prespes	Municipality of Prespes	Prespes & Aliakmon
	Florinas	MEWSS of Florina	Prespes & Aliakmon
Kastorias	Argous Orestikou	Municipality of Argos Orestiko	Aliakmon
	Kastorias	MEWSS of Kastoria	Aliakmon
	Nestoriou	Municipality of Nestorio*	Aliakmon
Grevenon	Grevenon	MEWSS of Grevena	Aliakmon
	Deskatis	Municipality of Deskati*	Aliakmon
Imathias	Alexandreias	MEWSS of Alexandria*	Aliakmon
	Veroias	MEWSS of Veroia*	Aliakmon
	Heroic City of Naousas	MEWSS of Naousa*	Aliakmon
Pellas	Almopias	MEWSS of Almopia	Aliakmon
	Edessas	MEWSS of Edessa	Prespes & Aliakmon
	Pellas	MEWSS of Pella*	Aliakmon

Regional Unit	Municipality	Provider of Drinking water, sewage	RB
	Skydras	MEWSS of Skydra*	Aliakmon
Pierias	Diou-Olympou	MEWSS of Diou-Olympou*	Aliakmon
	Katerinis	Katerini MEWSS	Aliakmon
	Pydnas Kolindrou	Municipality of Pydnas Kolindrou	Aliakmon
Ioannina	Metsovou	Municipality of Metsovo*	Aliakmon

i. In RBD (EL09) are also included small areas from 3 more municipalities. These areas make up 2% of the RBD (EL09). In the above areas only one small residential area exists. In the calculation that follows the data of these settlements are not included.

ii. A part of Alexandria and Skydra MEWSS belongs to Axios RB of the RBD (EL10).

The financial cost and the recovery rate in the RBs are presented in the following table.

**Table 7-2: Financial cost recovery of RB water supply in RBs of the RBD (EL09)**

RB	Nominal consumption (million m <sup>3</sup> )	Total financial cost (1000 €)	Average financial unit cost (€/m <sup>3</sup> )	Total revenue (€)	Average unit revenues (€/m <sup>3</sup> )	Recovery rate of total financial cost (%)
Providers with cost and revenue available data						
RB Prespes* (EL0901)	1,997	2,191	1,097	2,233	1,118	101,91
RB Aliakmona (EL0902)	21,766	36.943	1,554	20,558	0,865	55,65
Providers with incomplete or absent cost and revenue data	13,107	19,910	1,519	11,595	0,885	58,24
Total providers	38,870	59,044	1,519	34,386	0,885	58,24
Private drillings	7,790					100,00
<b>Total RBD (EL09)</b>	<b>46,660</b>					<b>65,76</b>

### 7.1.2 Water supply service for Agricultural Uses

The term “agricultural” refers to water use for irrigation and livestock subsistence. The provision of water for agricultural uses comes from either private drillings or from collective irrigation networks which function in the legal form of “TOEB”. Cases of water provision for agricultural use from MEWSS networks are practically negligible.

The water providers for agricultural uses in RBD (EL09) are given in the following table.

Table 7-3: Water providers for agricultural uses in RBs of RBD (EL09)

Regional Unit	Water Provider [Land Reclamation Organization (LRO) or Municipality]
Kozani	LRO of Velvento
	LRO OF Dafnero
	Municipality of Eordaia
	LRO of Imera
	LRO of Kaloneri - Eratira
	LRO of Klima
	Municipality of Kozani
	LRO of Mesiani
	LRO of Mesovouni
	LRO of Pyrgoi Eordaias
	LRO of Servia
	LRO of Sisani
	LRO of Trapezitsa
LRO of Xrwmio	
Florina	LRO of Meliti - Axlada
	LRO of Limnoxwri
	LRO of Petres
	LRO of Prespes
	LRO of Sklithra
Kastoria	LRO of Aliakmon
	LRO of Vasiliada
	LRO of Vrachos
	LRO of Vissinia
	LRO of Koresteia
	LRO of Korisos - Lithia
	LRO of Koromilia - Kolokinthous
	Municipality of Nestorio
Grevena	LRO of Agapi
	LRO of Agios Georgios Deskatis
	LRO of Vatolakos
	LRO of Dasochori
	LRO of Karpero - Dimitras
	LRO of Mavranaion
	LRO of Palioura
	LRO of Agia Paraskevi Deskatis
	LRO of Poros
Grevena	LRO of Taxiarchis
Imathia	LRO of Agroktima - Naousa

Regional Unit	Water Provider [Land Reclamation Organization (LRO) or Municipality]
	LRO of Alexandria
	LRO of Arapitsa - Naousa
	LRO of Zervochori
	LRO of Tripotamos Veroias
Pellas	LRO of Agios Loukas
	LRO of Edessaioi
	LRO of Mpalitsas - Karyotissas
	LRO of Nichorio
	LRO of Mylotopos
Pieria	LRO of Enipeas Litochoro
	LRO of Elaxotchori
	LRO of Elos Variko
	LRO Katachas
	LRO of Kolindros
	LRO of Milia
	LRO of Eleftherochori
	LRO of Rachi
	LRO of Ritini
LRO of Sevasti	

**Table 7-4: Financial cost recovery of water supply for agricultural used in the RBs of the WD (EL09), years: 2024-2027**

RB	Nominal consumption (m <sup>3</sup> )	Total financial cost (€)	Average financial unit cost (€/m <sup>3</sup> )	Total revenue (€)	Average unit revenue (€/m <sup>3</sup> )	Recovery rate of total financial cost (%)
Providers with available cost and revenue data						
Prespes RB* (EL0901)	2,700	7,642	2,83	185	0,07	2,42
Aliakmon RB (EL0902)	16,611	3,735	0,22	1.747	0,10	44,92
Providers with incomplete or absent cost and revenue data	31,323	18,453	0,59	3.133	0,10	16,98
<b>Total providers</b>	<b>66,933</b>	<b>29,830</b>	<b>0,59</b>	<b>5.066</b>	<b>0,10</b>	<b>16,68</b>
Private drillings	357,02					100,00
<b>Total RBD (EL09)</b>	<b>407,65</b>					<b>90,73</b>

## 7.2 Environmental Cost and Resource Cost

### 7.2.1 Environmental Cost Estimation

In this chapter the estimated Environmental Cost is presented as a result of the 2nd revision.

**Table 7-5: Environmental Cost and Resource Cost (€/m<sup>3</sup>) per water usage (year 2020)**

RB	Yearly (€)	Unit (€/m <sup>3</sup> )
Prespes (EL0901)	0	
Aliakmon (EL0902)	175.000	0,00018
<b>Total RBD (EL09)</b>	<b>175.000</b>	<b>0,00018</b>

The allocation of the environmental cost per use is presented in the table below.

**Table 7-6: Allocation of Environmental Cost per use in the RBs of the RBD (EL09)**

Environmental Cost	Domestic use	Agricultural and Livestock use	Industrial use
<b>RB PRESPE (EL0901)</b>			
Participation of use in total annual cost (%)	0	0	0
Annual cost per use (€)	0	0	0
Annual unit cost (€/m <sup>3</sup> )	0	0	0
<b>RB ALIAKMONA (EL0902)</b>			
Participation of use in total annual cost (%)	13,0	80,0	7,0
Annual cost per use (€)	21,881	141.714	11.405
Annual unit cost (€/m <sup>3</sup> )	<b>0,00016</b>	<b>0,0002</b>	<b>0,00017</b>
<b>TOTAL RB (EL09)</b>			
Participation of use in total annual cost (%)	13,0	80,0	7,0
Annual cost per use (€)	21,881	141.714	11.405
Annual unit cost (€/m <sup>3</sup> )	<b>0,00016</b>	<b>0,0002</b>	<b>0,00017</b>

### 7.2.2 Estimation of the resource cost

The water service providers during the 1st Revision of the Management Plans (years 2015-2020) were required to determine their tariff, taking into account the Environmental Cost and the Resource Cost indicated by decision of the Decentralized Administration, as calculated in the 1st Revision of the WD09. They are then required to charge water users an environmental fee equal to their sum.

Environmental end

According to article 3 of Law 5037/2023, "Environmental fee" is defined as the financial contribution of the end user, per cubic meter of water consumed, corresponding to the Environmental Cost and the resource cost. In the calculation of the environmental fee, the cost of restoring the environmental damage is not included, which is governed by the provisions of the P.D. 148/2009.

**Table 7-7: Resource Cost in the RBs of the WD (EL09)**

RB	Yearly (€)	Unit (€/m <sup>3</sup> )
Prespes (EL0901)	0	0
Aliakmon (EL0902)	125.000	0,00014
<b>Total RBD (EL09)</b>	<b>125.000</b>	<b>0,00014</b>

Table 7-8: Allocation of resource cost per use in the RBs of the RBD (EL09), years: 2024-2027

Environmental Cost	Domestic use	Agricultural and Livestock use	Industrial use
<b>RB PRESPE (EL0901)</b>			
Annual Unit environmental cost (€/m <sup>3</sup> )	0	0	0
Annual unit Resource cost (€/m <sup>3</sup> )	<b>0</b>	<b>0</b>	<b>0</b>
<b>RB ALIAKMONA (EL0902)</b>			
Annual Unit environmental cost (€/m <sup>3</sup> )	0,00006	Irrigation: 0,00011 Livestock: 0,00006	0,00011
Annual unit Resource cost (€/m <sup>3</sup> )	<b>0,00008</b>	Irrigation: 0,00008 Livestock: 0,00008	<b>0,00008</b>
<b>TOTAL RB (EL09)</b>			
Total Annual Unit environmental cost and resource cost (€/m <sup>3</sup> )	0,00014	Irrigation: 0,00019	0,00019
		Livestock: 0,000014	

## 8 ENVIRONMENTAL OBJECTIVES - EXEMPTIONS

### 8.1 Environmental objectives for Surfaces WBs

The following Table summarizes the targets set for the 174 surface WBs of the EL09 WD until 2027:

**Table 8-1: Objectives for Surface Water Bodies until 2027**

Objective	River WBs	Reservoirs	Lake WBs	Transitional WBs	Coastal WBs	Total WBs	Percentage in relation to total WBs
<b>Total WB number</b>	<b>155</b>	<b>8</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>174</b>	<b>-</b>
No degradation of good and high ecological status/potential	103	3	1	-	1	<b>108</b>	62,94%
No degradation of good chemical status	142	6	7	2	2	<b>159</b>	91,17%
Determination of ecological status/potential (by 2027)	-	5	-	-	-	<b>5</b>	2,94%
Determination of chemical status/potential (by 2027)	3	1	-	-	-	<b>4</b>	2,35%
Achievement of Good Chemical Status by 2033 and by 2039. Subject to Article 4.5	4	1	-	-	-	<b>5</b>	2,87%
Achieving a good Ecological status after 2027. Subject to Article 4.5	52	-	6	2	1	<b>61</b>	34,12%
Achieving a good Chemical status after 2027. Subject to Article 4.5	6	-	-	-	-	<b>6</b>	3,45%
Subject to Article 4.6	-	-	-	-	-	-	-
Subject to Article 4.7	2	-	-	-	-	<b>2</b>	1,18%

#### 8.1.1 Objectives for the groundwater bodies' status

The Table 8-2 summarizes the goals that have been set for the 48 groundwater bodies of the River Basin District:

- For 38 GWBs, the goal is the maintenance of the good quantitative status.

- For 10 GWBs, the goal is the achievement of the good quantitative status beyond 2027, whenever this would be allowed by the natural conditions.
- For 44 GWBs, the goal is the maintenance of the good chemical status.
- For 4 GWBs, the goal is the achievement of the good chemical status beyond 2027, whenever this would be allowed by the natural conditions.

**Table 8-2: Objectives for GWBs' status beyond 2027**

Objective	Number of groundwater bodies	Percentage
Non – degradation of the quantitative status	38	79%
Non – degradation of the chemical status	44	92%
Achievement of the good quantitative status beyond 2027 (Article 4.4)	10	21%
Achievement of the good quantitative status beyond 2027 due to natural conditions (Article 4.4)	4	8%
Achievement of good status beyond 2027 (Article 4.5)	0	0%
Article 4.6	0	0%
Article 4.7	0	0%

## 8.2 Prolongation of the target time (Article 4.4 of Directive 2000/60/EC)

Concisely, the categories of the exemptions that are presented in the 2<sup>nd</sup> Revision of the River Management Basin Plan concerning the groundwater bodies' status are given in the following table.

**Table 8-3: Exceptions of groundwater bodies' status until 2027**

Objective	Number of GWBs	Percentage
Non – degradation of the quantitative status	38	79%
Non – degradation of the chemical status	44	92%
Achievement of the good quantitative status beyond 2027 (Article 4.4)	10	21%
Achievement of the good quantitative status beyond 2027 due to natural conditions (Article 4.4)	4	8%

## 8.3 Less strict objectives (Article 4.5 of Directive 2000/60/EC)

In summary, the categories of exceptions set out in this Revision of the RBMP are presented in the following table.

Table 8-4: Category and sub-category of SWBs exemptions until 2027

Exception		Number of WBs	Remarks	
Category	Sub-category			
Ecological status	<b>Article 4.5/ Less strict objectives</b>	The overall pressures that the WBs are under will not allow the good state to be achieved	<b>61</b>	It concerns: 52 river WBs, 6 lake WBs, 2 transitional WBs and 1 coastal WB that will not achieve good ecological status/potential by 2027
Chemical status			<b>11</b>	It concerns: 10 river WBs and 1 reservoir WB that will not achieve good chemical status/potential by 2027
Ecological and chemical status	New Programmed Projects	-	<b>2</b>	It concerns 2 river WBs
Chemical status	Article 4.4 / Extension of Deadline	Extension of deadline for achieving good chemical status until <b>2033</b> . The less than good condition is due to excess concentration of <b>PS (23) (Nickel)</b>	<b>3</b>	It concerns 2 river WBs and 1 Reservoir <b>1. EL0902R0002066097N</b> Mavropotamos <b>2. EL0902R0002100014N</b> Ftelias Rema <b>3. EL0902L000000009H</b> A.L. Polyfytou
	Directive 2013/39/EU (2000/105/EC)	Extension of deadline to achieve good chemical status until <b>2039</b> . The less than good situation is due to excesses in the concentration of <b>PS – Cypermethrin (PS with AA 34-45 – newly characterized substances)</b>	<b>2</b>	It concerns <b>1. EL0902R0002063084N</b> Arapitsas P. <b>2. EL0902R0004010102H</b> Mavroneri (altered bed)

#### 8.4 Temporary degradation of status (Article 4.6 of Directive 2000/60/EC)

For the activation of Article 4.6 during periods of drought, this period should be characterized as "extended". For this purpose, three standard gradations of the SPI index calculated on the basis of rainfall for one period, i.e. -1.0, -1.5 and -2.0, are used to characterize moderate, severe and extreme droughts as defined in the Drought Management Plan implemented in 1st RBMP for rainfall data of the representative stations of six sub-regions (Aliakmona: Galatini, Axio Florina: Skopos, PEDIADA Katerinis: Lofos, Peripheral Trench: AGRAS-NISSIA, Ptolemaida: Limnochori, Prespon: Vyssinia).

After the end of each hydrological year, the annual SPI is calculated, based on the twelve-month rainfall data. In addition to the current year's SPI, the three-year average index is also calculated, which aims to identify particularly unfavorable long-term droughts.

As long as the value of the SPI is close to the -1.5 threshold, indicating extreme and/or severe long-term drought, Article 4(6) is triggered to exempt water bodies due to exceptional circumstances of prolonged drought.

#### 8.5 New modifications (Article 4.7 of Directive 2000/60/EC)

Article 4.7 of Directive 2000/60/EC may be applied:

- In planned projects, which are likely to lead to modifications of the physical characteristics of Surface Water Bodies or to changes in the level of Underground Water Bodies, resulting in the impossibility of achieving good groundwater status, good ecological status or, as the case may be, the good ecological potential or preventing the deterioration of the status of a Surface or Underground WB.
- In planned new human sustainable development activities that result in the inability to prevent degradation from High to Good status of a Surface WBs.

It is noted that for the projects whose implementation process is in full progress, the exceptions of the previous Management Plans remain in force.

During the previous management cycle (of the 1st Revision of the RBMP), no WBs were determined in addition to the first RBMP, which by virtue of the provisions of Article 4.7 are an exception due to new modifications arising from water providing projects. In the first management cycle (1st RBMP) 3 Water Bodies were defined: Asprorema (EL0901R0F0208016N), Drosopigiotiko P. (EL0901R0F0209017N) and Aliakmon P. (EL0902R0002500072N), which by virtue of the provisions of Article 4.7 were an exception due to new amendments originating from projects serving irrigation and water needs and have a valid Environmental Terms Approval Decision, as presented below:

1) With the Official Decree 172459/5-5-2014 "Amendment of no. 106202/11-6-2001 JMD Approval of Environmental Terms (AET) of the project "Construction of dams of the Florina plain", which was amended and renewed in time by the no. house 203732/26-9-11 MD", the projects have been licensed:

A. Triantafyllia rock dam with a central impenetrable core on the Triantafyllia stream, at a distance of approximately 1.5 km SW of the Kato Ydrousa settlement and 10 km from Florina, on the Asprorema River WB of the 1st Revision (EL0901R0F0208016N).

B. Strengthening project of the reservoir of the Triantafyllia dam from the neighboring Drosopigi basin through the Drosopigi dam located in the Drosopigiotiko WB (EL0901R0F0209017N), and the diversion channel of the waters of the Drosopigi stream to the Triantafyllia reservoir, with a total length of approximately 2.5 km, rectangular section 2x1 m and capacity 2.5 m<sup>3</sup>/sec.

The Triantafyllia dam currently holds the runoff from the Triantafyllia basin, while after the construction of the diversion project it will also receive the runoff from the Elateia basin. In total, the average annual runoff of these basins was calculated in the relevant studies at approximately 29,10<sup>6</sup> m<sup>3</sup>. From the waters of the reservoir, 35,000 to 40,200 acres will be irrigated in combination with the Colchiki dam (with interconnection of the main pipelines of the two networks). The withdrawal of water from the reservoir to cover the irrigation needs will be of the order of 12.5 x 10<sup>6</sup> m<sup>3</sup>, while a water withdrawal of the order of 2 x 10<sup>6</sup> m<sup>3</sup> is also planned to deal with the emergency water supply needs of the city of Florina. The diversion and water utilization projects of the Triantafyllia reservoir have not yet been implemented.

2) With the no. 132858-12.09.2007 JMD Approving the Environmental Conditions of the Project "Construction of the Nestorio Dam, Kastoria Prefecture" (as extended and in force with the Decision with Administrative Order no. 6665/8.02.2017 (ADA: 72ZO4653Π8-ZΛΕ) the construction of the Nestorio Dam has been authorized Kastoria on the WB Aliakmon P. (EL0902R0002500072N). The project concerns a reservoir with a useful storage volume of 75m<sup>3</sup>. It will serve the water supply needs of 23,000 inhabitants (1.7hm<sup>3</sup> of water per year) and irrigate approximately 75,000 acres of dryland crops. PE of Kastoria (19.1hm<sup>3</sup> of water per year). The ecological supply is estimated to be equal to 0.64 m<sup>3</sup>/s. The energy utilization of the project will allow the production of 18.1 GWh/year.

In the context of the 2nd Revision of the RBMP for the aforementioned 3 Water Bodies of the 1st RBMP, the following are clarified:

- the part of the SWB Asprorema river which was now identified as HMWB (Triantafyllias reservoir - EL0901L000000002H), is no longer subject to the exception of Article 4.7.
- the following rivers remain in the exceptions of Article 4.7:

- the SWB Asprorema river downstream of the Triantafyllias reservoir (EL0901R0F0208016N), as the water use projects of the Triantafyllias reservoir have not yet been operational, while it will be examined as an HMWB in the next RBMP review, since the reservoir is expected to serve the area's future irrigation and water supply needs,
- the river WB Drosopigiotiko R. (EL0901R0F0209017N), where the Drosopigi dam is planned for the diversion to the Triantafyllia Reservoir,
- the river WB Aliakmon R. (EL0902R0002500072N), on which the construction of the Nestorio dam is planned.

## 9 PROGRAM OF MEASURES

The program of measures is part of the Management Plan and constitutes the "mechanism" for achieving the environmental objectives set in it and aims:

- in the prevention of deterioration, the improvement and restoration of surface water systems, the achievement of the goal of their good ecological and chemical status, and the reduction of pollution due to discharges and emissions of hazardous substances.
- in the protection, improvement and restoration of the state of GWBs, in the prevention of their pollution and the deterioration of their state with the aim of balancing between extraction and renewal.
- In the conservation of protected areas.

The measures are divided into Basic and Supplementary.

- **The Basic measures**, in accordance with paragraph 3 of Article 11 of the Directive, are the basic requirements that must be met and include:
  - Measures for the implementation of **Union and National Legislation for water protection (Group I)**.
  - **Other Key Measures (Group II)**. These basic measures are related to the basic principles of the Union and National legislation for water management and are related to the horizontal implementation of actions in groups, usually water systems, with the aim of achieving or maintaining good status in them.

Supplementary Measures are the measures drawn up and implemented in addition to the Basic Measures, with the aim of achieving the objectives defined in accordance with Article 4 of Directive 2000/60/EC. Member States may establish further Supplementary measures with the aim of further improving the waters covered by the Directive.

### 9.1 Program of Basic and Supplementary Measures

#### 9.1.1 Actions for implementing EU directives (Group I of Basic Measures)

The following table lists the provisions for the incorporation of the Union Directives of Annex VI of Directive 2000/60/EC (as amended and in force) into National Law.

**Table 9-1: Provisions for incorporating the Union Directives of Annex VI of Directive 2000/60/EC into National Law**

Directive	Transposition in National Law
Bathing Water Directive (Directive 2006/7/EC)	JMD 8600/416/E103/23.02.2009 (Government Gazette 356/B/2009) on «quality and management of bathing water, in compliance with the provisions of Directive 2006/7/EC “concerning the management of bathing water quality and repealing Directive 76/160/EEC” », as amended and in force.
Protection of wild birds (Directive 2009/147/EC) and habitats (Directive 92/43/EEC)	JMD EP 37338/1807/E103/1.9.2010 (Government Gazette 1495/B/2010) "Definition of measures and procedures for the conservation of wild poultry and their habitats, in compliance with the provisions of Directive 79/409/EEC" On the conservation of wild birds", of the European Council of April 2, 1979, as codified by the directive 2009/147/EC" and its amendment JMD EP 8353/276/E103/2012 (Government Gazette 415/B/2012). JMD 33318/3028/11.12.1998 (Government Gazette 1289/B/1998) "determination of measures and procedures for the conservation of natural habitats (habitats) as well as wild fauna and flora" and its amendment JMD 14849/853/E103/ 2008 (Government Gazette 645/B/2008) in compliance with the provisions of Directive 92/43/EEC "on the conservation of natural habitats as well as wild fauna and flora". Law 3937/2011 (Government Gazette 60/A/2011) "Conservation of Biodiversity and other provisions",

Directive	Transposition in National Law
	JMD 50743/2017 (Government Gazette 4432/N/2017) "Revision of the national list of areas of the European Ecological Network Natura 2000"
<p><b>Water intended for human consumption</b> (Directives 98/83/EC, 2015/1787/EU as replaced by Directive (EU) 2020/2184)</p>	<p><b>Law Δ1(δ)/Γ.Π.27829/15.05.2023 (Gov. Gazette 3525/B/2023)</b> "Quality of water intended for human consumption in compliance with the provisions of Directive 2020/2184 of the Council of European Union, of 16 December 2020 (L435/1, 23.12.2020).</p>
<p><b>Environmental Impacts from Projects/Activities</b> (Directives 2011/92/EU, 2014/52/EU)</p>	<p><b>Law 4014/2011 (Government Gazette 209/A/2011)</b> "Environmental licensing of projects and activities, regulation of arbitrary in connection with the creation of an environmental balance and other provisions of the competence of the Ministry of Environment" as amended and in force.  <b>MD 5688/2018 (Government Gazette 988/B` 21.3.2018)</b> "Amendment of the appendices of Law 4014/2011 (A' 209), in accordance with Article 36A of this Law, in compliance with Directive 2014/52/EU "amending Directive 2011/92/EU on the assessment of the effects of certain public and private works projects on the environment" of the European Parliament and of the Council of 16 April 2014".  <b>Law 4936/2022 (Government Gazette 105/A` 27.5.2022)</b> "National Climate Law - Transition to climate neutrality and adaptation to climate change, urgent provisions to address the energy crisis and protect the environment"</p>
<p><b>Industrial Emissions Directive IED (Pollution Prevention and Control)</b> (Directive 2010/75/EU)</p>	<p><b>MD 36060/1155/E.103/2013</b> (Government Gazette 1450/B/2013) Establishment of a framework of rules, measures and procedures for integrated prevention and control of environmental pollution by industrial activities, in compliance with the provisions of Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 "on industrial emissions (integrated pollution prevention and control)".</p>
<p><b>Protection against pollution caused by nitrates from agricultural sources</b> (Directive 91/676/EEC)</p>	<p><b>JMD 16190/1335/19.05.1997</b> (Government Gazette 519/B/1997) "Measures and conditions for the protection of waters against pollution caused by nitrates from agricultural sources" to harmonize with Directive 91/676/EEC "concerning the protection of waters against pollution caused by nitrates from agricultural sources".  <b>MD oik. 19652/1906/1999</b> (Government Gazette 1575/B/1999) «Identification of waters subject to nitrate pollution of agricultural origin – List of vulnerable zones, in accordance with paragraphs 1 and 2 respectively of <b>article 4 of 16190/1335/1997 JMD</b> "Measures and conditions for the protection of waters against pollution caused by nitrates from agricultural sources" (B 519). Amendment of articles 3, 4, 5 and 8 of this Decision», as amended by <b>MD 20419/2522/2001</b> (Government Gazette 1212/B/2001), <b>MD 24838/1400/E103/2008</b> (Government Gazette 1132/B/2008), <b>MD 106253/2010</b> (Government Gazette 1843/B/2010), <b>MD 190126/2013</b> (Government Gazette 983/B/2013), MD 147070/2014 (Government Gazette 3224/B/2014) and in force. <b>MD 1420/82031/2015</b> (Government Gazette 1709/B/2015) "Code of Good Agricultural Practice for the Protection of Waters Against Nitrate Pollution from agricultural sources", as amended by <b>MD 2001/118518/2015</b>, (Government Gazette 2359/B/2015) «Amendment of No 1420/82031 (Government Gazette 1709/B/2015) Decision of the Deputy Minister of Production Reconstruction, Environment and Energy "Code of Good Agricultural Practice for the Protection of Waters Against Nitrate Pollution from agricultural sources"».  <b>MD 1848/278812/2021</b> (Government Gazette 4855/B' 20.10.2021) "Code of Good Agricultural Practice for the Protection of Water from Nitrate Pollution of Agricultural Origin (Article 10§1)</p>
<p><b>Plant Protection Products (Directive 2009/128/EC, Regulation (EC) No 1107/2009, Regulation (EU) No 652/2014)</b></p>	<p><b>Law 4036/27.01.2012 (Government Gazette 8/A/2012)</b> "Marketing of pesticides, rational use of these and related provisions" as amended and in force.  <b>Law 4625/2019 (Government Gazette A 139 - 31.08.2019)</b> "Regulations of the Ministry of Infrastructure and Transport and other urgent provisions" [Article 19 includes the amendment of Annex E of Law 4036/2012 (Government Gazette 8/A/2012), in compliance with Directive (EU) 2019/782 (Articles 1 and 2 of Directive 2019/782/EU)].</p>

Directive	Transposition in National Law
<b>Major Accidents (Seveso) Directive (Directive 2012/18/EU)</b>	<b>JMD 172058/2016</b> (Government Gazette 354/B/2016) «Establishing rules, measures and conditions to deal with major accident hazards in plants due to the presence of dangerous substances in compliance with the provisions of Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 “on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC”. Replacement of No 12044/613/2007 (Government Gazette 376/B/2007), as corrected (Government Gazette 2259/B/2007)».
<b>Sewage treatment plant sludge (Directives 86/278/EEC, 2018/853/EU, Regulation 2019/1010/EU)</b>	<b>MD ΥΠΕΝ/ΔΔΑ/41828/630/2023</b> (Government Gazette B' 2692/ 21.4.2023) "Measures, conditions and procedures for the use of treated sludge in agriculture and soil restoration - Compliance with the provisions of Directive 86/278/EEC of the Council of 12 June 1986 "on the protection of the environment and in particular the soil when using sewage treatment sludge in agriculture", as amended by Regulation (EU) 2019/1010 of the European Parliament and of the Council of 5 June 2019 and replacement of under no. 80568/4225/1991 (B' 641) of joint ministerial decision"
<b>Municipal Wastewater Treatment (Directives 91/271/EEC, 98/15/EC)</b>	<b>JMD 5673/400/05.03.1997</b> (Government Gazette 192/B/1997) "Measures and conditions for the treatment of urban wastewater" and its amending decisions MD 19661/1982/2.8.1999 (Government Gazette 1811/B/1999), MD 48392 /939/28.3.2002 (Government Gazette 405/B/2002) and MD 136843/2022 (Government Gazette B' 7215/ 31.12.2022)
<b>Regulation (EU) No. 2020/741 on minimum requirements for water reuse</b>	The Regulation applies when treated urban waste water is reused, in accordance with Article 12(1) of the Urban Waste Water Directive 91/271/EEC, for agricultural irrigation.

The following table presents the planned actions for the implementation of the Union and National Legislation for the protection of water.

**Table 9-2: Actions in implementation of Union Directives**

s/n	Directive	Planned Actions	Implementing Bodies
1	<b>Bathing water Directive (2006/7/EC)</b>	<ul style="list-style-type: none"> <li>▪ <b>BO11:</b> Continue to monitor the quality of bathing water in accordance with Directive 2006/7/EC</li> <li>▪ <b>BO12:</b> Updating the Greek Bathing Water Profiles Registry.</li> </ul>	General Directorate of Waters, Directorate of Water of the Decentralized Administration
2	<b>Habitats Directive (92/43/EEC) Birds Directive (2009/147/EC)</b>	<ul style="list-style-type: none"> <li>▪ <b>BO21:</b> Setting /Approval Management Plans for protected areas of Natura 2000 network relating with management water issues</li> <li>▪ <b>BO22:</b> Monitoring/Assessment of the conservation status of habitats and species directly depending on water in Natura 2000 areas.</li> </ul>	Ministry of Environment and Energy, Management Agencies of Protected Areas Ministry of Environment and Energy, N.E.C.C.A.
3	<b>Drinking Water (2020/2184/EE )</b>	<ul style="list-style-type: none"> <li>▪ <b>BO31:</b> Monitoring the implementation of the Directive</li> </ul>	Ministry of Health
4	<b>Pollution Prevention - Control (Directive 2010/75/EU)</b>	<ul style="list-style-type: none"> <li>▪ <b>BO51:</b> Maintaining a file-register of facilities that are included in the provisions of the Directive</li> </ul>	Decentralized Administration
5	<b>Protection against Nitrogen pollution (Directive 91/676/EEC)</b>	<ul style="list-style-type: none"> <li>▪ <b>BO61:</b> Systematic monitoring of the levels of nitrates in the YS that exist or may suffer nitrification.</li> </ul>	GDW, MRDF
6	<b>Plant Protection Products</b>	<ul style="list-style-type: none"> <li>▪ <b>BO71:</b> Rational use of plant protection products</li> </ul>	MRDF

s/n	Directive	Planned Actions	Implementing Bodies
	(Directive 2009/128/EC, Regulation (EU) No. 1107/2009, Regulation (EU) No. 652/2014)		
7	Major Accidents (Seveso) Directive (Directive 2012/18/EU)	<ul style="list-style-type: none"> <li>▪ <b>BO81:</b> Maintaining a file-register of facilities that fall under the provisions of the Directive.</li> </ul>	Decentralized Administration (Directive of Environment and Spatial Planning), Regional Administration, (Civil Protection)
8	Sewage sludge (Directive 86/278/EEC)	<ul style="list-style-type: none"> <li>▪ <b>BO91: Drafting of a JMD</b> regarding measures, conditions and procedures for the use of sludge originating from the treatment of domestic and urban sewage as well as certain liquid wastes, in compliance with the provisions of <b>Directive 86/278/EEC and in replacement of JMD 80568/4225/1991</b> and promoting actions related to the safe disposal of treated sludge.</li> </ul>	Ministry of Environment and Energy
9	Urban Waste Water Treatment Directive (91/271/ EC, 98/15/EC)	<ul style="list-style-type: none"> <li>▪ <b>BO101:</b> Completion of sewerage and waste water treatment projects of the settlements that concerns the provisions of the Directive.</li> </ul>	Regional Administration, MEWSS, Municipalities

### 9.1.2 Other Basic Measures (Group II of Basic Measures).

The Key Measures of Group II of the 2<sup>nd</sup> Revision of the RBMP of the State of Western Macedonia are presented in the following table, which includes the following information:

- Code and name of the Measure.
- Category of the Measure.
- Summary Description of the Measure.
- Correlation of the measure with measures of the 1<sup>st</sup> Revision
- Body Implementation of the Measure. In cases where more than one organization is mentioned, the first one mentioned is the implementing organization of the measure and the others have a supporting role.

Detailed data and specialization of each measure are given in the Analytical Documentation Text "Program of Basic and Supplementary Measures".

Table 9-3: Other Key Measures (GROUP II of Key Measures of the Program of Measures for the WD)

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	IMPLEMENTING BODIES
<b>M09B0204</b> Training and education of all involved bodies (Decentralized Administrations, Regions and water service providers) on the general rules for costing and invoicing water services	Measures to implement the cost recovery principle of Water Services (Art. 9)	Continuation of measure (modification of title and description)	Ministry of Environment & Energy (Special Secretariat for Water)
<b>M09B0301</b> Preparation / Update of the Water Supply Masterplans	Measures to promote the efficient and sustainable use of water so as not to compromise the achievement of the objectives of the Directive (Art. 4)	Continuation of measure (modification of title and description)	Water service providers (DEWA, Municipalities, etc.) regarding the preparation of Masterplans - Decentralized Administration (Directorate of Water in terms of coordination)
<b>M09B0302</b> Actions for the reinforcement, rehabilitation, modernization of water supply networks and leakage control	Measures to promote the efficient and sustainable use of water so as not to compromise the achievement of the objectives of the Directive (Art. 4)	Continuation of measure (modification of description)	Municipalities / MEWSS / Drinking water providers / Region / Decentralized Administration Ministry of Environment in terms of coordination
<b>M09B0303</b> Increase of the efficiency of water use in land reclamation infrastructures.	Measures to promote the efficient and sustainable use of water so as not to compromise the achievement of the objectives of the Directive (Art. 4)	Continuation of measure	Ministry of Rural Development and Food, Regions
<b>M09B0304</b> Investments for water saving in agriculture	Measures to promote the efficient and sustainable use of water so as not to compromise the achievement of the objectives of the Directive (Art. 4)	Continuation of measure	Individuals / Ministry of Rural Development and Food / Regions
<b>M09B0305</b> Determination of maximum irrigation requirements for crops for private water abstractions	Measures to promote the efficient and sustainable use of water so as not to compromise the achievement of the objectives of the Directive (Art. 4)	Continuation of measure	Decentralized Administration (Water Directorate)/Region directorate of Rural Economy
<b>M09B0401</b> Definition and delination of zones and/or measures for the protection of water abstraction points, intended for human consumption from groundwater bodies	Measures to protect water intended for human consumption Article 7 (drinking water)	Continuation of measure (modification of measure description, including the obligations of Directive 2020/2184/EU)	Decentralized Administration (Water Directorate) and Drinking water providers (MEWSS, Municipalities etc.) (Directorate of Water in terms of coordination)
<b>M09B0402</b> Protection of GWBs included in the register of protected areas for human consumption and establishment of an institutional framework of protection.	Measures to protect water intended for human consumption Article 7 (drinking water)	Continuation of measure with modifications	Water supply service providers regarding the implementation of the actions, Public Health Departments, Environmental Principles, Ministry of Health, Decentralized Administration (Directorate of Water in terms of coordination)

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	IMPLEMENTING BODIES
<p><b>M09B0403</b> Protection of surface water abstraction points for drinking water supply</p>	Measures to protect water intended for human consumption Article 7(drinking water)	Continuation of measure (modification of the description of the Measure including the obligations of Directive 2020/2184/EU)	Water supply service providers regarding the implementation of the actions, Public Health Departments, Environmental Principles, Ministry of Health, Decentralized Administration (Directorate of Water in terms of coordination)
<p><b>M09B0501</b> Restrictions, terms and conditions for the construction of groundwater abstraction projects (drilling, wells, etc.) for new uses, as well as extension of existing water use permits to: (a) areas of GWBs with a Bad quantitative status, (b) the protection zone II of the abstraction projects serving the water supply networks that operated by Municipalities, Municipal links, MEWSS, Inter-MEWSS and drinking water companies, (c) zones of collective irrigation networks, (d) coastal GWBs with extensive or local salinization problems, regardless of their origin</p>	Measures to control surface and groundwater abstractions and surface water storage	Continuation of measure (modification of description)	Decentralized Administration (Directorate of Water)
<p><b>M09B0601</b> Investigation of the conditions for application of artificial underground aquifer enrichment as a mean of quantitative enhancement and quality protection of GWBs, with a priority for GWBs with poor condition and treatment of sanitation</p>	Measures to control the artificial recharge of groundwater aquifers	Continuation of measure (M09B0601)	Regional Authorities / Municipalities/ Decentralized Administration (Water Directorate)
<p><b>M09B0701</b> Strengthening environmental inspections and controls</p>	Measures for point source pollution	Continuation of measure	Region Environmental Principles (Water Directorates in terms of Coordination)
<p><b>M09B0702</b> Defining guidelines and developing tools for the effective control of sewage and industrial liquid waste discharges</p>	Measures for point source pollution	New measure to replace the M09B0702 & M09B1102 of the 1 <sup>st</sup> Revision	Ministry of Environment & Energy (General Directorate of Water), Region
<p><b>M09B0704</b> Conditions for the licensing of new/extension of existing aquaculture units</p>	Measures for point source pollution	Continuation of measure	Ministry of Environment & Energy, Decentralized Administration, Directorates of rural affairs, Region

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	IMPLEMENTING BODIES
<b>M09B0801</b> Biological agriculture	Measures for diffuse source pollution	Continuation of measure	Ministry of Rural Development and Food (Directorate of Quality Systems, Organic Production and Geographical Indications)
<b>M09B0803</b> Reduce diffuse pollution from agriculture in the vulnerable zones of the Directive 91/676/EEC.	Measures for diffuse source pollution	Continuation of measure	Ministry of Agricultural Development and Food/ Greek Payment Authority of Common Agricultural Policy (C.A.P.) Aid Schemes
<b>M09B0902</b> Determination of maximum reservoir level fluctuation range	Measures to confront the negative effects on surface water status especially due to hydromorphological alternation	Continuation of measure (modification of title and description)	Project principal, Region, Protected Areas Management Bodies, Decentralized Administration (Water Directorates in terms of Coordination of actions)
<b>M09B0905</b> Determination of selected areas for river sediment deposits removal to meet the needs of technical projects	Measures to confront the negative effects on surface water status especially due to hydromorphological alternation	Continuation of measure (modification of title and description)	Directorate of Waters, Region, Decentralized Administration (Water Directorate in terms of coordination)
<b>M09B0906</b> Coastal erosion monitoring, recording and remediation	Measures to confront the negative effects on surface water status especially due to hydromorphological alternation	Continuation of measure	Min. of Infrastructure and Transport / Region / Decentralized Administration (Water Directorate in terms of coordination)
<b>M09B0907</b> Measures to identify and achieve Good Ecological Potential in Heavily Modified Water Bodies	Measures to confront the negative effects on surface water status especially due to hydromorphological alternation	New Measure following the implemented measure M09B0904 of the 1 <sup>st</sup> Revision	Implementing Bodies are defined on a case-by-case basis by the Table of Annex VI of the Analytical Documentation Text "Formulation of the Program of Measures"

### 9.1.3 Supplementary Measures

The Program of Measures will be formulated after the completion of the consultation and the completion of the Strategic Environmental Assessment process.

The Program of Measures of the 2<sup>nd</sup> Revision of the RBMP is listed in the following table in which the following information is given:

- The categories of Supplementary Measures as defined in part B of Annex VI of Directive 2000/60/EC.
- The name of the Measure.
- The correlation of the Measure with any measures of the 1<sup>st</sup> Revision.
- Brief description of the Measure.
- The Water Bodies associated with the Measure. When the Measure concerns the whole of the WB or a specific activity it is characterized as horizontal.
- The indicative cost of each Measure.
- The Implementing Body of the Measure. In cases where more than one body is mentioned, the first mentioned is the implementing body and the others have a supporting role

Detailed data and specialization of each Measure are given in the Detailed Documentary Text of the Program of Measures.

Table 9-4: Supplementary measures

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	AFFECTED WBs	IMPLEMENTATION COST €	IMPLEMENTING BODIES
<b>M09S0201</b> Monitoring System of the Measures Program of the RBMP of the River basin district and provision of support services for the implementation of the program of measures of the River basin district.	<b>Administrative measures</b>	Continuation of measure	Horizontal - related to the whole of the YS and the improvement of the mechanism of implementation and monitoring of the implementation of the Program of Measures	300.000	Decentralized Administration (Water Directorate)
<b>M09S0202</b> Inspection and control of artesian drilling	<b>Administrative measures</b>	Continuation of measure	All GWBs of the WD	ADMINISTRATIVE MEASURE	Head of water distribution project, Water Directorates of Central and Western Macedonia
<b>M09S0501</b> Controls at the outlets of storm drains and other point sources of pollution that end up in Surface Water Systems	<b>Emission control</b>	Continuation of measure	All SWBs of the WD with priority given to WBs that are At Risk (AR) and probably At Risk (PAR)	300.000	Municipalities / MEWSS / Region/ Decentralized Administration (Water Directorate), Ministry of Environment & Energy (General Directorate for Water)
<b>M09S0510</b> Special arrangements for the control of trichloro/ tetrachlorethylene organic compounds	<b>Emission control</b>	New Measure	Total SWB of the WD and especially in the GWB Kastorias (EL0900023)	ADMINISTRATIVE MEASURE	Region (Department of Development, DoEQCS, Department of Water Economics)  Department of Environment and Spatial Planning Decentralized Administration  (Water Directorates in terms of Coordination)
<b>M09S0801</b> Designation and delineation of areas of GWBs exhibiting local salinization intrusion or with bad qualitative status due to salinization	<b>Abstractions Control</b>	Continuation of measure	The measure is implemented to the following GWBs: EL0900160 EL0900150 EL0900141	500.000	Directorate of Waters of Central Macedonia

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	AFFECTED WBs	IMPLEMENTATION COST €	IMPLEMENTING BODIES
<b>M09S0803</b> Special arrangements for the protection of Lake Vegoritida	<b>Abstractions Control</b>	Continuation of Measure / Restatement	EL0902L000000005N	100.000	Decentralized Administrations of Western and Central Macedonia for the Lake's Borders, Environmental and Licensing Authorities, GDRAEVM of Regions for sections 2,3,4,5, Decentralized Administrations Western and Central Macedonia (Water Administrations also in terms of Coordination)
<b>M09S0804</b> Electronic annual recording of measurements of surface and groundwater water withdrawals	Abstractions Control	Continuation of measure (Modification of Key Measure M09B0502)	Total SWBs and GWBs of the territorial jurisdiction of the Region of Western Macedonia	20.000€ (indicative)	Region of Western Macedonia
<b>M09S0901</b> Special arrangements for the protection of WBs with a status below good that are located in whole or in part (most of them) in the Region of Western Macedonia	<b>Demand management measures</b>	Continuing Measure / Restatement	<p>GWBs</p> <p>EL0900061 EL0900062 EL0900063 EL0900050 EL0900341</p> <p>SWBs</p> <p>EL0901L0A0000013N EL0902L 000000012H EL0902L 000000003N EL0902L 000000002N EL0902L 000000004N EL0902L 000000005N</p>	Administrative Measure	Directorate of Water of Western Macedonia

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	AFFECTED WBs	IMPLEMENTATION COST €	IMPLEMENTING BODIES
<p><b>M09S0902</b> Special arrangements for electricity production activities in Aliakmon RB related to surface and groundwater WBs</p>	<p><b>Demand Management Measures</b></p>	<p>Continuation of measure / Restatement</p>	<p><b>GWBs</b> GWB Ptolemaida (EL0900061), GWB South Field - Sarigiol (EL0900062), GWB of Karyochori - Kleito - Tetralofos (EL0900063), GWB Amyntaio Florina (EL0900050), Vevis - Flambourou State University (EL090F321) <b>SWBs</b> EL0902L000000006H EL0902L000000007H EL0902L000000008H EL0902L000000009H EL0902L000000010H EL0902R0002010003H EL0902R0002030007H EL0902R0002030008H EL0902R0002050009H EL0902R0002050010H EL0902R0002070011H</p>	<p>Administrative Measure</p>	<p>Operating entity / Decentralized Administration Directorate of Waters of Western Macedonia</p>
<p><b>M09S0903</b> Strengthening Loss Reduction Actions in Collective Irrigation Networks</p>	<p><b>Demand Management Measures</b></p>	<p>Continuing Measure (modification of Basic Measure M09B0306)</p>	<p>All WBs of the WD</p>	<p>Administrative Measure</p>	<p>Department of Environment and Water Economics P.E. / Directorate of Agricultural Economy and Veterinary Medicine Region / GENERAL ORGANIZATION OF HEALTH IMPROVEMENTS</p>
<p><b>M09S1501</b> Professional training of farmers for the protection of water bodies</p>	<p><b>Educational Measures</b></p>	<p>Continuation of measure</p>	<p>All WBs of the WD</p>	<p>200.000</p>	<p>Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, Region</p>

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	AFFECTED WBs	IMPLEMENTATION COST €	IMPLEMENTING BODIES
<b>M09S1502</b> Educational actions to promote the rational management of water resources	<b>Educational Measures</b>	Continuation of measure	All WBs of the WD	100.000	Decentralized Administration (Water Directorate), Region
<b>M09S1601</b> Pilot measures to apply precision agriculture to reduce water consumption	<b>Research, development &amp; demonstration projects</b>	Continuation of measure	All WBs of the WD	450.000	Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, 2023-27
<b>M09S1604</b> Special Hydrogeological – Hydrochemical Study for GWBs or part of them, that chemical elements with high values of natural background are presented (i.e. Fe, As, Mn, B, Mg, Cl etc.), in case the aforementioned parts of GWBs are related to water abstraction projects	<b>Research, development &amp; demonstration projects</b>	Continuation of measure - Restatement	The measure is implemented in the following GWBs: EL09AF010 EL0900023 EL0900036 EL090F040 EL0900050 EL0900061 EL0900062 EL0900063 EL0900120 EL0900130 EL0900141 EL0900142 EL0900150 EL0900160 EL0900231 EL0900251 EL0900261 EL090F271 EL0900281 EL090F301 EL090A351	1.700.000	Regions Municipalities / MEWSS
<b>M09S1605</b> Study for the hydrogeological characteristics of EPAP. A1 Zone	<b>Research, development &amp; demonstration projects</b>	Continuation of measure	EL0901L0A0000013N	60.000	Regional Administration
<b>M09S1606</b> Determination of the minimum level of Lake Kastoria	<b>Research, development &amp; demonstration projects</b>	Continuation of measure (Modification of Key Measure M09B0902)	EL0902L000000012H	100.000€	Region of Western Macedonia, FDPP, National Network Monitoring Agencies (Directorate of Water in terms of coordination of actions)
<b>M09S1702</b> Special arrangements for the protection of the state	<b>Other measures</b>	Continuation of measure / Restatement	<b>PRESPEs RB</b> EL09AF040 EL090F321 EL09AF013	Administrative Measure	Directorate of Waters of Western Macedonia

CODE AND NAME OF MEASURE	CATEGORY	RELATION TO THE 1 <sup>ST</sup> REVISION	AFFECTED WBs	IMPLEMENTATION COST €	IMPLEMENTING BODIES
of WBs with good quantitative/ecological Situation in the administrative area of Western Macedonia			<b>ALIAKMON RB</b> EL09AF010 EL0900023 EL0900022 EL0900036 EL0900071 EL0900072 EL0900073 EL0900074 EL0900075 EL0900076 EL0900077 EL0900081 EL0900170 EL0900180 EL0900190 EL0900221 EL0900241 EL0900281 EL090F301 EL0900311 EL0900331 EL090A351 EL0900361 EL0900014 EL0900015		
<b>M09S1703</b> Special arrangements for the protection of the status of WBs in good status located in whole or in part (most of them) in the Region of Central Macedonia	<b>Other Measures</b>	Continuation of Measure M09S1702 of the 1st Revision/Restatement	The measure is implemented in the following WBs: EL0900082 EL090F090 EL0900100 EL0900110 EL0900142 EL0900251 EL0900261 EL090F271 EL090F291	Administrative Measure	Directorate of Waters of Central Macedonia
<b>M09S1704</b> Increasing the number of water monitoring sites and systematization of measurements for qualitative and quantitative characteristics	<b>Other Measures</b>	New measure	The GWBs where priority implementation of the Measure in question is proposed, are given in the detailed Measure Bulletin, in the Documentation Text	WBs of responsibility of Western Macedonia: implementation cost: €220,000 Central Macedonia Ministry of Internal Affairs: implementation cost: €65,000	Directorate of Waters of Western Macedonia Directorate of Waters of Central Macedonia

## 10 NEXT STEPS

### 10.1 Difficulties encountered in the preparation of the 2<sup>nd</sup> Revision of the RBMP

During the process of drafting the 2<sup>nd</sup> Revision of the RBMP, the following issues and difficulties arose, regarding mainly the available data of the National Monitoring Network:

- The statutory National Monitoring Network, in some cases, presents particularities in the distribution of the monitoring stations for GWBs (i.e. thickening/thinning).
- Measurement deficiencies were observed in the data required for the chemical classification of the GWBs and no trend analysis was possible.
- Further investigation of the correlation between morphological modifications and classification results from the National Monitoring Network data in bodies identified as HMWB is required.
- Available measurements for priority substances were relatively limited.
- Limited coverage of rivers, lakes, transitional and coastal WBs by monitoring stations with data gaps for ecological and chemical parameters.
- Inadequate coverage or incomplete time series of data from meteorological, hydrometric and level measuring stations in river and lake WBs.
- Difficulties regarding the completeness of data that would document to a greater extent objects examined in the context of the requirements of the Directive such as pressure data.
- Partial completion of technical and financial data questionnaire by water service providers.
- There was no data on investment grants and their depreciation.
- Understaffed departments required to implement or support the Management Plan.

### 10.2 Next steps – Implementation of the 2<sup>nd</sup> Revision of the RBMP

The aim of the 2<sup>nd</sup> Revision of the River Basin Management Plan is to prevent further deterioration, protect and improve the condition of internal surface, transitional, coastal and groundwater, as well as the terrestrial ecosystems and wetlands directly dependent on them.

In order to achieve this goal, the implementation of the Program of Basic and Supplementary Measures provided for therein is required. The Program of Measures has been designed in such a way as to clearly show the priority of each intervention according to its cost, its effectiveness, the importance of the applied water system and the necessary time for its preparation. All elements of the Program of Measures are important, but some planning and prioritization is required so that progress can be monitored and corrective interventions identified when deviations from objectives are identified.

- **Programs to monitor/investigate the quantitative and qualitative status of surface and groundwater bodies.**
- **Ensuring drinking water in sufficient quantity and satisfactory quality, according to the requirements of the relevant legislation.**
- **Water for agriculture.**
- **Protected Areas.**
- **Strengthening environmental inspections and controls.**
- **Other Measures under the proposed Program of Measures.**

Further critical issues that determine the degree of implementation of the Program of Measures are as follows:

- The coordination of the bodies involved in its implementation and ensuring channels of communication with the other interested parties. In this direction, the Competent Water Directorates and the General Directorate should play a staff and coordinating role at the regional / central level respectively. In this context, it is proposed that the immediate staffing of those responsible for the implementation of the provisions of the Management Plan, Actions and Measures, will take place with sufficient human resources and technical support for the correct implementation.
- The evaluation of the results of the Monitoring Network, as well as its appropriate adaptation, on the one hand to cover missing data, and on the other hand to rationalize them, so that during the implementation of the Program of Measures it is possible to monitor the progress and the impact of measures on the state of the waters.
- Transboundary cooperation at local and national level is a necessary condition for the sustainable development of the region. Particular emphasis is placed on strengthening the trinational Prespes Park, establishing new and improving existing networks for joint transboundary monitoring of environmental parameters, developing joint databases, strengthening information and public awareness mechanisms, as well as promoting joint water management planning resources and balanced development.

In addition to the above, to facilitate transboundary cooperation within the framework of the Agreement for the Protection and Sustainable Development of the Prespes Park Area between Greece, Albania, North Macedonia and the European Union which entered into force on May 29, 2019, (see detailed in the next chapter), the Prespa sub-basin is deemed appropriate to be formed as a distinct RB. In this context, the current Prespes RB (EL0901) can be divided as follows:

- Prespes RB with the code EL0901 which geographically includes only the sub-basin of the Prespes and
- Florina RB with the code EL0947 which includes the rest of the current Prespes RB.

For the above division/amendment, according to par. 2 of article 5 of Law 3199/2003 (Government Gazette A'208) as amended and valid, the issuance of the Ministerial Decree of the Ministers of Environment and Energy and Interior is required.

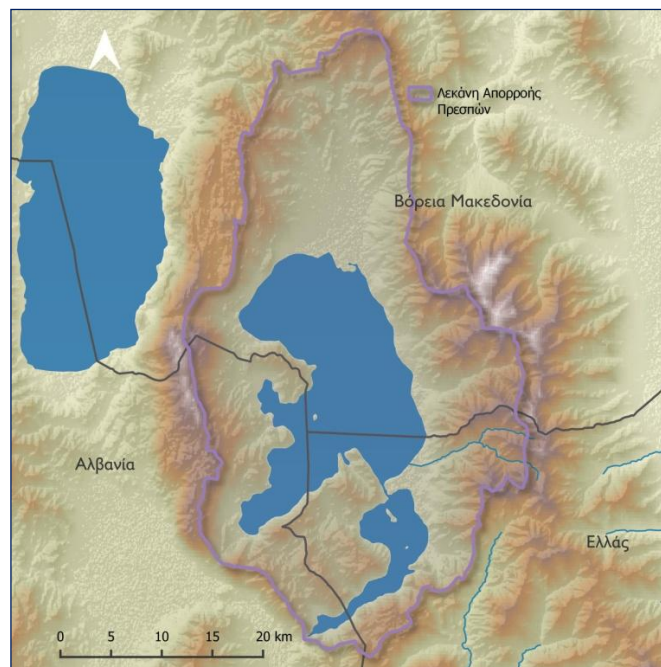
## 11 TRANSBOUNDARY COOPERATION

### 11.1 Cross-border waterbodies – General framework

#### 11.1.1 International Prespes Basin

The Prespes catchment area is a single transboundary basin shared by three countries, Greece, Albania and North Macedonia, and is considered among the few areas in Europe with so many different forms of life compared to the small area it covers. This small basin includes two of the oldest lakes of our continent: The Lake of Megali Prespa which extends to three countries and mainly in North Macedonia, while the main part of Lake Mikri Prespa is located inside the Greek borders with a small section belonging to Albania. The Prespes basin is connected hydrologically with the Lake Ohrid (Albania-North Macedonia) merely through underground runoff scattered on the limestone mount of Mal-i-Thate / Galicica.

Prespes Park is the first cross-border protected area in the Balkans. It was founded in 2000 (2/2/2000) by a joint declaration of the Prime Ministers of Greece, Albania and FYROM on the creation of the Prespes Park and the "Environmental protection and sustainable development of the Prespa Lakes and the surrounding area". In 2009 the Prime Ministers of the three countries agreed in Prespa (27/11/09) to sign an international agreement on protection and sustainable development of the Prespes Park.



**Image 11-1: Prespes River Basin**

In order to better organize, empower, promote and reinforce the actions of the declaration of the three Prime Ministers for the protection and sustainable development of the region, a tripartite coordinating committee of the Prespa Park (Prespa Park Coordination Committee) was established, a few months after the declaration of the three Prime Ministers. The Committee consists of a tenpartite body comprised of representatives of the Government (Ministries of Environment), local government and non-governmental Organizations (NGOS) of the three lakeside countries and a permanent observer from the Ramsar Convention on Wetlands and the Mediterranean Wetlands Initiative (MedWet).

Greece, Albania, FYROM and the European Union then concluded the "Agreement on the Protection and Sustainable Development of the Prespa Park Area" (2/2010) (sanctioned law of the 2010 International Agreement on the Protection and Sustainable Development of the Prespa Park Area Law. 4453/2017, Government Gazette 19 A). The agreement between the three countries and the European Union essentially aims to establish the conditions for the effective preservation of the Prespa ecosystem as a basis for the sustainable development of the region.

### 11.1.2 International Axios River Basin

*Axios is one of the longest rivers of the Balkan peninsula, with a total length of 380 kilometres, of which only the downstream 74 km are on Greek soil (Image 11-2). It has its springs on Mount Shar (Ancient Skardos) near the borders of Albania and North Macedonia, the most part lays on the latter's territory. The river flows with the direction of south – southeast and enters Greece from WD EL10, Prefecture of Kilkis and empties into the Thermaikos Gulf. In the WD of Western Macedonia, river Lygkos, a tributary of Axios, crosses the plain of Florina and receives all the torrents of the surrounding mountainous area. The river basin of Lygkos (Sakoulevas) is one of the three sub-basins of Axios located in Greek territory (the other two are the sub-basins of Axios and Doiranis of the RBD of Central Macedonia) and the only one upstream of the section to be located on the territory of Macedonia. In fact, it is a part of the Crna Reka River, i.e. one of the four sub-basins of the Axios within North Macedonia.*

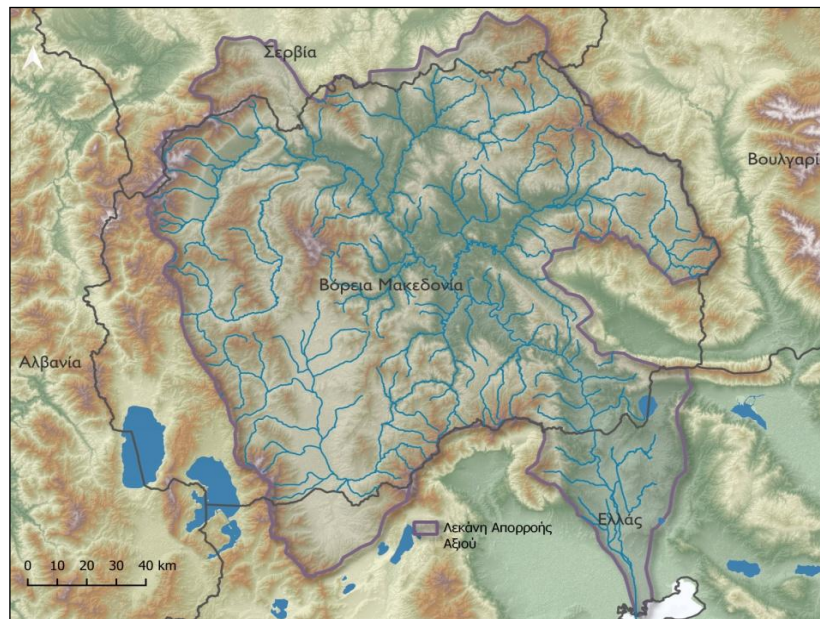


Image 11-2: International Axios River Basin

## 11.2 Cooperation framework for transboundary River Basins

A prerequisite for the sustainable management of the common water resources in cross-border areas is the cooperation and coordination of actions through the exchange of information and active participation of all stakeholders.

### 11.2.1 Elements of cooperation and coordination with the competent authorities of Albania

In 2003, an agreement was signed between Greece and Albania on the establishment of a permanent Greek-Albanian Committee on cross-border freshwater matters (Law. 4305/2005, GG A' 264). The objectives of this agreement are cooperation for the protection of transboundary water bodies (Aoos and Dinos rivers and Prespa Lakes), as well as the reinforcement of national and bilateral pollution prevention actions. On the basis of the aforementioned agreement, the two countries shall cooperate in the collection and evaluation of data for the identification of sources of pollution, the recording and exchange of relevant information, for the establishment of common water quality objectives and criteria as well as propose measures to achieve the objectives, exchange information on uses (existing and planned) and facilities with potential impacts on water quality, as well as information on water policy issues. Additionally, the two countries shall share practical experiences and technical knowledge and ensure the promotion of cooperation between the competent national authorities.

### **11.2.2 Elements of cooperation and coordination with the competent authorities of North Macedonia**

In 1959, an agreement was signed between Greece and Yugoslavia on issues of water economy (Law 4012/1959, GG A' 232). Pursuant to article 1, a permanent Greek-Yugoslav committee for the Hydroeconomy was established, which included in its competence the areas of Axios, Doiranis and Prespa. This committee met twice, in 1995 and in 2002 and signed two proceedings. In 1995, the interim agreement between Greece and the former Yugoslav Republic of Macedonia (FYROM) was signed under the auspices of the United Nations. According to the interim agreement, the 1959 agreement was maintained in force.

### **11.2.3 Cooperation within the framework of the Agreement for the Protection and Sustainable Development of the Prespes Park Area**

Within the framework of the Agreement between Greece, Albania, North Macedonia and the European Commission for the Protection and Sustainable Development of the Prespes Park Area, the following actions have been implemented:

- In February 2021, the process for the appointment of the representatives of the four Parties to the Agreement in the Joint Bodies of articles 10, 13 and 14 of the Agreement, and in particular in the Prespa Park Management Committee (PPMC), in the Secretariat of said Committee and in the Group Working Group for Water Management (WGWM) following the initiative of the Greek side.
- 29 June 2021 was the first Kick-off Meeting of the High-Level Segment of the Agreement (according to Article 9 of the Agreement) organized at the initiative of Greece with the aim of providing political directions to the Commission Prespa Park Management Committee (PPMC) and the Water Management Working Group (WGWM) in order to start their practical work.
- June 23 and 24, 2022, the first Meetings of the Joint Bodies of the Agreement (i.e. the Prespa Park Management Committee - PPMC and the Water Management Working Group - WGWM) took place at the Prespa Gate Thematic Center, with the participation of representatives from Greece, Albania, North Macedonia and the European Commission. In these meetings, the operating rules were accepted, with the commitment that decisions are taken in accordance with European Policy (relevant EU Directives and Regulations and road maps, such as the European Green Deal), as well as the relevant international conventions (Convention on Biological Diversity, Ramsar Convention, CITES etc.), while the Road Map for the next two years was approved. Also, by the Working Group for Water Management - WGWM, the priorities for the joint cooperation of the countries were determined. Particular importance was given to the exchange of information and data between countries, with the creation of a special platform, while the creation of a water monitoring and evaluation system with a harmonized methodology was deemed very important and the cooperation between the three countries was deemed particularly important to achieve, at a minimum, a coordinated Water Resources Management Plan or, at most, a Joint Water Resources Management Plan of Water Resources.
- January 31, 2023, the second regular Meetings of the Joint Bodies of the Agreement took place (i.e. the Prespa Park Management Committee - PPMC and the Working Group for Water Management - WGWM) where the Work Program (Road Map) was approved for the priorities regarding the joint cooperation of the countries in the field of integrated management of water resources, which were identified in the 1<sup>st</sup> meeting of the Working Group. The ultimate goal of the Work Program is the development of a joint Water Resources Management Plan for the Prespes Basin, in accordance with the guidelines of the EU Water Framework Directive (Directive 2000/60/EC). In this context, the operation of a Special Working Group (Task Group) made up of experts from the 3 contracting countries was foreseen which will be coordinated by Greece.

The next meeting is scheduled to take place in June 2023 under the chairmanship of the rotating yearly, North Macedonian presidency of the Prespa Park Management Committee (PPMC).

## 12 SUMMARY FOR WEST MACEDONIA WD EL09

The following Tables include aggregated statistics for the Western Macedonia WD (EL09).

**Table 12-1: Water Body categories per RB in the WD of Western Macedonia EL09**

WB Categories	Prespes RB (EL0901)	Aliakmon RB (EL0902)	WD Total
Rivers	22	133	155
Reservoirs	2	6	8
Lakes	2	5	7
Transitional	0	2	2
Coastal	0	2	2
Total of Surface WBs	26	148	174
Groundwater Bodies	4	44	44
<b>WD Total Number</b>	<b>30</b>	<b>192</b>	<b>222</b>
Heavily Modified and Artificial WBs (HMWB / AWB)	2	42	44
Water bodies affiliated with Protected Areas	26	97	123

**Table 12-2: Water Body types in the WD of Western Macedonia EL09**

Typology of Surface WBs	Prespes RB (EL0901)	Aliakmon RB (EL0902)	WD Total
<b>River Water Bodies</b>			
Type R-M1	13	34	47
Type R-M2	9	54	63
Type R-M3	-	27	27
Type R-M4	-	12	12
Type R-M5	-	6	6
Type R-L2	-	0	0
<b>Reservoirs</b>			
Type L-M5/7	2	2	4
Type L-M8	-	3	3
Type GR-SR	-	1	1
<b>Lake Water Bodies</b>			
Type GR-DNL	1	1	2
Type GR-SNL	1	2	3
Type GR-VSNL	-	2	2
<b>Transitional Water Bodies</b>			
Type TW 1	-	1	1
Type TW 2	-	1	1
<b>Coastal Water Bodies</b>			
Type IIE	-	2	2

Table 12-3: Assessment results of the WBs status in the WD of Western Macedonia (EL09)

Status / Potential		Number	Prespes RB EL0901				Aliakmon RB (EL0902)				WD Total			
			% of number	Length (km)	% of Length	Number	% of number	Length (km)	% of length	Number	% of number	Length (km)	% of length	
<b>River Water Bodies</b>														
<b>Total of River Water Bodies</b>	Ecological	High	-	-	-	-	-	-	-	-	-	-	-	-
		Good	19	86,36%	91,84	76,46%	85	64,34%	1.027,89	71,44%	104	67,75%	1.119,73	71,82%
		Moderate	2	9,09%	21,98	18,3%	40	29,46%	297,86	20,7% <sup>o</sup>	42	26,69%	319,84	20,52%
		Poor	1	4,55%	6,29	5,24%	6	4,65%	95,93	6,67%	7	4,44%	102,22	6,56%
		Bad	-	-	-	-	2	1,55%	17,22	1,2%	2	1,12%	17,22	1,1%
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-
	Chemical	Good	20	90,91%	98,13	81,7%	122	91,47%	1.322	91,88%	142	91,39%	1.420,13	91,09%
		Failing to achieve good	2	9,09%	21,98	18,3%	8	6,2%	95,49	6,64%	10	6,62%	117,47	7,53%
		Unknown	-	-	-	-	3	2,33%	21,41	1,49%	3	1,99%	21,41	1,37%
Status / Potential		Number	Prespes RB EL0901				Aliakmon RB (EL0902)				WD Total			
			% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	
<b>Reservoirs</b>														
<b>Reservoirs</b>	Ecological	Good	-	-	-	-	3	50%	81,73	75%	3	37,5%	81,73	74,69%
		Moderate	-	-	-	-	-	-	-	-	-	-	-	
		Poor	-	-	-	-	-	-	-	-	-	-	-	
		Bad	-	-	-	-	-	-	-	-	-	-	-	
		Unknown	2	100%	1,14	100%	3	50%	26,6	24,56%	5	62,5%	27,7	25,31%
	Chemical	Good	2	100%	1,14	100%	4	66,7%	8,67	8,01%	6	75%	9,81	8,96%
		Failing to achieve good	-	-	-	-	1	16,65%	74,7	68,98%	1	12,5%	74,7	68,26
		Unknown	-	-	-	-	1	16,65%	24,92	23,01%	1	12,5%	24,92	22,77%

Status / Potential		Number	Prespes RB EL0901				Aliakmon RB (EL0902)				WD Total			
			% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	
<b>Lake Water Bodies</b>														
<b>Total of Lake Water Bodies</b>	Ecological	High	-	-	-	-	-	-	-	-	-	-	-	-
		Good	-	-	-	-	1	20%	9,57	8,99%	1	14,29%	9,57	5,09%
		Moderate	2	100%	81,54	100%	3	60%	95,16	89,41%	5	71,43%	176,7	94%
		Poor	-	-	-	-	1	20%	1,7	1,6%	1	14,29%	1,7	0,91%
		Bad	-	-	-	-	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-
	Chemical	Good	2	100%	81,54	100%	5	100%	106,43	100%	7	100%	187,97	100%
		Failing to achieve good	-	-	-	-	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-
<b>Transitional Water Bodies</b>														
<b>Total of Transitional Water Bodies</b>	Ecological	High	-	-	-	-	-	-	-	-	-	-	-	-
		Good	-	-	-	-	-	-	-	-	-	-	-	-
		Moderate	-	-	-	-	2	100%	31,9	100%	2	100%	31,9	100%
		Poor	-	-	-	-	-	-	-	-	-	-	-	-
		Bad	-	-	-	-	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-
	Chemical	Good	-	-	-	-	2	100%	31,9	100%	2	100%	31,9	100%
		Failing to achieve good	-	-	-	-	-	-	-	-	-	-	-	-
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-

Status / Potential		Number	Prespes RB EL0901)				Aliakmon RB (EL0902)				WD Total			
			% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	Number	% of number	Area (km <sup>2</sup> )	% of area	
<b>Coastal Water Bodies</b>														
<b>Total of Transitional Water Bodies</b>	Ecological	High	-	-	-	-	-	-	-	-	-	-	-	-
		Good	-	-	-	-	1	50%	112,92	10,02%	1	50%	112,92	10,02%
		Moderate	-	-	-	-	1	50%	1.014,22	89,98%	1	50%	1.014,22	89,98%
		Poor	-	-	-	-	-	-	-	-	-	-	-	-
		Bad	-	-	-	-	-	-	-	-	-	-	-	-
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	
	Chemical	Good	-	-	-	-	2	100%	1127,14	100%	2	100%	1127,14	100%
		Failing to achieve good	-	-	-	-	-	-	-	-	-	-	-	-
Unknown		-	-	-	-	-	-	-	-	-	-	-	-	
<b>Groundwater Bodies</b>														
<b>Total of Groundwater Bodies</b>	Qualitative	Good	4	100 %	595,92	100%	40	91%	12.360,23	90,07%	43	92%	12.956,15	95,92%
		Bad	-	-	-	-	4	9%	551,58	9,93%	5	8%	551,58	4,08%
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-
	Quantitative	Good	4	100 %	595,92	100%	34	77%	10.303,29	79,80%	37	79%	10.899,21	80,69%
		Bad	-	-	-	-	10	23%	2.608,52	20,20%	11	21%	2.608,52	19,31%
		Unknown	-	-	-	-	-	-	-	-	-	-	-	-