SPECIAL SECRETARIAT FOR WATER

MINISTRY OF ENVIRONMENT & ENERGY

1st Update of River Basin Management Plans

River Basin District of

Eastern Macedonia (EL11)

Summary

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MINISTRY OF ENVIRONMENT & ENERGY

SPECIAL SECRETARIAT FOR WATER

DEVELOPMENT OF 1st UPDATE OF RIVER BASIN MANAGEMENT PLANS FOR THE 14 WATER DISTRICTS OF GREECE, IN ACCORDANCE WITH THE DIRECTIVE 2000/60/EC, THE LAW 3199/2003 AND THE P.D. 51/2007 - STUDY M.5: "RIVER BASIN DISTRICTOF EASTERNMACEDONIA (EL11) ANDRIVER BASIN DISTRICTOF THRACE (EL12)"

JOINT VENTURE: "1st UPDATE OF RIVER BASIN MANAGEMENT PLANS FOR THE WATER DISTRICTS OF EASTERN MACEDONIA (EL11) AND THRACE (EL12)"

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RIVER BASIN DISTRICT OF EASTERN MACEDONIA (EL11)

Summary of 1st Update of River Basin Management Plans – English

Government Gazette approving the 1st Revision of RBMP: B 4679/29.12.2017

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ABBREVIATIONS/ACRONYMS

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/bodies
RBMP	River Basin Management Plan
GOLR	General Organization of Land Reclamation
LOLR	Local Organization of Land Reclamation
MEWSS	Municipal Enterprise for Water Supply and Sewerage
WFD	Water Framework Directive
JMD (MD)	Joint Ministerial Decision (Ministerial Decision)
PD	Presidential Degree
EC	European Council
EEC	European Economic Community
EU	European Union

1 INTRODUCTION – DEVELOPMENT OF 1ST UPDATE 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 GazetteA' 280) and the PD 51/2007 (Government Gazette A' 54).

Priority and necessary steps 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 RBMPs.

The River Basin Management Plans (RBMPs) are revised and updated every six years. The first approved RBMPs relate to the 1st Management Cycle (2009-2015) and are valid until their Update. The RBMP's to be established by the 1st Update of the RBMPs concern the 2nd Management Cycle (2016-2021) and are valid until their Update.

The 1st RBMP of the River Basin District of Eastern Macedonia (EL11) was approved by the Decision No. 1007/4.9.2013 (Government Gazette 2291/B/13.9.2013) of the National Water Committee.

In November 2015, the Special Secretariat for Water (SSW) of the Ministry of Environment and Energy was invited to open an international tender for awarding the study "Development of 1st Update of River Basin Management Plans for the 14 Water Districts of Greece, in accordance with the Directive 2000/60/EC, the Law 3199/2003 and the P.D. 51/2007. – Study M.5: River Basin District of Eastern Macedonia (EL11) and River Basin District of Thrace (EL12)".

Further to the tender, the contract 20-01-2017 was assigned by the Special Secretariat of Water to prepare the above study in the Joint Venture with the name **"J/V of the 1st Update of River Basin Management Plans for the Water Districts of Eastern Macedonia (EL11) and Thrace (EL12)"**.

1.2 Development of 1st Update of River Basin Management Plan

In the framework of the 1st Update 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).
- Update of the list of significant pressures, as included in the approved Management Plans, and their impacts.

- Update of the Register of Protected Areas, based on new data that have resulted from the implementation of relevant EU Directives.
- Review of environmental objectives for all surface and groundwater bodies, including highly modified and artificial.
- Assessment of the progress in relation to the achievement of the environmental objectives of the Directive, as set out in the first Management Plan.
- Revision of the Program of Basic and Supplementary Measures for the protection and rehabilitation of the water resources of each RBD, as contained in the approved/first Management Plan, in accordance with article 11 and Annex VI of Directive 2000/60/EC (article 12 and Annex III of PD 51/2007).
- Update of the economic analysis of water uses (including cost estimation with expected new EU guidelines), taking into account the Joint Ministerial Decision 135275/22.05.2017 (Government Gazette 1751 B') and based on the most recent data from relevant water services.
- Recording of the transboundary partnerships so far and promotion of the implementation of joint or compatible Management Plans in transboundary river basins, in line with the SSW guidelines.
- Revision of the Strategic Environmental Impact Assessment (SEIA) to identify, describe and assess the environmental impacts of the implementation of the aforementioned Program of Measures and the Management Plan.
- Informing the public and promoting its active participation, as well as publicizing the Management Plan, 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 reporting and other obligations in the EU on the Management Plans, including the WISE (Water Information System for Europe) electronic system, according to the standards established by the European Environmental Agency (EEA).

The impacts of implementing the Management Plan can only be positive, at a time when the country's water resources face increasing pressures. The implementation will provide the basis for supporting a sustainable water management policy that will lead to effective protection and rational use of our valuable water resources.

1.3 Public Consultation

1.3.1 Consultation procedure

The Public Consultation process is a requirement of Directive 2000/60/EC and has a fundamental role in the drafting, reading and updating of the Management Plan. All important issues should be discussed with stakeholders, competent authorities and general public through appropriate consultation and participatory actions.

The Consultation process of the 1st Update of RBMP lasted from November 2015 to December 2017 and included the following:

- **Phase A:** In November 2015, the planned activities of the 1st Update of RBMP, as well as the detailed timetable of those, were posted on the website of the Ministry of Environment and Energy (www.ypeka.gr) for informing the public.
- **Phase B:** In June 2016, information on the significant water management issues in each RBD, were posted on the website of the Ministry of Environment and Energy, that included the results of the National Water Monitoring Network for the RBD, the main pressures, and the definition

and recording of the competent authorities and bodies involved in the consultation. Also, in December 2016, the basic common methodologies for the classification of water bodies status, the assessment of pressures and impacts including hydromorphological pressures, the identification of highly modified water bodies and the definition of the exemptions of article 4 of Directive 2000/60/EC, were posted on the website.

- **Phase C:** In June 2017, the Preliminary Draft of the 1st Update of RBMP, as well as a related questionnaire, were posted on the website of the Special Secretariat for Waters (http://wfdver.ypeka.gr). This phase included the public consultation of the Strategic Environmental Impact Assessment (SEIA).

The Public Consultation was completed on 15 December 2017.

For Public Consultation purposes, through the website of the Special Secretariat for Waters (http://wfdver.ypeka.gr), the opportunity to submit comments or complete the consultation questionnaire was given.

In addition, during the consultation, it was possible to intervene in the preparation of the 1st Update of RBMP by email, fax or post, with the aimof tabling different views and providing information.

In order to encourage the active involvement of stakeholders as well as the public during the 1st Update process, the following were implemented:

- Working meetings between the Special Secretariat for Waters, contractors and stakeholders (Ministries, Decentralized Administration, Prefectures and other local bodies), in order to exchange data and views.
- Special working meetings with the relevant Water Directorates for the preparation of both the preliminary RBMP and the Program of Measures.
- An Open Conference was organized by the Special Secretariat for Waters with the assistance of the Decentralized Administration, in Serres on 17-10-2017 on the topic of *"Consultation of the 1st Update of the River Basin Management Plan of Eastern Macedonia RBD (EL11) with the aim of informing the public and the bodies of the RBD"*. It is noted that this conference was organized within the framework of the two-day public information for both the River Basin Management Plan and the Flood Risk Management Plan.

Finally, it is noted that the SEIA consultation process was carried out in the same time with the public consultation for the RBMP, which contributed significantly to the formulation of the final Management Plan.

1.3.2 Consultation results

In total, **100 people participated in the conference, 14 interventions were performed and 11 questionnaires were completed.** Also, at a later date, 6 comments and observations from operators and 1 completed questionnaire were sent in writing. Finally, 6 emails were sent and 1 comment was posted on the Special Secretariat for Waters website.

The main conclusions are the following:

- Satisfactory participation of Public Administration bodies.
- Poor participation of citizens and Non-Governmental Organizations (NGOs).
- High environmental sensitivity for water resources.
- The consultation process has been successful since it has highlighted all the issues/problems/ shortcomings that have emerged in the implementation of the first RBMP, demonstrated the need for revision and eventually contributed to the final formulation of the 1st Update of the RBMP of Eastern Macedonia RBD (EL11).

In summary, the changes/completions/additions included in the Management Plan, as a result of the public consultation, concern the following:

- Update of the data presented in the Management Plan on the basis of the information provided and/or indications raised during the consultation. These data mainly concern issues related to water abstraction in the RBD, but also data on water uses, water abstraction points, actions implemented within the framework of the approved Management Plans etc.
- The redefinition of Grounwater Bodies “Menoikio-Falakro” and “Aggitis”. The GWB “Menoikio-Falakro” was divided in two separate bodies, from which one was united with the former GWB “Aggitis”. As a result, there’ re two new GWBs, “Menoikio-Aggitis” (EL1100040) and “Falakro” (EL110B030).
- Reform of the final Program of Measures, which includes:
  - The recasting of specific measures regarding the specification/specialization of restrictions and actions defined there in.
  - The correction of the implementing bodies of the measures.
  - Differentiation in the description of certain measures to include actions already planned by implementing bodies and/or available financial instruments.
  - The introduction of targeted supplementary measures to achieve specific and locally important management objectives, enhance existing knowledge and improve environmental and water conditions. Indicatively, for Eastern Macedonia RBD, the inclusion of a measure for delimitation of parts of groundwater bodies that are qualitatively burdened by their natural background, as well as a measure for the installation of a monitoring network of the water balance in Lake Kerkini and the creation of an active water management system, especially during the irrigation period.

2 DIFFERENCES COMPARED TO THE 1ST RIVER BASIN MANAGEMENT PLAN

2.1 Main differences compared to the 1st Management Plan

The development of the 1st Update of River Basin Management Plans includes significant changes and improvements compared to the 1st Management Plan. Particularly:

- The classification of the ecological and chemical status is based on the available data of the National Water Monitoring Network for 2012-2015 period.
- Takes into account the results of actions that have been implemented so far in the context of increasing knowledge of water status and the pressures it receives, as well as the actions implemented to fill in the gaps identified in the 1st Management Plan.
- Takes into account the new requirements arising from the EU Directive 2000/60/EC Guidance Documents.
- Takes into account the results of the European Commission's Special Report on the Evaluation of Management Plans which was implemented as part of the European Parliament's briefing on the implementation of the *Directive* and is available on the EU's website.
- Takes into account the new analytical methodologies for critical aspects of the implementation of Directive 2000/60/EC:
  - Analysis of anthropogenic pressures and their impacts on surface and underground water systems.
  - Determination and criteria for assessment of hydromorphological alterations.
  - Determination of Heavily Modified (HMWB) and Artificial (AWB) Water Bodies.
  - Determination of the "exemptions" to the achievement of the environmental objectives of Directive 2000/60/EC:
    - Identification of the "exemptions" of paragraphs 4 to 6 of Article 4 of Directive 2000/60/EC (4.4 - 4.6).
    - Identification of the "exemptions" of paragraph 7 of Article 4 of Directive 2000/60/EC (4.7) on new modifications..
  - Assessment (classification) of Surface Water Bodies status:
    - Assessment of the ecological and chemical status of river water bodies.
    - Assessment of the ecological and chemical status of lake water systems.
    - Assessment of the ecological and chemical status of coastal and transitional water bodies.
- Takes into account the new analytical national assessment methodologies for individual Biological Quality Elements (BQEs), for each surface water body category that has been approved by the EU in the context of the intercalibration exercise at 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 water bodies.

- The 1st Update is being drawn up at the same time as the Flood Risk Management Plans pursuant to Directive 2007/60/EC and synergy of actions and program of measures has been accomplished.
- The 1st Update is also being drawn up at the same time as the programs of measures for the achievement of the good environmental status of the marine waters of the country in accordance to Directive 2008/56/EC and has achieved synergy of actions and program of measures.
- The 1st Update takes into account the National Strategy for Adaptation to Climate Change and incorporates into the program of measures sub-actions of the National Strategy for Adaptation to Climate Change.
- The 1st Update is being carried out simultaneously for the 14 River Basin Districts of the country and homogeneity has been achieved in the individual methodologies and the proposed programs of measures (basic and supplementary).

2.2 Recording the main differences

The following table summarizes the differences identified in each individual subject, between the 1st RBMP and the 1st Update of RBMP.

Table 2-1: Differences in the 1st Update of the RBMP in relation to the 1st Management Plan

SUBJECT OF UPDATED RBMP	DIFFERENCE IN RELATION TO THE 1ST RBMP	SUMMARY OF THE RESULTS
COMPETENT AUTHORITIES	The Competent Authorities aren't differentiated in relation to the 1st RBMP. Int he 1st Update of RBMP, the inventory of the main authorities/ stakeholders involved in the Water Management as outlined in the existing institutional framework is rationalized and presented in accordance with the requirements of the new EU Guidance Document for submission of data (GD Reporting 2016).	The authorities and bodies involved in water management, as well as their responsibilities and roles in the preparation and implementation of Directive 2000/60/EC, are presented in a schematic and understandable way. The results are summarized in Chapter 3.4 of the RBMP, and in detail in the analytical documentation "Designation and registration of competent authorities and determination of the area of their competence".
DEFINITION OF SURFACE WATER BODIES– TYPOLOGY	During the 1st Update, a new typology is being developed for rivers and lakes. Also, the reservoirs are now declared as Heavily Modified Water Bodies, but their standardization and evaluation are made with the elements and tools that are used for the lakes, as lakes are the class of natural surface water bodies to which they are the most similar. Based on the above, the number of the surface water bodies is reviewed. It is also noted that during the 1st Update the WB Codes are reshaped. The "GR" at the beginning of the codes becomes "EL" for compatibility reasons with the EU databases.	In the Eastern Macedonia WD, there are differentiations in the number of water bodiescompared to the 1st RBMP. The differentiations refer to river water bodies that either have been consolidated or have been corrected, as well as reservoirs whose code has been changed to reflect their characterization as heavily modified river water bodies. These differentiations practically don't affect the classification methodology of their status. In particular, in the 1st RBMP there were ninety eight (98) surface water bodies identified. However, in the 1stUpdate, sixteen (16) river water bodies were consolidated in pairs to eight (8), resulting in a total of ninety (90) surface water bodies, while a correction was made in two (2) rivers. At the same time, it was considered necessary to change the characterization and typology process in rivers and lakes (including reservoirs). There were no changes in the determination of the transitional and coastal water bodies. The results are summarized in Chapter 4.1 of the RBMP, and in detail in the analytical documentation "Characterization, typology, typo-characteristic conditions and assessment/classification of the status of all surface water bodies".
DEFINITION OF GROUNDWATER BODIES	The number of the GWBs and their limits are re-evaluated on the basis of newer data obtained from the Monitoring Network, specific studies that have been implemented since the approval of the 1st RBMP to date and observations submitted during public consultation. It is also noted that during the 1st Update the GWB Codes are reshaped. The "GR" at the beginning of the codes becomes "EL" for compatibility reasons with the EU databases.	In the Eastern Macedonia WD, there are differentiations in the definition of groundwater bodies compared to the 1st RBMP. The "Menoikio-Falakro" and "Aggitis" GWBs were redefined, with the separation of "Menoikio-Falakro" in two parts and the union of one of them with former "Aggitis" GWB. As a result, there' re two new GWBs, "Menoikio-Aggitis" (EL1100040) and "Falakro" (EL110B030). The results are summarized in Chapter 4.2 of the RBMP, and in detail in the analytical documentation "Characterization and assessment/classification of the status of groundwater bodies".
HEAVILY MODIFIED (HMWB) AND ARTIFICIAL (AWB) WATER BODIES	The Heavily Modified (HMWB) and Artificial (AWB) Water Bodies that were defined in the 1st RBMP, are reviewed in accordance with the new methodology established (see above in chapter 2.1) and the Monitoring Network data.	The implementation of the new methodology for the Initial and Definitive Identification of HMWB and AWB, slightly differentiated the number of HMWB and AWB that were defined as such in the 1st RBMP. One (1) river water body that was defined as AWB in the 1st RBMP, is now

SUBJECT OF UPDATED RBMP	DIFFERENCE IN RELATION TO THE 1ST RBMP	SUMMARY OF THE RESULTS
		defined as HMWB, while three (3) river water bodies that were defined as HMWB in the 1st RBMP are now correctly defined as natural water bodies, based on the results of the Monitoring Network and the implementation of the new methodology of determination. The results are summarized in Chapter 4.3 of the RBMP, and in detail in the analytical documentation "Determination of Heavily Modified (HMWB) and Artificial (AWB) Water Bodies".
PROTECTED AREAS	The Register of Protected Areas, which was formed in the 1st RBMP, is re-examined and updated, due to: • The new Natura 2000 sites proposed by the Ministry of Environment and Energy, on the basis of the provisions of the Birds Directive 2009/147/EC and the Habitats Directive 92/43/EEC. • The results of the Monitoring of the Bathing Water Directive 2006/7/EC. • Other Directives on water protection with stricter targets such as: the Drinking Water Directive (80/778/EEC, as amended by Directive 98/83/EC), the Directive 2006/113/EC about shellfish, the Directive2006/44/EC about freshwater fish, the Directive 91/676/EEC concerning the protection of the environment by nitrate pollution and the Directive 91/271/EEC about sensitive SWBs due to urban waste water treatment. • Newer data emerged from the adoption of the 1st RBMP and the relevant EU Guidance Documents.	The surface and groundwater bodies that are associated with protected areas are declared. In the 1st Update, from fifteen (15) GWBs that were included in the Register of Protected Areas due to the pumping of water intended for human consumption, the four (4) GWBs which are karst aquifers remained. At the same time, one (1) new bathing water was added, while the "Aggitis River Basin" was added to the vulnerable zones in nitrate pollution, along with the 18 water bodies that are enclosed therein. The other areas are not differentiated from the 1st RBMP. The results are summarized in Chapter 4.4 of the RBMP, and in detail in the analytical documentation "Update of Register of Protected Areas"
PRESSURES AND IMPACTS	In the 1st Update, the assessment of pressures and impacts is carried out on the basis of the new common methodology developed and the newer elements that emerged from the adoption of the 1st RBMP. Significant differentiation is the assessment of the pressures on hydromorphological characteristics of the water bodies. A specific, more analytical methodological approach has been developed.	In the Eastern Macedonia WD, the methodological approaches followed in the 1st RBMP are largely similar to those of the 1st Update. The resulting differentiations derive mainly from the newer data available, concerning the fuller picture of cultivated land, the installation of new activities and plants and the better mapping of the activities in the WD. The pressures and estimated loads from each pressure are linked to individual surface water bodies (in a sub-basin level) to optimize the linking of the proposed measures with them. As far as the pressures on the hydro-morphological characteristics of the water bodies, are more fully evaluated and exploited to determine preliminarily the WD's heavily modified water bodies (HMWB). The results are summarized in Chapter 5 of the RBMP, and in detail in the analytical documentation "Analysis of anthropogenic pressures and their impacts on surface and underground water systems".
CLASSIFICATION OF SURFACE WATER BODIES STATUS	During the 1st Update, the status classification of SWBs is based:(a) on the new methodological approaches developed by the National	The 1st Update includes a fuller and more credible mapping of the status of surface water bodies. The most important result of the applied

SUBJECT OF UPDATED RBMP	DIFFERENCE IN RELATION TO THE 1ST RBMP	SUMMARY OF THE RESULTS
	Scientific Committee of the Special Secretariat of Water (SSW) for the determination of the ecological status classification methods of all SWB categories and approved by the EU and (b) the available data of the National Water Monitoring Network. For the SWBs that are not monitored, their status classification is done by grouping based on their typology and estimated pressures.	methodological approach is the significant reduction of the surface water bodies with "unknown" status. The results are summarized in Chapter 6.1 of the RBMP, and in detail in the analytical documentation "Characterization, typology, typo-characteristic conditions and assessment/classification of the status of all surface water bodies".
CLASSIFICATION OF GROUNDWATER BODIES STATUS	The methodology for classifying the status of the GWBs is not different from the 1st RBMP. The classification of the GWBs is based on the newest data of the Monitoring Network.	The 1stUpdate includes an outline of groundwater bodies status on the basis of the latest monitoring data. The results are summarized in Chapter6.2 of the RBMP, and in detail in the analytical documentation "Characterization and assessment/classification of the status of groundwater bodies".
NETWORK FOR WATER STATUS MONITORING	The 1st Update, in relation to the 1st RBMP, includes the results of the National Water Monitoring Network with a large number of samples for the period 2012-2015, for almost all biological quality elements (BQEs), the physico-chemical and chemical quality elements as well as the hydromorphological quality elements of the SWBs. It also includes measurements of both the qualitative and the quantitative status of GWBs.	Tha available data of the National Water Monitoring Network used are summarized inChapter6.3 of the RBMP, and in detail in the analytical documentations "Characterization, typology, typo-characteristic conditions and assessment/classification of the status of all surface water bodies" and "Characterization and assessment/classification of the status of groundwater bodies", for the surface and groundwater bodies respectively.
ECONOMIC ANALYSIS OF WATER USE	For the economic analysis of water use, the provisions of the new Joint Ministerial Decision 135275/22.05.17 "Adoption of general rules for costing and pricing of water services. Method and procedures for recovering the cost of water services in its various uses" is followed, as well as the methodological tools resulting from the work "Technical support and support of the SSW on organization, management and costing of water services" of the SSW.	The results are summarized in Chapter7 of the RBMP, and in detail in the analytical documentation "Economic analysis of water uses and determination of the existing level of cost recovery for water services (water supply, irrigation and drainage)".
ENVIRONMENTAL OBJECTIVES – EXEMPTIONS	During the 1stUpdate, the setting of the environmental targets and exemptions is based on new methodological approaches developed in line with the EU guidelines (seeaboveinChapter 2.1).	The results are summarized in Chapter 8 of the RBMP, and in detail in the analytical documentation "Definition of environmental objectives, including the exemptions from the achievement of the objectives, and a list of planned and new projects/activities/modifications".
PROGRAM OF MEASURES	The Program of Measures as set out in the 1st Update of RBMP includes the following new approaches in relation to the 1st Management Plan: ▪ The specialization/rewording of measures of the 1st RBMP that continue in this Management Plan. ▪ Developing new measures to address the pressures of the water bodies and the achievement of the objectives (targets) set. ▪ The correlation of the measures with specific significant pressures identified in the Water District. ▪ The correlation of measures with Key Categories of Measures, as defined by the EU and specific indicators to monitor their progress.	The new Program of Measures issummarizedinChapter9 of the RBMP, and in detail in the analytical documentation "Basic and Supplementary Measures for the protection and rehabilitation of water bodies, including their cost analysis in relation to their efficiency and specific implementation monitoring forms".

SUBJECT OF UPDATED RBMP	DIFFERENCE IN RELATION TO THE 1ST RBMP	SUMMARY OF THE RESULTS
	▪ The correlation of measures with national actions to adapt to climate change, as defined in the National Climate Change Adaptation Strategy (Ministry of Environment and Energy, 2016).	

3 EASTERN MACEDONIA RIVER BASIN DISTRICT

3.1 River basins

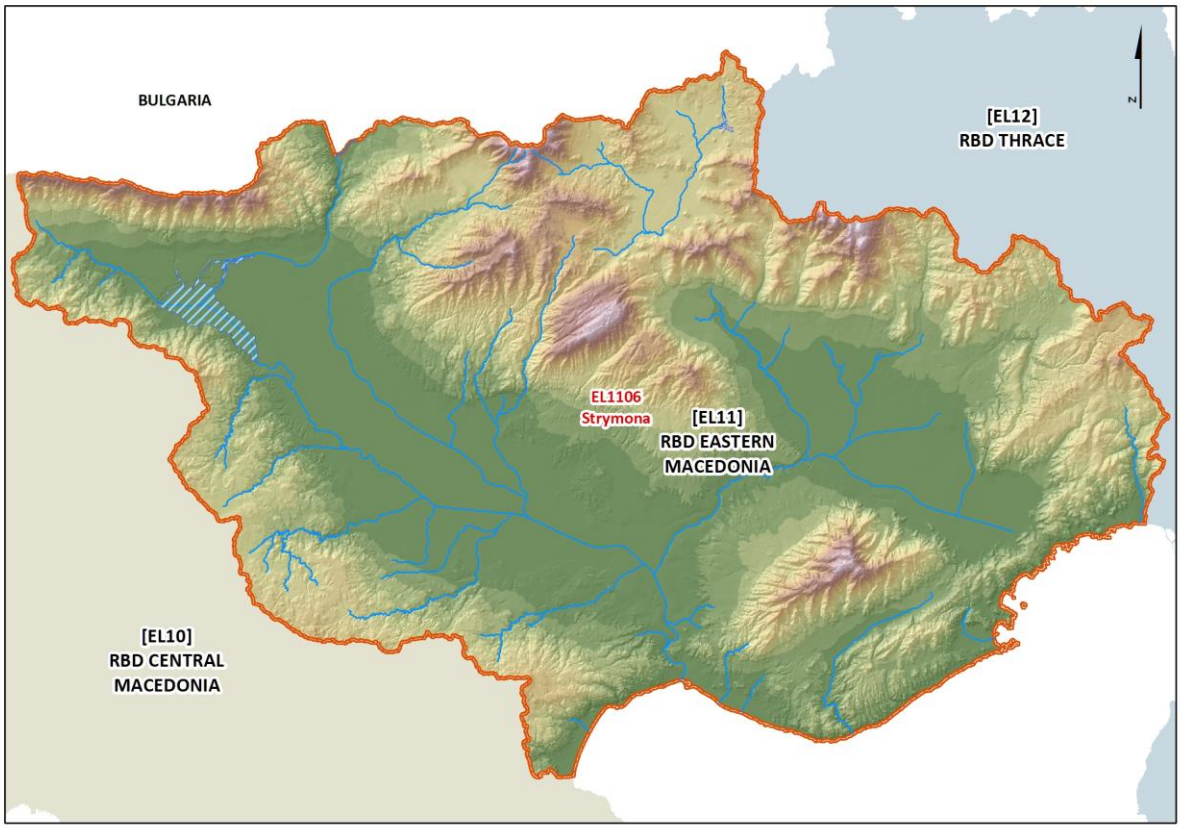
Eastern Macedonia River Basin District (EL11) is one of the fourteen water districts in which the country was divided by Law 1739/1987 (Government Gazette 201/A/1987).

Eastern Macedonia River Basin District consists of a single main hydrological river basin: **Strymonas RB (EL1106)**. The main rivers of the RBD are Strymonas and it's tributary river Aggitis. Strymonas is a transboundary river, the waters of which Greece shares with Bulgaria.

The boundaries of the RB Strymonas are defined by the following ranges:

West: Mountains Kerdilia, Vertiskos, Krousia, Beles. North: Borders with Bulgaria (including Beles mountain). East-Southeast: Mountains Falakro, Ori Lekanis. South: Strymonikos Gulf, Kavala Gulf, Symvolou Coasts.

Figure 3-1: River Basin District of Eastern Macedonia (EL11)



The River Basin (RB) constituting the River Basin District of Eastern Macedonia (EL11), according to the decision of the National Water Committee, no. 706/2010 (Government Gazette 1383/B/2-9-10), is presented in the Table below.

Table 3-1: River Basin of the Eastern Macedonia River Basin District (EL11)

River Basin	Code	Area (km^2)	Altitude (m)		
			Average	Maximum	Minimum
STRYMONAS	**EL1106**	7.319	403	2.200	0
EASTERN MACEDONIA	**EL11**	**7.319***			

** It refers to the land area of the RBD. It doesn't include the coastal water bodies that amount to 733 km^2*

3.2 Natural Characteristics

The River Basin District of Eastern Macedonia (EL11) is located at the north part of Greece and includespart of the prefectures of Central Macedonia and Eastern Macedonia - Thrace.

Its geographical boundaries are the mountains of Kerdylia, Vertiskos, Kroussia and Beles to the west, the mountains of Falakro and Lekani to the east, the borders with Bulgaria (including Beles mountain) to the north and the Gulf of Orphanos (or Strymonikos), the coasts of Symvolo and the Gulf of Kavala to the south (north Aegean sea).

The total land area of the river basin district is 7,319 km^2. The coastal water bodies amount to 733 km^2.

The Eastern Macedonia RBD (EL11) consists mainly of the two large valleys of Strymonas and Drama and numerous mountains: Kerdylia (1.091 m), Vertiskos (1.103 m), Kroussia (1.179 m),Mount Beles (2.031 m) to the west, Orvilos (2.212 m) at the central part of the RBDandFalakro (2.111 m), OriLekanis (1.298 m),Paggaio (1.956 m) to the east-southeast. The morphology of these ashore is particularly smooth and consists of open Gulfs like Orphanos (or Strymonikos) in the west and Kavala in the east, as well as many small bays.

The average annual temperature varies from 14,5 to 16,0°C. The annual thermometric range exceeds 21°C. The warmest month is Julyand the coldest month is January. Theaverageannualheighof the atmospheric precipitations in the River Basin District of EasternMacedonia (EL11) is 675 mm. Itvariesfrom 500 to 600 mm incoastal and lowlands, from 600 to 1000 mm in the interior of the RBD and exceeds 1000 mm at higher altitudes (mountain areas).

The main rivers of the RBD are Strymonas (transboundary river) and Aggitis. Strymonas is one of the largest rivers of the Balkan Peninsula, with a total length of 315 km until its discharge into Lake Kerkini. Strymonas river flows from Vitosa Mountain in Bulgaria and following a south-eastern route (290 km within Bulgaria borders) enters Greece in the area of Promachonas at the regional unit of Serres.

The Eastern Macedonia RBD (EL11) includes one heavily modified lake, lake Kerkini (or Kerkini Reservoir) and one reservoir (heavily modified river), Lefkogeia Reservoir. Kerkini Lake is 1 out of 10 Ramsar Wetlands of Greece.

Also, the Eastern Macedonia RBD (EL11) includesonetransitional water body, the Strymonas Estuaries that also includes a lagoon.

Finaly in the RBD there are four coastal water bodies, that are located in the same geographic altitude from west to east, following the seashore of the RBD.

In the context of the 1st update of RBMP, a total of ninety (90) surface water bodies are identified in the Eastern Macedonia RBD (EL11), the distribution of which in the RBD and by RB is presented in the next chapter.

3.3 Competent Authorities

The competent authorities for the implementation of Directive 2000/60/EC have been designated according to **Law 3199/2003** (Government Gazette 280A΄/9.12.2003), as amended and in force, forthe Protection and Management of Waters. The competent authorities are:

The **National Water Committee**, has been designated as a high-levelinter-ministerial body and is responsible for drawing up the policy for the management and protection of the country's water resources.

The **National Water Council**, delivers an opinion to the National Water Committee on National Water Protection and Management Plans and takes note of the Annual Report submitted by the

National Water Committee on the status of the country's water environment, the implementation of the legislation on water protection and management, and the compatibility with the European acquis communautaire.

The Special Secretariat for Waters, has the competence to prepare the programs for the protection and management of the country's water resources and the coordination of services and state bodies on all issues related to the protection and management of water. The Secretariat, in cooperation with the Water Directorates of the Decentralized Administrations, prepares the national programs for the protection and management of the country's water resources and monitors and coordinates their implementation.

Table 3-2: Identity of the National Competent Authority

OFFICIAL NAME	SPECIAL SECRETARIAT FOR WATERS
Acronym	S.S.W.
Legal Status	Single Administrative Division of the Ministry of Environment and Energy
Provisions for Creating and Defining Competencies	- Law 3199/2003 (Government GazetteA' 280) for the Protection and Management of Waters, as amended and in force, in particular by Law 4117/2013 (Government Gazette A΄ 29) καιLaw 4315/2014 (Government Gazette A΄ 269). - PD 132/2017 (Government Gazette A΄ 160) «Ministry of Environment and Energy (MEE)»)» in conjunction withCMD 322/2013 «Organization of the Special Secretariat for Waters of the Ministry for Environment, Energy and Cliamte Changeς» (Government Gazette B' 679), as in force.
Contact Info	
Postal Address	Amaliados 17
Postal Code	11523
City	Athens
Country	Greece
Website	http://www.ypeka.gr/, http://wfdver.ypeka.gr
Contact Points	Tel: 210 6475102, 213 1515410 e-mail: info.egy@prv.ypeka.gr

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

At a Regional Level the Competent Authorities are:

The **Water Council of Decentralized Management**, which is recommended to each Decentralized Administration, according to article 6 of Law 3199/03, as amended by article 53 of Law 4423/2016 (Government GazetteA΄ 182/27.09.2016) and is an instrument of social dialogue and consultation on water protection and management issues.

The **Water Directorates of Decentralized Management**, through which the Decentralized Administration's responsibilities for water protection and management are exercised.

Following the reorganization of the local government departments as a result of the administrative reforms of the "Kallikratis" project, the Water Directorates of the former State Regions are now subordinated to the respective Decentralized Administrations. The Decentralized Management of Macedonia-Thrace (DMMT), under the responsibility of which is the Eastern Macedonia RBD (EL11), includes two Water Directorates: the **Water Directorate of Central Macedonia** and the **Water Directorate of Eastern Macedonia and Thrace**. Each Water Directorate is responsible for the protection and management of the waters in the respective Region (Central Macedonia or Eastern

Macedonia and Thrace) and exercises the powers conferred on Decentralized Management in accordance with the applicable legislation.

Table 3-3: Identities of the Regional Competent Authorities

OFFICIAL NAME	DECENTRALIZED ADMINISTRATION OF MACEDONIA - THRACE WATER DIRECTORATE OF CENTRAL MACEDONIA
Acronym	W.D.C.M.
Legal Status	Organic Unit of the Decentralized Administration of Macedonia – Thrace. Falls under the General Directorate for Spatial Planning and Environmental Policy.
Provisions for Creating and Defining Competencies	- Law 3199/2003 (Government Gazette A' 280) for the Protection and Management of Waters, as amended and in force, in particular by Law 4117/2013 (Government Gazette A΄ 29) και Law 4315/2014 (Government Gazette A΄ 269). - Law 3852/2010 (Government Gazette A' 87) Project Kallikratis, as in force. - PD 51/2007 on the Designation of Measures and Procedures for the Integrated protection and management of water, in accordance with the provisions of Directive 2000/60/EC - PD 142/2010 (Government Gazette A' 235) Organization of the Decentralized Administration of Macedonia Thrace. - National Water Committee Decision 706/2010 (Government Gazette B΄1383/2-9-2010 «Designation of the Country's River Basins and appointment of the competent Regional authorities for their protection and management»and B΄1572/28-9-2010 amending Annex II), as in force after approval of the current River Basin Management Plans of the country's River Basin Districts.
Contact Info	
Postal Address	Georgikis Scholis Avenue 32
Postal Code	55134
City	Thessaloniki
Country	Greece
Website	http://www.damt.gov.gr http://dydaton.damt.gov.gr
Contact Points	Tel.: 2313 309483, 2313 309488 Fax: 2310 424160 email: dy-km@damt.gov.gr

OFFICIAL NAME	DECENTRALIZED ADMINISTRATION OF MACEDONIA - THRACE WATER DIRECTORATE OF EASTERN MACEDONIA AND THRACE
Acronym	W.D.E.M.T.
Legal Status	Organic Unit of the Decentralized Administration of Macedonia – Thrace. Falls under the General Directorate for Spatial Planning and Environmental Policy..
Provisions for Creating and Defining Competencies	- Law 3199/2003 (Government Gazette A' 280) for the Protection and Management of Waters, as amended and in force, in particular by Law 4117/2013 (Government Gazette A΄ 29) και Law 4315/2014 (Government Gazette A΄ 269). - Law 3852/2010 (Government Gazette A' 87) Project Kallikratis, as in force. - PD 51/2007 on the Designation of Measures and Procedures for the Integrated protection and management of water, in accordance with the provisions of Directive 2000/60/EC - PD 142/2010 (Government Gazette A' 235) Organization of the Decentralized Administration of Macedonia Thrace. - National Water Committee Decision 706/2010 (Government Gazette B΄1383/2-9-2010 «Designation of the Country's River Basins and appointment of the competent Regional authorities for their protection and management» and B΄1572/28-9-2010 amending Annex II), as in force after approval of the current River Basin Management Plans of the country's River Basin Districts.
Contact Info	
Postal Address	Tenedou 58
Postal Code	65110
City	Kavala
Country	Greece
Website	http://www.damt.gov.gr
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4 DESIGNATION AND CLASSIFICATION OF WATER BODIES

4.1 Surface Water Bodies (SWB)

According to the 1st Update of RBMP, in the River Basin District of Eastern Macedonia (EL11) **ninety (90) surface water bodies** are identified. The aforementioned WBs are presented at the following table by category.

Table 4-1: Number of surface water bodies of Eastern Macedonia RBD (EL11)for each RB

Type of WB	RB Strymonas (EL1106)	Total RBD
River WB	83	83
Reservoirs (heavily modified river WB)	1	1
Lake WB (natural lake)	-	-
Heavily Modified Lake WB (reservoir)	1	1
Transitional WB	1	1
Coastal WB	4	4
Total SWB	**90**	**90**

4.1.1 River water bodies

The river water bodies of Eastern Macedonia (EL11) RBD, and therefore Strymonas RB (EL1106), under the new typology as defined by the Mediterranean Intercalibration Group, based on European Decision 2013/480EC are presented at the following table.

Table 4-2: River WBs under new typology, basedonthe European Desicion 2013/480/EK and MED GIG, in Strymonas RB (EL1106) of Eastern Macedonia RBD (EL11)

No	WB NAME	WB CODE	HMWB/ AWB	LENGTH (km)	INSTANT RUNOFF BASIN (km^2)	CUMULATIVE RUNOFF BASIN (km^2)	AVERAGE ANNUAL RUNOFF (hm^3)	TYPE OF WB
RB STRYMONAS (EL1106)								
1	STRYMONAS R.	EL1106R0B02250072N		10,18	92,1	10184,5	2054,92	R-L2
2	MAVROREMA R.	EL1106R0002100249N		6,33	6,72	31,5	4,63	R-M1
3	MPELITSAS R.	EL1106R0002100238H	✓	16,01	92,63	688,9	101,27	R-M1
4	ERYTHROREMA R.	EL1106R0002100241N		6,66	28,05	28,05	4,12	R-M1
5	KOKKINOREMA R.	EL1106R0002100136N		11,32	44,79	116,0	17,06	R-M1
6	STRYMONIKO R.	EL1106R0002180067N		16,08	59,36	59,36	8,72	R-M1
7	SKAPANIS R.	EL1106R0002160065N		40,97	161,51	161,51	23,73	R-M2
8	PATERA R.	EL1106R0002100133N		14,32	82,07	82,07	12,06	R-M1
9	STRYMONAS R.	EL1106R0002000028H	✓	63,68	799,9	11342,4	2288,54	R-L2
10	ANONYMO R.	EL1106R0002140061H	✓	6,97	31,86	49,7	7,3	R-M1
11	MEGALO REMA	EL1106R0002120260N		24,66	96,92	96,92	14,23	R-M5
12	EZIOBHS R.	EL1106R0002080030N		19,25	65,93	65,93	9,68	R-M5
13	AGIA PARASKEVI R.	EL1106R0002040005N		9,37	76,38	76,38	11,23	R-M1
14	KASTROLAKKAS R.	EL1106R0002020004N		5,72	50,17	50,17	7,37	R-M1
15	ANONYMO R.	EL1106R0001010001N		3,41	24,74	123,9	18,21	R-M1
16	PLATANOREMA R.	EL1106R0003010088N		5,90	39,36	39,36	5,13	R-M4
17	BRYSH R.	EL1106R0007010091N		2,79	39,25	39,25	3,57	R-M1
18	ASPROXOMA R.	EL1106R0009010092N		17,21	113,84	113,84	16,8	R-M2
19	XIROPOTAMOS R.	EL1106R0002200069N		19,57	108,57	108,57	15,95	R-M2
20	MAKROPOTAMOS R.	EL1106R0004010076N		6,48	50,79	60,5	11,65	R-M1
21	XEROPOTAMOS R.	EL1106R0002060421N		13,99	92,72	357,9	79,19	R-M4
22	MARMARA R.	EL1106R0005010089N		29,16	233,94	233,94	34,45	R-M2
23	MYLOREYMA R.	EL1106R0004040081N		3,37	21,35	21,35	4,11	R-M4
24	AGGITHS R.	EL1106R0002060007N		14,52	172,45	2016,0	446	R-M4
25	KROYSOBITHS R.	EL1106R0002100247N		22,87	139,42	271,2	39,86	R-M2
26	AXLADITHS P.	EL1106R0002100251N		7,21	52,46	61,3	9,01	R-M4
27	MAVROREMA R.	EL1106R0002100250N		6,02	24,78	24,78	3,64	R-M1
28	KOKKINOREMA R.	EL1106R0002100137N		12,53	71,24	71,24	10,47	R-M1
29	BATHYTOPOY R.	EL1106R0004020083N		6,71	27,18	118,8	22,88	R-M1

No	WB NAME	WB CODE	HMWB/ AWB	LENGTH (km)	INSTANT RUNOFF BASIN (km^2)	CUMULATIVE RUNOFF BASIN (km^2)	AVERAGE ANNUAL RUNOFF (hm^3)	TYPE OF WB
30	BATHYTOPOY R.	EL1106R0004020084N		10,11	43,23	91,6	17,65	R-M1
31	KROYSOBITHS P.	EL1106R0002100248N		1,30	38,98	38,98	5,73	R-M1
32	BRYSH R.	EL1106R0007010090H	✓	5,23	6,25	37,1	5,45	R-M1
33	MYLOREYMA R.	EL1106R0004040080H	✓	3,73	7,94	7,94	1,53	R-M4
34	MYLOREYMA R.	EL1106R0004030078H	✓	11,65	111,77	214,6	41,34	R-M2
35	MYLOREYMA R.	EL1106R0004000079N		10,16	95,15	103,1	19,86	R-M1
36	BATHYTOPOY R.	EL1106R0004020082H	✓	5,40	20,57	139,4	26,85	R-M1
37	STRYMONAS R.	EL1106R0002250070H	✓	8,74	44,11	10304,8	2079,18	R-L2
38	KERKINITIS R.	EL1106R0002220073N		4,55	18,79	237,8	34,95	R-M1
39	STRYMONAS R.	EL1106R0002000003N		13,49	71,78	15612,1	3150,03	R-L2
40	SKAPANIS R.	EL1106R0002160063H	✓	8,67	25,99	207,5	30,51	R-M1
41	ANONYMO R.	EL1106R0002140062N		5,22	17,8	17,8	2,62	R-M1
42	XRYSOROHS R.	EL1106R0002120156H	✓	12,17	21,19	47,1	8,35	R-M5
43	XRYSOROHS R.	EL1106R0002120157N		7,54	35,6	35,6	5,23	R-M5
44	KROYSOBITHS R.	EL1106R0002100246H	✓	2,10	5,58	276,8	40,68	R-M1
45	ERYTHROREMA R.	EL1106R0002100239H	✓	7,48	17,89	45,9	6,75	R-M1
46	AGIOY IOANNOY R.	EL1106R0002100031H	✓	8,29	182,67	1145,3	168,35	R-M2
47	DOXATOY R.	EL1106R0002060325H	✓	8,88	68,26	361,2	79,9	R-M1
48	AGGITHS R.	EL1106R0002060006N		14,66	221,43	2237,5	495	R-M4
49	FILIPPON CANAL	EL1106R0002060217A	✓	17,55	244,39	588,8	130,27	R-M4
50	MPELITSAS R.	EL1106R0002100245H	✓	10,95	35,37	312,1	45,88	R-M1
51	MPELITSAS R.	EL1106R0002100244H	✓	11,01	132,2	444,3	65,31	R-M2
52	MPELITSAS R.	EL1106R0002100242H	✓	7,47	106,03	550,4	80,9	R-M2
53	STRYMONAS R.	EL1106R0002250071H	✓	3,35	76,14	10260,7	2070,29	R-L2
54	MAKROPOTAMOS R.	EL1106R0004010077N		2,28	14,67	65,5	12,61	R-M1
55	STRYMONAS R.	EL1106R0002010002N		1,55	10,33	15622,4	3152,12	R-L2
56	XEROPOTAMOS R.	EL1106R0002220175N		6,61	35,12	35,12	5,1	R-M1
57	KERKINITIS R.	EL1106R0002220074N		19,49	184,36	219,0	32,19	R-M2
58	KOKKINOREMA R.	EL1106R0002100134N		5,09	62,51	183,2	26,93	R-M1
59	BATHYREMA R.	EL1106R0004020085N		2,55	4,0	4,0	0,77	R-M4
60	MAVROPOYLI R.	EL1106R0002100253N		5,96	8,81	8,81	1,3	R-M4
61	XIROPOTAMOS R.	EL1106R0002200068N		4,98	7,96	116,5	17,12	R-M1

No	WB NAME	WB CODE	HMWB/ AWB	LENGTH (km)	INSTANT RUNOFF BASIN (km^2)	CUMULATIVE RUNOFF BASIN (km^2)	AVERAGE ANNUAL RUNOFF (hm^3)	TYPE OF WB
62	STRYMONIKO R.	EL1106R0002180066N		4,64	17,07	76,4	11,23	R-M1
63	SKAPANIS R.	EL1106R0002160064N		5,56	20,16	181,6	26,69	R-M1
64	EZIOBHS R.	EL1106R0002080029N		15,59	59,91	125,8	18,49	R-M5
65	PHGADOYLI R.	EL1106R0003010087N		11,62	21,59	33,9	27,81	R-M4
66	AGION ANARGYRON R.	EL1106R0002100132N		7,39	8,35	273,7	40,23	R-M1
67	LAKKOS R.	EL1106R0002060109N		6,54	87,72	87,72	19,4	R-M4
68	AGGITHS R.	EL1106R0002060108N		32,55	265,71	499,1	110,42	R-M4
69	KEFALARI R.	EL1106R0002060219N		6,79	70,61	70,61	15,62	R-M4
70	EPTAMYLOI R.	EL1106R0002100135N		2,90	4,69	4,69	1,06	R-M1
71	XEROPOTAMOS R.	EL1106R0002060423N		5,42	115,81	115,81	25,59	R-M2
72	XEROPOTAMOS R.	EL1106R0002060422H	✓	0,83	51,57	167,4	37,03	R-M4
73	KEFALARI R.	EL1106R0002060218H	✓	6,07	17,02	87,6	19,39	R-M4
74	DOXATOY R.	EL1106R0002060420H	✓	5,57	36,52	755,6	167,16	R-M4
75	MEGALO REMA	EL1106R0002120054H	✓	9,18	30,92	184,6	27,13	R-M5
76	FILIPPON CANAL	EL1106R0002060293A	✓	7,25	256,81	256,81	56,82	R-M4
77	AGGISTROY R.	EL1106R0B02240094N		3,32	85,43	85,43	48,68	R-M1
78	DOXATOY R.	EL1106R0002060326N		4,14	292,95	292,95	64,81	R-M2
79	ARCHANGELOU R.	EL1106R0002060112N		4,40	68,46	68,46	22,12	R-M4
80	XEROPOTAMOS R.	EL1106R0002060110N		4,81	77,22	77,22	18,8	R-M4
81	PIGON MYLOPOTAMOY-Z.PIGIS R.	EL1106R0002060414N		11,96	96,01	96,01	20,02	R-M4
82	PIGON AG. VARVARAS R.	EL1106R0002060416N		1,35	1,81	1,81	2,21	R-M4
83	PIGON AKRINOY R.	EL1106R0004020127N		3,96	44,42	44,42	1,93	R-M1

4.1.2 Lake water bodies and heavily modified river water bodies (reservoirs)

In the Eastern Macedonia RBD (EL11), and therefore Strymonas RB (EL1106), **one (1) reservoir and one (1) artificial lake WB** were identified and are presented at the following table.

Table 4-3: Lake WBs and reservoirs (river HMWB) of Eastern Macedonia RBD (EL11)

No	WB NAME	WB CODE	HMWB/AWB	AREA (km^2)	PERIMETER (km)	TYPE OF WB
RB STRYMONAS (EL1106)						
1	KERKINI RES.	EL1106L000002H	✓	46,1	70,6	GR-SR
2	LEFKOGIA RES.	EL1106RL004040001H	✓	1,1	11,9	GR-SR

4.1.3 Transitional Water Bodies

In the Eastern Macedonia RBD (EL11),and therefore Strymonas RB (EL1106), **one (1) transitional WB** is identified and presented at the following table.

Table 4-4: Transitional WB of Eastern Macedonia RBD (EL11)

No	WB NAME	WB CODE	HMWB/AWB	AREA (km^2)	PERIMETER (km)	TYPE OF WB
RB STRYMONAS (EL1106)						
1	STRYMON RIVER DELTA	EL1106T0001N		5,94	13,85	TW 2

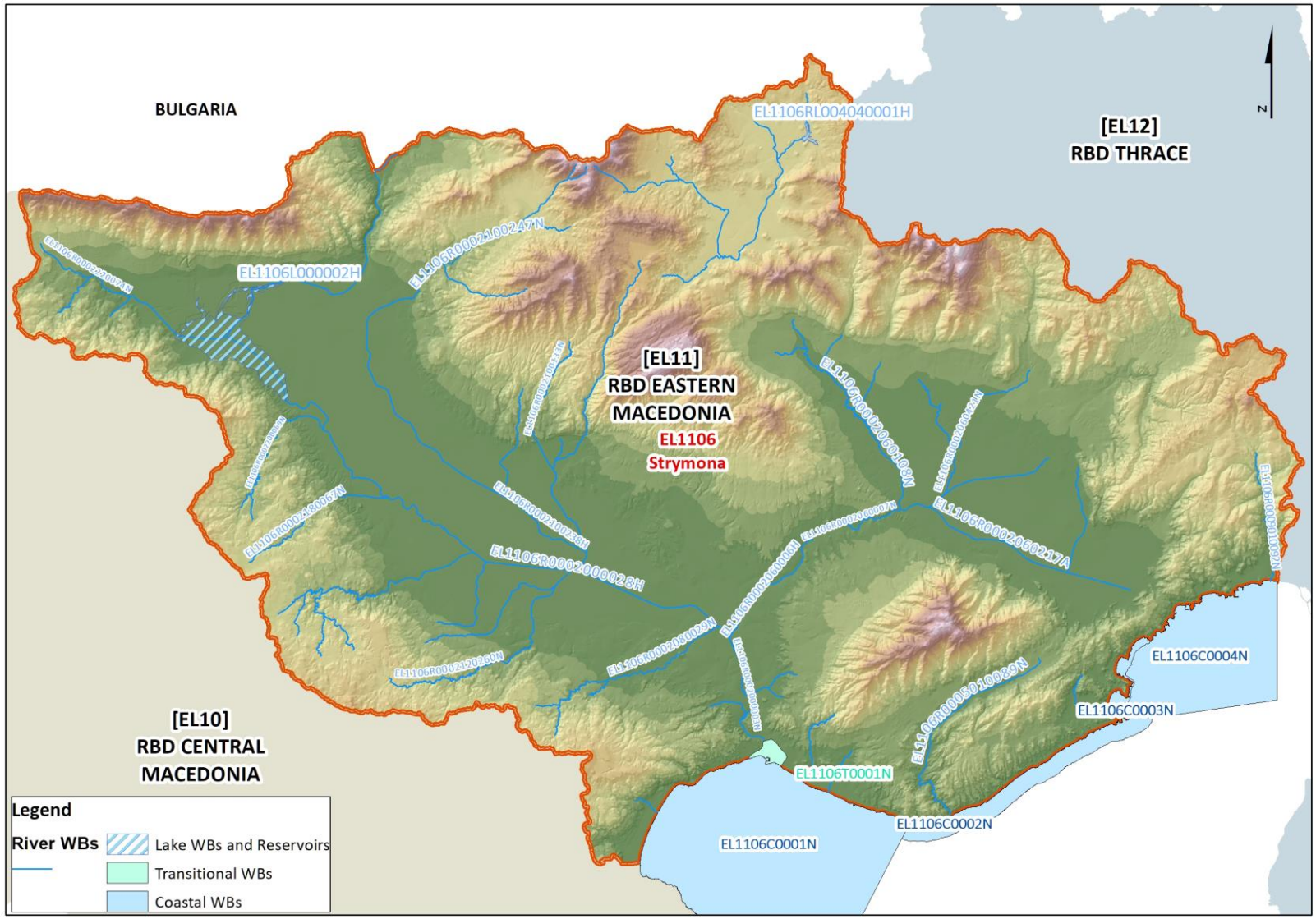
4.1.4 Coastal Water Bodies

In the Eastern Macedonia RBD (EL11), and therefore Strymonas RB (EL1106), **four (4) coastal WB** are identified and are presented at the following table.

Table 4-5: Coastal WB of Eastern Macedonia RBD (EL11)

No	WB NAME	WB CODE	HMWB/AWB	AREA (km^2)	PERIMETER (km)	TYPE OF WB
RB STRYMONAS (EL1106)						
1	STRYMONIKOS KOLPOS	EL1106C0001N		482,28	111,39	III E
2	AKTES SYMVOLOU	EL1106C0002N		55,95	73,39	III E
3	NEA PERAMOS	EL110CT0003N		12,04	42,18	III E
4	DYT. KOLPOS KAVALAS	EL1106C0004N		183,16	79,48	III E

Figure 4-1: Surface WB of Eastern Macedonia RBD (EL11)



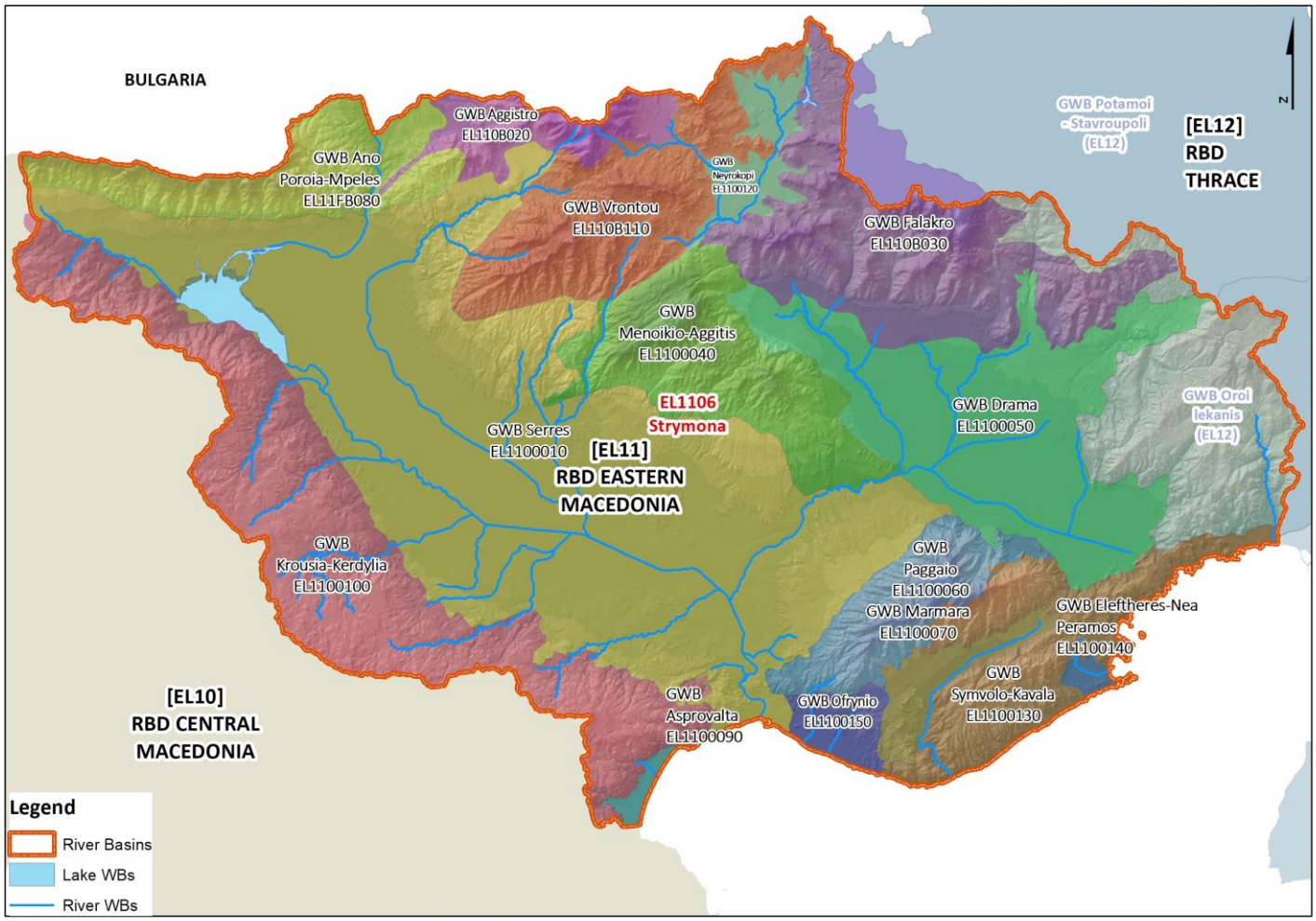
4.2 Groundwater bodies

In the Eastern Macedonia RBD (EL11), and therefore Strymonas RB (EL1106), **fifteen (15) GWB** are identified and are presented at the following table.

Table 4-6: Groundwater bodies of Eastern Macedonia RBD (EL11)

No	WB NAME	WB CODE	AREA(km²)
1	SERRES	EL1100010	2.244,91
2	AGKISTRO	EL110B020	153,75
3	FALAKRO	EL110B030	722,98
4	MENOIKIO – AGGITIS	EL1100040	425,28
5	DRAMA	EL1100050	736,15
6	PAGGAIO	EL1100060	229,23
7	MARMARA	EL1100070	92,43
8	ANO POROIA – MPELES	EL11FB080	320,20
9	ASPROVALTA	EL1100090	20,19
10	KROUSIA – KERDYLIA	EL1100100	913,33
11	VRONTOU	EL110B110	436,83
12	NEYROKOPI	EL1100120	105,83
13	SYMVOLO – KAVALA	EL1100130	376,37
14	ELEFTHERES – NEA PERAMOS	EL1100140	19,24
15	OFRYNIO	EL1100150	75,53

Figure 4-2: Groundwater Bodies of Eastern Macedonia RBD (EL11)



4.3 Heavily Modified Water Bodies (HMWB) and Artificial Water Bodies (AWB)

Twenty four (24) HMWB and **two (2) AWB** are identified from a total of 90 SWBs in the RBD of Eastern Macedonia (EL11). The aforementioned HMWB/AWB are presented at the following tables.

Table 4-7: HMWB (Rivers) of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	TYPE	LENGTH (KM)	BASIN (KM²)	«Determined water usage» according to the article 4(3)(α) of WFD
RB STRYMONAS (EL1106)					
EL1106R0002100031H	AGIOY IOANNOY R.	R-M2	10,85	182,67	Irrigation, Flood protection
EL1106R0002140061H	ANONYMO R.	R-M1	6,97	31,86	Irrigation, Flood protection
EL1106R0004020082H	BATHYTOPOY R.	R-M1	5,40	20,57	Irrigation, Flood protection
EL1106R0007010090H	BRYSH R.	R-M1	5,23	6,25	Irrigation, Flood protection
EL1106R0002100239H	ERYTHROREMA R.	R-M1	7,48	17,89	Irrigation, Flood protection
EL1106R0002060218H	KEFALARI R.	R-M4	6,07	17,02	Irrigation, Flood protection
EL1106R0002100246H	KROYSOBITHS R.	R-M1	2,10	5,58	Irrigation, Flood protection
EL1106R0002120054H	MEGALO REMA	R-M5	9,18	30,92	Irrigation, Flood protection
EL1106R0002100238H	MPELITSAS R.	R-M1	13,44	92,63	Irrigation, Flood protection
EL1106R0002100245H	MPELITSAS R.	R-M1	10,95	35,37	Irrigation, Flood protection
EL1106R0002100244H	MPELITSAS R.	R-M2	11,01	132,20	Irrigation, Flood protection
EL1106R0002100242H	MPELITSAS R.	R-M2	7,47	106,03	Irrigation, Flood protection
EL1106R0004040080H	MYLOREYMA R.	R-M4	3,92	7,94	Water storage, Irrigation, Tourism
EL1106R0004030078H	MYLOREYMA R.	R-M2	11,65	111,77	Irrigation, Flood protection
EL1106R0002060422H	XEROPOTAMOS R.	R-M4	0,83	51,57	Flood protection, Urbanization
EL1106R0002160063H	SKAPANIS R.	R-M1	8,67	25,99	Irrigation, Flood protection
EL1106R0002000028H	STRYMONAS R.	R-L2	64,14	799,87	Irrigation, Flood protection
EL1106R0002250070H	STRYMONAS R.	R-L2	8,74	44,11	Irrigation, Flood protection
EL1106R0002250071H	STRYMONAS R.	R-L2	3,35	76,14	Irrigation, Flood protection
EL1106R0002060325H	DOXATOY R.	R-M1	8,88	68,26	Irrigation, Flood protection
EL1106R0002060420H	DOXATOY R.	R-M4	5,57	36,52	Irrigation, Flood protection
EL1106R0002120156H	XRYSOROHS R.	R-M5	12,17	21,19	Irrigation, Flood protection, Urbanization

Table 4-8: AWB (Rivers) of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	TYPE	LENGTH (KM)	BASIN (KM²)	«Determined water usage» according to the article 4(3)(α) of WFD
RB STRYMONAS (EL1106)					
EL1106R0002060217A	FILIPPON CANAL	R-M4	17,55	244,39	Irrigation, Flood protection
EL1106R0002060293A	FILIPPON CANAL	R-M4	7,25	256,81	Irrigation, Flood protection

Table 4-9: HMWB (Reservoirs) of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	TYPE	AREA (KM²)	BASIN (KM²)	«Determined water usage» according to the article 4(3)(α) of WFD
RB STRYMONAS (EL1106)					
EL1106L000002H	KERKINI RES.	GR-SR	46,09	292,17	Irrigation, Power generation, Flood protection
EL1106RL004040001H	LEFKOGIA RES.	GR-SR	1,09	31,61	Irrigation, Flood protection

4.4 Protected Areas

The areas that are included in the updated Register of Protected Areas, as they are defined in Annex V of PD 51/2007, are presented at the following chapters.

4.4.1 Areas designated for the abstraction of water intended for human consumption

In the Eastern Macedonia RBD (EL11) abstraction of water for human consumption is only made by groundwater bodies. The four (4) groundwater bodies with karst aquifer, that are incuded in the Register in the 1st Update of RBMP, are presented at the following table.

Table 4-10: Areas designated for the abstraction of water intended for human consumption in Eastern Macedonia RBD (EL11)

No	GWB NAME	GWB CODE	PROTECTED AREA CODE	AQUIFER	QUALITY STATUS	QUANTITATIVE STATUS
1	AGKISTRO	EL110B020	EL110B020A7	KARST	GOOD	GOOD
2	FALAKRO	EL110B030	EL110B030A7	KARST	GOOD	GOOD
3	MENOIKIO - AGGITIS	EL1100040	EL1100040A7	KARST	GOOD	GOOD
4	PAGGAIO	EL1100060	EL1100060A7	KARST	GOOD	GOOD

4.4.2 Water bodies designated as recreational waters including areas designated as bathing waters under the Directive 2006/7/EC

According to Greece's **Register of Bathing Waters** (SSW, 2016), in the Eastern Macedonia RBD (EL11), in 2016 there were **24 areas designated as bathing waters**, all of them in coastal water bodies. There were no recreational waters identified.

4.4.3 Areas vulnerable to nitrate pollution and sensitive in urban waste water treatment

Areas vulnerable to nitrate pollution from agricultural sources under Directive 91/676/EEC

In the Eastern Macedonia RBD (EL11) there are two (2) areas officially designated as vulnerable to nitrate pollutionfrom agricultural sources, the **RB of Strymonas River (EL1106NI01)** and the **RB of Aggitis River (EL1106NI02)**. The vulnerable zones and the water bodies included within that are or likely to be nitro-polluted are presented at the following table.

Table 4-11: Vulnerable Zones and Water Bodies that are or likely to be nitro-polluted in Eastern Macedonia RBD (EL11)

VULNERABLE ZONE NAME	WATER BODIES THAT ARE OR LIKELY TO BE NITRO-POLLUTED			
	WB CODE	WB NAME	WB CATEGORY	RB
RB STRYMONAS RIVER EL1106NI01	EL1106L000002H	LAKEKERKINI	LAKE	EL1106
	EL1100010	SERRES	GROUNDWATER	EL1106
RB AGGITIS RIVER EL1106NI02	EL1100050	DRAMA	GROUNDWATER	EL1106
	EL1106R0002060421N	XEROPOTAMOS R.	RIVER	EL1106
	EL1106R0002060007N	AGGITHS R.	RIVER	EL1106
	EL1106R0002060325H	DOXATOY R.	RIVER	EL1106
	EL1106R0002060006H	AGGITHS R.	RIVER	EL1106
	EL1106R0002060217A	FILIPPON CANAL	RIVER	EL1106
	EL1106R0002060109N	LAKKOS R.	RIVER	EL1106
	EL1106R0002060108N	AGGITHS R.	RIVER	EL1106
	EL1106R0002060219N	KEFALARI R.	RIVER	EL1106
	EL1106R0002060423N	XEROPOTAMOS R.	RIVER	EL1106
	EL1106R0002060218H	KEFALARI R.	RIVER	EL1106
	EL1106R0002060420H	DOXATOY R.	RIVER	EL1106
	EL1106R0002060293A	FILIPPON CANAL	RIVER	EL1106
	EL1106R0002060326N	DOXATOY R.	RIVER	EL1106
	EL1106R0002060112N	ARCHANGELOU R.	RIVER	EL1106

VULNERABLE ZONE NAME	WATER BODIES THAT ARE OR LIKELY TO BE NITRO-POLLUTED			
	WB CODE	WB NAME	WB CATEGORY	RB
	EL1106R0002060110N	XEROPOTAMOS R.	RIVER	EL1106
	EL1106R0002060414N	PIGON MYLOPOTAMOY-Z.PIGIS R.	RIVER	EL1106
	EL1106R0002060416N	PIGON AG. VARVARAS R.	RIVER	EL1106

Areas designated sensitive under Directive 91/271/EEC

In the Eastern Macedonia RBD (EL11), there are thirteen (13) water bodies designated as sensitive according to the **Ministerial Decision 19661/1982/1999** (Government Gazette 1811B'/29.09.1999).

Table 4-12: Sensitive Area sin Eastern Macedonia RBD (EL11)

No	SENSITIVE AREA CODE UWWTD	SENSITIVE AREA CODERBMP	WB CODE	WB NAME
1	ELSARV13	EL1106R0002000003NUW	EL1106R0002000003N	STRYMONAS R.
2	ELSARV13	EL1106R0002000028HUW	EL1106R0002000028H	STRYMONAS R.
3	ELSARV13	EL1106R0002010002NUW	EL1106R0002010002N	STRYMONAS R.
4	ELSARV13	EL1106R0002250070HUW	EL1106R0002250070H	STRYMONAS R.
5	ELSARV13	EL1106R0002250071HUW	EL1106R0002250071H	STRYMONAS R.
6	ELSARV13	EL1106R0B02250072NUW	EL1106R0B02250072N	STRYMONAS R.
7	ELSARV20	EL1106R0002060006HUW	EL1106R0002060006H	AGGITIS R.
8	ELSARV20	EL1106R0002060007NUW	EL1106R0002060007N	AGGITIS R.
9	ELSARV20	EL1106R0002060108NUW	EL1106R0002060108N	AGGITIS R.
10	ELSARV20	EL1106R0002060112NUW	EL1106R0002060112N	PIGONAGGITIR.
11	ELSARV21	EL1106R0002120156HUW	EL1106R0002120156H	XRYSOROHS R.
12	ELSARV21	EL1106R0002120157NUW	EL1106R0002120157N	XRYSOROHS R.
13	ELSARV21	EL1106R0002120054HUW	EL1106R0002120054H	MEGALO REMA

4.4.4 Areas designated for the protection of Birds and Habitats

In the Eastern Macedonia RBD (EL11), there are twelve (12) protected areas of the Natura 2000 Network that are included in the Register of Protected Areas (see table bellow).

Also, in the Eastern Macedonia RBD (EL11) there is the **"National Park of Kerkini Lake"** that was designated under the JMD 42699/2006 (Government Gazette 98/AAPP/8.9.2006) and is a wetland of international importance under the Ramsar Convention. The National Park's borders are within the Natura 2000 Protected Areas.

Table 4-13: Areas designated for the protection of birds and Habitats in Eastern Macedonia RBD (EL11)

No	NATURA 2000 CODE	TYPE	NAME	AREA (ha)	RBD	RB
1	GR1140009	SPA	OROS FALAKRO	25.484,44	EL11	EL1106
2	GR1150005	SCI	KORYFES OROUS PANGAIO	10.345,47	EL11	EL1106
3	GR1150009	SCI	KOLPOS PALAIOU – ORMOS ELEFTHERON	1.168,27	EL11	EL1106
4	GR1150012	SPA	THASOS (OROS YPSARIO KAI PARAKTIA ZONI) KAI NISIDES KOINYRA, XIRONISI	17.592,29	EL11	EL1106
5	GR1260001	SCI	LIMNI KERKINI – KROUSIA – KORYFES OROUS BELES, ANGISTRO - CHAROPO	78.303,96	EL11	EL1106
6	GR1260002	SCI - SPA	EKVOLES POTAMOU STRYMONA	1.297,10	EL11	EL1106
7	GR1260003	SCI	AI GIANNIS - EPTAMYLOI	3217,29	EL11	EL1106
8	GR1260005	SCI	KORYFES OROUS ORVILOS	4.871,04	EL11	EL1106
9	GR1260007	SCI	ORI VRONTOUS – LAILIAS - EPIMIKES	6.799,47	EL11	EL1106
10	GR1260008	SPA	TECHNITI LIMNI KERKINIS – OROS KROUSIA	27.712,64	EL11	EL1106
11	GR1260009	SPA	KOILADA TIMIOU PRODROMOU – MENOIKION	29.650,86	EL11	EL1106
12	GR1260010	SPA	OROS BELES	25.310,84	EL11	EL1106

4.4.5 Areas designated for the protection of aquatic speciesof economic importance

During the 1st RBMP and also in the 1st Update, in the Register of Protected Areas four (4) coastal water bodies under the Directive 2006/113/EC and two (2) river water bodies under the Directive 2006/44/EC were included (see tables below).

The coastal areas were chosen because they include "Aquaculture Development Areas", as designated in Table 1 of the Annex of Ministerial Decision 31722/4.11.2011.

Table 4-14: Protected Areas under Directive 2006/113/EK

No	PROTECTED AREA CODE	WB CODE	WB NAME	WB CATEGORY
1	EL1106C0001NSH	EL1106C0001N	STRYMONIKOS KOLPOS	COASTAL
2	EL1106C0002NSH	EL1106C0002N	AKTES SYMVOLOU	COASTAL
3	EL1106C0003NSH	EL1106C0003N	NEA PERAMOS	COASTAL
4	EL1106C0004NSH	EL1106C0004N	DYT. KOLPOS KAVALAS.	COASTAL

Table 4-15: Protected Areas under Directive 2006/44/EK

No	PROTECTED AREA CODE	WB CODE	WB NAME	WB CATEGORY
1	EL1106R0002060219NFI	EL1106R0002060219N	KEFALARI R.	RIVER
2	EL1106R0002060108NFI	EL1106R0002060108N	AGGITIS R.	RIVER

5 PRESSURES AND IMPACTS

The anthropogenic pressures in water bodies are the total of anthropogenic pressures in water bodies that affect or can affect the water bodies of the area in which they are developed. These pressures have an important role because they could be the cause to fail the environmental objectives according to EC No 03 Guidance Document

The sources of pollution are differentiated in the following categories:

- Point sources of pollution
- Diffuse sources of pollution
- Water flow regulation and morphological alterations
- Abstractions
- Artificial recharge of groundwater bodies
- Alteration of water level or volume
- Other impacts of human activity on the status of water
- Deterioration of waters from other sources of pollution

5.1 Point sources of pollution

It includes all point sources of pollution that produce criteria pollutants (BOD, N, P). The list of categories of these pressures includes:

- Wastewater Treatment Plants (WWTP).
- Extrusion of sewerage networks into a natural recipient.
- Large hotels.
- Industrial units.
- Livestock facilities (farms).
- Aquaculture – fish farming.
- Leakage from landfill.

The total annual loads of BOD, N and P, from the above point sources are presented in the following figure and table.

Figure 5-1: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from point sources of pollution

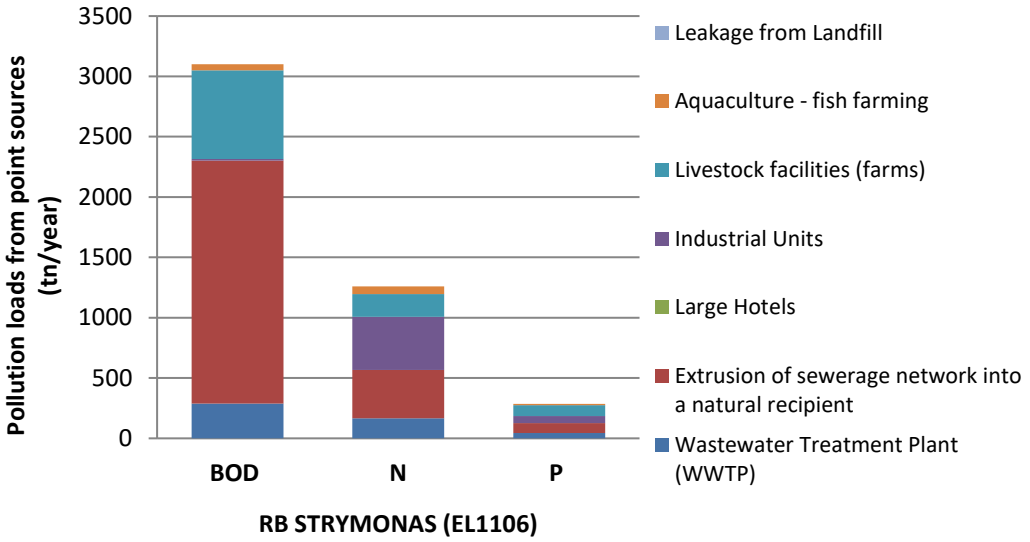


Table 5-1: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from point sources of pollution

POINT SOURCES OF POLLUTION	BOD (tn/year)	N (tn/year)	P (tn/year)
Industrial Units	11,6	440,6	60,2
Leakage from Landfill	0,0	0,0	0,0
Wastewater Treatment Plant (WWTP)	289,2	165,2	44,0
Extrusion of sewerage networks into a natural recipient	2.013,9	402,8	81,9
Large Hotels	0,0	0,0	0,0
Aquaculture – Fish Farming	51,7	64,0	9,0
Livestock Facilities (Farms)	734,9	186,6	89,3
TOTAL	**3.101,5**	**1260,0**	**284,5**

5.2 Diffuse sources of pollution

It includes all diffuse sources of pollution that produce criteria pollutants (BOD, N, P). The list of categories of these pressures includes:

- Agriculture.
- Urban waste water that doesn't end up in WWTP.
- Livestock farming.
- Other diffuse sources (i.e. forests, pastures etc).

The total annual loads of BOD, N and P, from the above diffuse sources are presented in the following figure and table.

Figure 5-2: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from diffuse sources of pollution

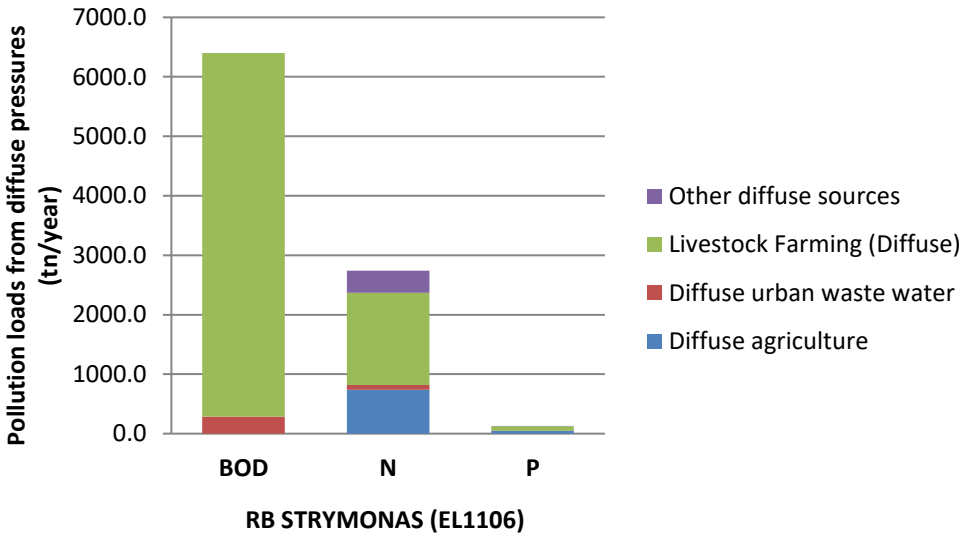


Table 5-2: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from diffuse sources of pollution

DIFFUSE SOURCES OF POLLUTION	BOD (tn/year)	N (tn/year)	P (tn/year)
URBAN WASTE WATER	283,2	80,8	2,7
AGRICULTURE	0,0	735,3	48,2
LIVESTOCK FARMING	6117,0	1552,8	84,8
OTHER SOURCES	0,0	371,3	6,7
TOTAL	**6400,2**	**2740,2**	**142,4**

5.3 Hydromorphological pressures

5.3.1 Hydromorphological alterations and modifications

The hydromorphological alterations of SWBs in Strymonas RB are presented in the following table.

RB Strymonas (EL1106)

Table 5-3: Hydromorphological alterations due to projects on SWB (HMWB-AWB) of Strymonas RB (EL1106)

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km²) / LENGTH (km) HMWB-AWB	HMWB-AWB
SERRON	Diversion/New cross ofStrymonas R.	Flood protection	EL1106R0002250070H, EL1106R0002250071H	15,0 km	HMWB
SERRON	Adjustment of Strymonas R.	Flood protection, Water storage: Irrigation	EL1106R0002000028H	40,0 km	HMWB
SERRON	Adjustment of Mpelitsas R.	Drainage, Irrigation, Flood protection	EL1106R0002100238H, EL1106R0002100242H, EL1106R0002100244H, EL1106R0002100245H	42,9 km	HMWB
SERRON	Erythrorema R.	Flood protection	EL1106R0002100239H	7,48 km	HMWB
SERRON	Adjustment of: AgioyloannoyR., AnonymoR.,KroysobithsR., Megalo Rema, Skapanis R., Xrysorohs R.	Drainage, Irrigation, Floodprotection	EL1106R0002100031H, EL1106R0002140061H, EL1106R0002100246H, EL1106R0002120054H, EL1106R0002160063H, EL1106R0002120156H	49,94 km	HMWB
SERRON	Filippon Canal	Drainageof marshland and use for agriculture, Irrigation	EL1106R0002060217A, EL1106R0002060293A	24,8 km	AWB
SERRON	Kerkini Res.	Flood protection, Irrigation, Hydropower production	EL1106L000002H	46,1 km²	HMWB
DRAMAS	Adjustment of: BathytopoyR., KefalariR., MyloreymaR., XeropotamosR., Doxatou R.	Drainage, Irrigation, Flood protection	EL1106R0004020082H, EL1106R0002060218H, EL1106R0004030078H, EL1106R0002060422H, EL1106R0002060325H, EL1106R0002060420H	**38,4 km**	HMWB
DRAMAS	Myloreyma R.	Water storage: Irrigation, Recreation	EL1106R0004040080H	3,92 km	HMWB
DRAMAS	Lefkogion Res.	Irrigation	EL1106RL004040001H	1,1 km²	HMWB

5.3.2 Sandpits

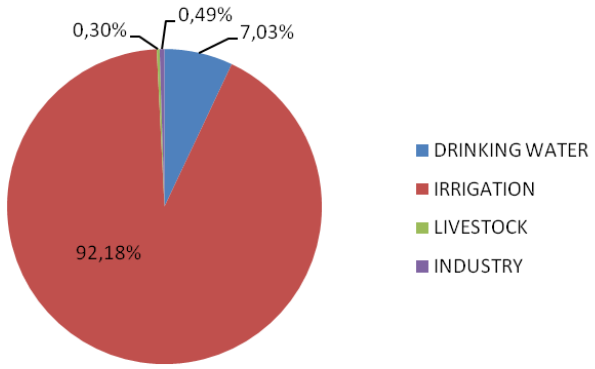
In Strymonas RB (EL1106), sandblasting has been carried out along the sections EL1106R0B02250072N, EL1106R0002250071H, EL1106R0002000028H, EL1106R0002250070H of STRYMONAS R, along SKAPANIS R (EL1106R0002160064N) and along XEROPOTAMOS R. (EL1106R0002200068N).

5.4 Water Abstraction

Strymonas RB (EL1106)

In Strymonas River Basin,the total annual abstractions of water for all uses are estimated at837,48 hm^3. The largest amount relates to irrigation (772,01 hm^3, 92,18%), an important amount relates to drinking water (58,87 hm^3, 7,03%), while the estimated abstractions related to industry and livestock breeding are 4,13 hm^3 (0,49%) and 2,47 hm^3 (0,30%) respectively.

Figure 5-3: Distribution of abstractions in Strymonas RB (EL1106)



Abstractions from Surface Water Bodies

The annual abstractions per SWB of Strymonas RB are presented at the following table. Other surface water bodies, that are not listed in the table below, may also be discharged. Inanycase, the water abstractions in these bodies are very small and aren't recorded at the National Register of Points of Abstractions.

All of the aforementioned annual abstractions concern agricultural irrigation by collective networks. Full inventory recording is under way through the National Register of Points of Abstractions and the implementation of certain Measures that are proposed in this Plan.

Table 5-4: Annual abstractions from SWBs of Strymonas RB (EL1106)

A/A	WB CODE	WB NAME	CATEGORY OF WB	ANNUAL ABSTRACTIONS OF WATER (hm^3/year))	USE OF ABSTRACTION
1	EL1106R0002060293A	FILIPPON CANAL	R	1,03	AGRICULTURE
2	EL1106R0002060416N EL1106R0002060421N	PIGON AG. VARVARAS R.(XEROPOTAMOS R.)	R	10,71	AGRICULTURE
3	EL1106R0002060421N EL1106R0002060108N	XEROPOTAMOS R. (AGGITISR.)	R	27,41	AGRICULTURE
4	EL1106R0004040080H EL1106RL000001H	MYLOREYMA R. (LEFKOGIA RES.)	R, L	19,59	AGRICULTURE
5	EL1106R0002060108N	AGGITISR.	R	8,76	AGRICULTURE
6	EL1106R0002060218H (EL1106R0002060219N)	KEFALARI R.	R	37,87	AGRICULTURE
7	EL1106R0002060414N	PIGON MYLOPOTAMOY-Z.PIGIS R.	R	2,03	AGRICULTURE
8	EL1106R0002060217A (EL1106R0002060219N)	FILIPPON CANAL (KEFALARI R.)	R	59,15	AGRICULTURE
9	EL1106R0002000003N	STRYMONASR.	R, L	36,17	AGRICULTURE

A/A	WB CODE	WB NAME	CATEGORY OF WB	ANNUAL ABSTRACTIONS OF WATER (hm^3/year))	USE OF ABSTRACTION
	(EL1106L000002H)	(KERKINI RES.)			
10	EL1106R0002100031H (EL1106R0002100135N)	AGIOY IOANNOY R.(EPTAMYLOI R.)	R	4,53	AGRICULTURE
11	EL1106R0002250071H (EL1106L000002H)	STRYMONASR. (KERKINI RES.)	R, L	116,5	AGRICULTURE
12	EL1106R0002000028H (EL1106L000002H)	STRYMONASR. (KERKINI RES.)	R, L	188,4	AGRICULTURE
13	EL1106R0002060108N	AGGITISR.	R	6,08	AGRICULTURE
14	EL1106R0002060006H EL1106R0002000028H	AGGITISR. STRYMONASR.	R	31,52	AGRICULTURE
15	EL1106R0002100238H	MPELITSAS R.	R	31,56	AGRICULTURE
16	EL1106R0002100244H	MPELITSAS R.	R	8,05	AGRICULTURE
			TOTAL	**589,36**	

Abstractions from Groundwater Bodies

The annual abstractions per GWB of Strymonas RB are presented at the following table.

Table 5-5: Annual supply and abstractions from the GWB's of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	Annual Average Recharge (10^6 m^3)	Annual Average Abstracts (10^6 m^3)	Irrigation (10^6 m^3)	Drinking Water supply (10^6 m^3)	Livestock (10^6 m^3)	Industry (10^6 m^3)	Quantitative status
RB STRYMONAS (EL1106)								
EL1100010	Serres	330-350	82,33	15,6	64,8	1,23	0,7	Good
EL110B020	Agkistro	27,5	1,14	0,13	1,01	0,017	-	Good
EL110B030	Falakro	250	18,8	4,6	14	0,23	-	Good
EL1100040	Menoikio - Aggitis	120-124	22,55	4,4	17,6	0,15	0,4	Good
EL1100050	Drama	70	46	6,5	36,6	0,30	0,1	Good
EL1100060	Paggaio	50	7	1,3	5,63	0,05	-	Good
EL1100070	Marmaras	23	10	0,6	8,9	0,03	-	Good
EL11FB080	Ano Poroia - Mpeles	12,5-20	4,4	0,9	3,4	0,03	-	Good
EL1100090	Asprovalta	1,6-2	1,008	0,06	0,14	0,008	0,8	Good
EL1100100	Krousia - Kerdylia	35-40	9	2,15	6,8	0,11	-	Good
EL110B110	Vrontou	27	4,6	2,2	2,4	0,09	-	Good
EL1100120	Neyrokopi	13-15	6	0,14	5,8	0,035	-	Good
EL1100130	Symvolo - Kavala	24-25	17,2	6,7	7	0,05	3	Good
EL1100140	Eleftheres – Nea Peramos	4,9	5,2	0,25	5	-	-	**Bad**
EL1100150	Ofrynio	9	4,43	0,43	3,8	0,006	-	Good

5.5 Other Pressures

Other pressures include:

- Run-offs from mining activities (mines)
- Desalination Units
- Ports – Marinas – Navigation
- Artificial recharge of grounwater bodies
- Alteration in groundwater level and quantity due to underground holdings or the construction of large underground works.

Run-off from mining activities (mines)

In Eastern Macedonia RBD (EL11), and therefore RB Strymonas (EL1106),there is currently no active mine. Inthepast, there was exploitation of the manganese deposit located 9 km north of Prosotsani. Therewere the "Bauxite Volakas Mines" inthearea, which have been abandoned but continue to be a major source of pollution. The mines are located near Kalinas R. (EL1106R0002060114N), which ends on Xeropotamos R. (EL1106R0002060110N).

Desalination Units

In Eastern Macedonia RBD (EL11), and therefore RB Strymonas (EL1106), there are no desalination units.

Ports – Marinas – Navigation

In Eastern Macedonia RBD (EL11), and therefore RB Strymonas (EL1106), therearefour (4) ports, one (1) marina and seven (7) fishing shelters.

Artificial recharge of groundwater bodies

In Eastern Macedonia RBD (EL11), and therefore RB Strymonas (EL1106), no artificial recharge is applied to groundwater bodies.

Implementation experiments have been carried out at the GWB "Ofrynio" (EL1100150).

Also, based on the re-use decisions so far, the re-use of the Wastewater Treatment Plants does not include artificial enrichment, either indirect (irrigation) or directly.

Consideration could be given to the re-use of the treated effluent of the Nea Peramos WWTP in the groundwater aquifer, so that they are used for irrigation purposes. Today, this discharge takes place in the nearby stream, leading to the coast of Nea Peramos.

Alteration in groundwater level and quantity due to underground holdings or the construction of large underground works

In Eastern Macedonia RBD (EL11), and therefore RB Strymonas (EL1106), there are no underground holdings or construction of large underground works.

5.6 Aggregate Pressure Data

The total annual loads of BOD, N and P from the individual sources of point and diffuse pollution are presented in the following figure and table.

Figure 5-4: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from all (point and diffuse) sources of pollution

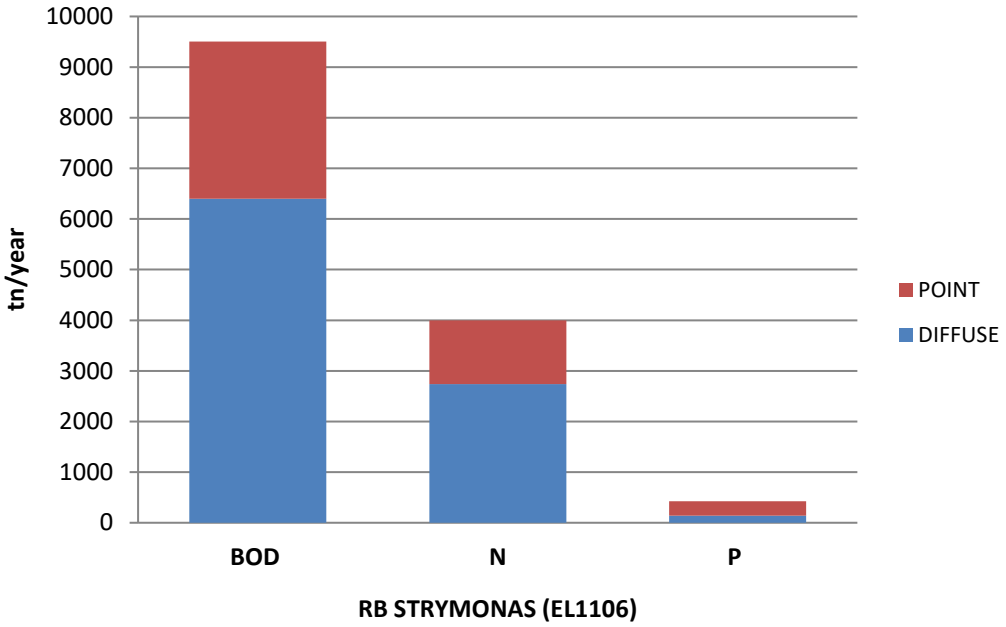


Table5-6: Total annual loads of BOD, N and P that are produced in RB Strymonas (EL1106) from all (point and diffuse) sources of pollution

SOURCE OF POLLUTION	BOD (tn/year)	N (tn/year)	P (tn/year)
DIFFUSE	6400,2	2740,2	142,4
POINT	3101,5	1259,0	284,5
TOTAL	**9501,6**	**3999,2**	**426,9**

5.7 Impacts assessments

5.7.1 Impact assessment on Surface Water Bodies

In assessing the impacts and the characterization of the water bodies on the basis of the possibility of achieving the environmental objectives of the Directive 2000/60/EC, the following are being taken into consideration:

- Pressure tension from all significant sources of pollution and abstractions: High (H), Medium (M), Low (L).
- The available data and results from the Monitoring Program.
- Expert judgement when no other data is available.

The risk assessment of the achievement of the objectives in this Plan for Strymonas RB (EL1106), is presented below by category of SWBs. Out of 90 SWBs, 8 WBs are At Risk (8,9%), 20 WBs are Probably At Risk (22,2%), 7 WBs are Probably Not at Risk (7,8%) and 55 WBs are Not at Risk (61,1%).

Figure 5-5: Risk assessment failure to achieve objectives of SWB in RB Strymonas (EL1106)

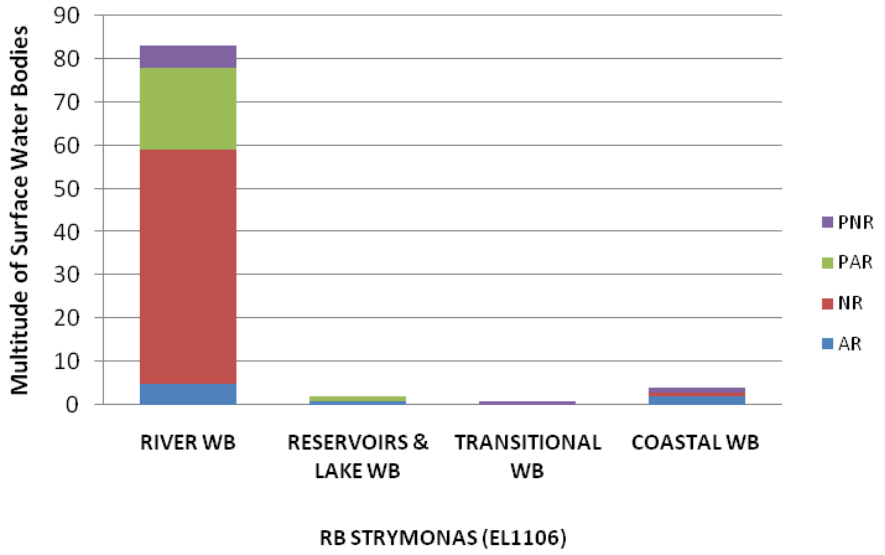


Table5-7: Statistics of risk assessment failure to achieve objectives of SWB in RB Strymonas (EL1106)

Category of WB	RiskAssessment*								Total
	NR		PNR		PAR		AR		
	Number of WB	% of Number	Number of WB	% of Number	Number of WB	% of Number	Number of WB	% of Number	Number of WB
River WB	54	65,1%	5	6,0%	19	22,9%	5	6,0%	83
Lake WB & Reservoirs	0	0,0%	0	0,0%	1	50,0%	1	50,0%	2
Coastal WB	1	0,25%	1	0,25%	0	0,0%	2	50,0%	4
Transitional WB	0	0,0%	1	100%	0	0,0%	0	0,0%	1
Total	**55**	**61,1%**	**7**	**7,8%**	**20**	**22,2%**	**8**	**8,9%**	**90**

** Risk Assessment of the achievement of the objectives: At Risk (AR), Probably At Risk (PAR), Probably Not at Risk (PNR), Not at Risk (NR)*

5.7.2 Impacts assessment on Groundwater Bodies

The assessment of the qualitative and quantitative status of the groundwater bodies of Strymonas RB (EL1106), is presented below.

Table 5-8: Chemical status and Quantitative status of GWB in Strymonas RB (EL1106)

No	WB CODE	WB NAME	Quantitative status	Decline water levels tendency	Chemical status	Quality problems	Pollutants tendency
1	EL1100010	Serres	Good	NO	Good	Local charges of NO_3 NO_2 and NH_4 due to anthropogenic pressures and local charges of As, $NiSO_4$ and EC due to natural background.	NO
2	EL110B020	Agkistro	Good	NO	Good	NO	NO
3	EL110B030	Falakro	Good	NO	Good	NO	NO
4	EL1100040	Menoikio - Aggitis	Good	NO	Good	NO	NO
5	EL1100050	Drama	Good	NO	Good	Local charges of NO_3 and NH_4 due to anthropogenic pressures and local charges of Al due to natural background.	Local charges of NH_4
6	EL1100060	Paggaio	Good	NO	Good	NO	NO
7	EL1100070	Marmaras	Good	NO	Good	NO	NO
8	EL11FB080	Ano Poroia - Mpeles	Good	-	Good	NO	-
9	EL1100090	Asprovalta	Good	-	Good	NO	-
10	EL1100100	Krousia - Kerdylia	Good	-	Good	NO	-
11	EL110B110	Vrontou	Good	-	Good	NO	-
12	EL1100120	Neyrokopi	Good	-	Good	NO	-
13	EL1100130	Symvolo - Kavala	Good	-	Good	NO	-
14	EL1100140	Eleftheres – Nea Peramos	Bad	-	Bad	Charge due to coastal salinization. Exceedancesin EC.	-
15	EL1100150	Ofrynio	Good	-	Good	Local charges of SO_4 due to natural background (geothermal field) and coastal salinization.	-

6 CLASSIFICATION OF WATER BODIES STATUS

6.1 Classification of Surface Water Bodies status

6.1.1 Evaluation of River Water Bodies status

In the River Basin District of Eastern Macedonia (EL11), **eighty three (83) river WB** were identified, the ecological and chemical classification of which is presented in the following table. Reservoirs (heavily modified river water bodies) are presented as a separate category.

Table 6-1: Classificationof River WB statusof Eastern Macedonia RBD (EL11)

No	WB CODE	WB NAME	HMWB/ AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
RB STRYMONAS (EL1106)									
1	EL1106R0B02250072N	STRYMONAS R.		✓	Moderate	Good	3	2	Moderate
2	EL1106R0002100249N	MAVROREMA R.			Good	Good	1	1	Good
3	EL1106R0002100238H	MPELITSAS R.	✓		Moderate	Good	2	1	Moderate
4	EL1106R0002100241N	ERYTHROREMA R.			Good	Good	1	1	Good
5	EL1106R0002100136N	KOKKINOREMA R.		✓	Good	Good	3	1	Good
6	EL1106R0002180067N	STRYMONIKO R.			Good	Good	1	1	Good
7	EL1106R0002160065N	SKAPANIS R.			High	Good	3	1	High
8	EL1106R0002100133N	PATERA R.			Good	Good	1	1	Good
9	EL1106R0002000028H	STRYMONAS R.	✓	✓	Moderate	Good	3	2	Moderate
10	EL1106R0002140061H	ANONYMO R.	✓		Unknown	Good	0	1	Unknown
11	EL1106R0002120260N	MEGALO REMA			Good	Good	3	1	Good
12	EL1106R0002080030N	EZIOBHS R.			Good	Good	1	1	Good
13	EL1106R0002040005N	AGIA PARASKEVI R.			Good	Good	1	1	Good
14	EL1106R0002020004N	KASTROLAKKAS R.			Good	Good	1	1	Good
15	EL1106R0001010001N	ANONYMO R.			Good	Good	3	1	Good
16	EL1106R0003010088N	PLATANOREMA R.			Good	Good	1	1	Good
17	EL1106R0007010091N	BRYSH R.			Good	Good	1	1	Good
18	EL1106R0009010092N	ASPROXOMA R.			Moderate	Good	3	1	Moderate
19	EL1106R0002200069N	XIROPOTAMOS R.			Good	Good	1	1	Good
20	EL1106R0004010076N	MAKROPOTAMOS R.		✓	Good	Good	1	1	Good
21	EL1106R0002060421N	XEROPOTAMOS R.		✓	Moderate	Good	3	1	Moderate
22	EL1106R0005010089N	MARMARA R.			Good	Failing to achieve Good	3	2	Moderate
23	EL1106R0004040081N	MYLOREYMA R.			Good	Good	1	1	Good
24	EL1106R0002060007N	AGGITHS R.		✓	Moderate	Good	3	1	Moderate
25	EL1106R0002100247N	KROYSOBITHS R.			Good	Good	1	1	Good
26	EL1106R0002100251N	AXLADITHS P.			Good	Good	1	1	Good
27	EL1106R0002100250N	MAVROREMA R.		✓	Good	Good	1	1	Good
28	EL1106R0002100137N	KOKKINOREMA R.		✓	Good	Good	1	1	Good
29	EL1106R0004020083N	BATHYTOPOY R.			Good	Good	1	1	Good
30	EL1106R0004020084N	BATHYTOPOY R.			Good	Good	1	1	Good
31	EL1106R0002100248N	KROYSOBITHS P.			Good	Good	1	1	Good
32	EL1106R0007010090H	BRYSH R.	✓		Unknown	Good	0	1	Unknown
33	EL1106R0004040080H	MYLOREYMA R.	✓		Unknown	Good	0	1	Unknown
34	EL1106R0004030078H	MYLOREYMA R.	✓		Poor	Good	3	1	Poor
35	EL1106R0004000079N	MYLOREYMA R.			Good	Good	1	1	Good
36	EL1106R0004020082H	BATHYTOPOY R.	✓		Unknown	Good	0	1	Unknown

No	WB CODE	WB NAME	HMWB/ AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
37	EL1106R0002250070H	STRYMONAS R.	✓	✓	Unknown	Good	0	1	Unknown
38	EL1106R0002220073N	KERKINITIS R.		✓	Good	Good	3	1	Good
39	EL1106R0002000003N	STRYMONAS R.		✓	Good	Good	3	1	Good
40	EL1106R0002160063H	SKAPANIS R.	✓		Poor	Good	3	1	Poor
41	EL1106R0002140062N	ANONYMO R.			Good	Good	1	1	Good
42	EL1106R0002120156H	XRYSOROHS R.	✓	✓	Unknown	Good	0	1	Unknown
43	EL1106R0002120157N	XRYSOROHS R.		✓	Good	Good	1	1	Good
44	EL1106R0002100246H	KROYSOBITHS R.	✓		Unknown	Good	0	1	Unknown
45	EL1106R0002100239H	ERYTHROREMA R.	✓		Moderate	Good	3	1	Moderate
46	EL1106R0002100031H	AGIOY IOANNOY R.	✓		Moderate	Good	3	1	Moderate
47	EL1106R0002060325H	DOXATOY R.	✓	✓	Unknown	Good	0	1	Unknown
48	EL1106R0002060006N	AGGITHS R.		✓	Moderate	Good	3	1	Moderate
49	EL1106R0002060217A	FILIPPON CANAL	✓	✓	Moderate	Good	3	1	Moderate
50	EL1106R0002100245H	MPELITSAS R.	✓		Unknown	Good	0	1	Unknown
51	EL1106R0002100244H	MPELITSAS R.	✓		Unknown	Good	0	1	Unknown
52	EL1106R0002100242H	MPELITSAS R.	✓		Unknown	Good	0	1	Unknown
53	EL1106R0002250071H	STRYMONAS R.	✓	✓	Unknown	Good	0	1	Unknown
54	EL1106R0004010077N	MAKROPOTAMOS R.			Poor	Good	3	1	Poor
55	EL1106R0002010002N	STRYMONAS R.		✓	Good	Good	1	1	Good
56	EL1106R0002220175N	XEROPOTAMOS R.		✓	Good	Good	1	1	Good
57	EL1106R0002220074N	KERKINITIS R.		✓	Moderate	Good	3	1	Moderate
58	EL1106R0002100134N	KOKKINOREMA R.			Good	Good	1	1	Good
59	EL1106R0004020085N	BATHYREMA R.		✓	Good	Good	1	1	Good
60	EL1106R0002100253N	MAVROPOYLI R.		✓	Good	Good	1	1	Good
61	EL1106R0002200068N	XIROPOTAMOS R.			Moderate	Good	3	1	Moderate
62	EL1106R0002180066N	STRYMONIKO R.			Good	Good	1	1	Good
63	EL1106R0002160064N	SKAPANIS R.			Good	Good	1	1	Good
64	EL1106R0002080029N	EZIOBHS R.			Moderate	Good	2	1	Moderate
65	EL1106R0003010087N	PHGADOYLI R.			Poor	Good	3	1	Poor
66	EL1106R0002100132N	AGION ANARGYRON R.			Good	Good	3	1	Good
67	EL1106R0002060109N	LAKKOS R.		✓	Good	Good	1	1	Good
68	EL1106R0002060108N	AGGITHS R.		✓	Moderate	Good	3	1	Moderate
69	EL1106R0002060219N	KEFALARI R.		✓	Good	Good	1	1	Good
70	EL1106R0002100135N	EPTAMYLOI R.		✓	Good	Good	1	1	Good
71	EL1106R0002060423N	XEROPOTAMOS R.		√	Good	Good	1	1	Good
72	EL1106R0002060422H	XEROPOTAMOS R.	✓		Moderate	Good	3	1	Moderate
73	EL1106R0002060218H	KEFALARI R.	✓	✓	Unknown	Good	0	1	Unknown
74	EL1106R0002060420H	DOXATOY R.	✓	✓	Bad	Failing to achieve Good	3	2	Bad
75	EL1106R0002120054H	MEGALO REMA	✓	✓	Poor	Good	3	1	Poor
76	EL1106R0002060293A	FILIPPON CANAL	✓	✓	Unknown	Good	0	1	Unknown
77	EL1106R0B02240094N	AGGISTROY R.		✓	Good	Good	1	1	Good
78	EL1106R0002060326N	DOXATOY R.		✓	Moderate	Good	3	2	Moderate
79	EL1106R0002060112N	ARCHANGELOU R.		✓	Good	Good	1	1	Good
80	EL1106R0002060110N	XEROPOTAMOS R.		✓	Good	Unknown	1	0	Unknown
81	EL1106R0002060414N	PIGON MYLOPOTAMOY-Z.PIGIS R.		✓	Moderate	Good	1	1	Moderate
82	EL1106R0002060416N	PIGON AG.		✓	Good	Good	1	1	Good

No	WB CODE	WB NAME	HMWB/ AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
		VARVARAS R.							
83	EL1106R0004020127N	PIGON AKRINOY R.			Good	Good	1	1	Good

Table 6-2: Comparison of River WB classification status results of the Approved RBMP and the Approved RBMP - 1st Update of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
RB STRYMONAS (EL1106)						
EL1106R0B02250072N	STRYMONASR.	Moderate	Moderate	Failing to achieve Good	Good	Ecological status: Based on the available data of theNationalMonitoringNetwork (NMN) (fish,physicochemical-Specific Pollutants, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substances (PS) Brominated diphenylether (PROMAXON) &Hg (S2).No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002100238H	MPELITSAS R.	Poor	Moderate	Failing to achieve Good	Good	Ecological status: Newly approved national ecological classification systems (physicochemical). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substances (PS) Endosulfan, HCB & Anthracene.No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002100241N	ERYTHROREMA R.	Moderate	Good	Unknown	Good	Ecological status: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002100136N	KOKKINOREMA R.	Moderate	Good	Failing to achieve Good	Good	Ecological status: Newly approved national ecological classification systems (macroinvertebrates, physicochemical). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS) Hg. No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002180067N	STRYMONIKO R.	Good	Good	Unknown	Good	Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002160065N	SKAPANIS R.	Good	High	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. The "High" ecological classification is based on the available data of the National Monitoring Network (NMN) (macroinvertebrates,physicochemical, Hydro-morphological). Chemicalstatus: New methodological approach to grouping for river water bodies.
EL1106R0002100133N	PATERA R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemicalstatus: New methodological approach to grouping for river water bodies.
EL1106R0002000028H	STRYMONASR.	Moderate	Moderate	Failing to achieve Good	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (physicochemical-Specific Pollutants, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substances (PS) Endosulfan, Hexachlorocyclohexane, Hg&Anthracene (S11). No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002140061H	ANONYMO R.	Unknown	Unknown	Unknown	Good	Ecological status: During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemicalstatus: New methodological approach to grouping for river water bodies.
EL1106R0002120260N	MEGALO REMA	Good	Good	Unknown	Good	Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002080030N	EZIOBHS R.	Good	Good	Unknown	Good	Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002040005N	AGIA PARASKEVI R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002020004N	KASTROLAKKAS R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0001010001N	ANONYMO R.	Unknown	Good	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0003010088N	PLATANOREMA R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0007010091N	BRYSH R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0009010092N	ASPROXOMA R.	Unknown	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002200069N	XIROPOTAMOS R.	Good	Good	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0004010076N	MAKROPOTAMOS R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002060421N	XIROPOTAMOS R.	Poor	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0005010089N	MARMARA R.	Moderate	Good	Unknown	Failing to achieve Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: During the 1st Update of the RBMP there were exceedances recorded for the Priority Substance (PS)Hg (MARMARA).
EL1106R0004040081N	MYLOREYMA R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002060007N	AGGITHS R.	Moderate	Moderate	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substances (PS) Anthracene & Benzo(a)pyrene. No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002100247N	KROYSOBITHS R.	Moderate	Good	Good	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological).
EL1106R0002100251N	AXLADITHS P.	Moderate	Good	Good	Good	Ecologicalstatus: Newly approved national ecological classification systems.
EL1106R0002100137N	KOKKINOREMA R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0004020083N	BATHYTOPOY R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0004020084N	BATHYTOPOY R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0007010090H	BRYSH R.	Unknown	Unknown	Unknown	Good	Ecologicalstatus: During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0004040080H	MYLOREYMA R.	Unknown	Unknown	Unknown	Good	Ecologicalstatus: During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0004030078H	MYLOREYMA R.	Unknown	Poor	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0004000079N	MYLOREYMA R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0004020082H	BATHYTOPOY R.	Unknown	Unknown	Unknown	Good	Ecologicalstatus: During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002250070H	STRYMONASR.	Moderate	Unknown	Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown.
EL1106R0002220073N	KERKINITIS R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002000003N	STRYMONASR.	Moderate	Good	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems (physicochemical-specific pollutants, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS) Brominateddiphenylether. No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002160063H	SKAPANIS R.	Unknown	Poor	Unknown	Good	Ecologicalstatus: Newly approved nationalecologicalclassificationsystems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002140062N	ANONYMO R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002120156H	XRYSOROHS R.	Moderate	Unknown	Unknown	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002120157N	XRYSOROHS R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002100246H	KROYSOBITHS R.	Poor	Unknown	Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown.
EL1106R0002100239H	ERYTHROREMA R.	Moderate	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002100031H	AGIOY IOANNOY R.	Moderate	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical-specific pollutants, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060325H	DOXATOY R.	Poor	Unknown	Unknown	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060006N	AGGITHS R.	Moderate	Moderate	Failing to achieve Good	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical-specific pollutants, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS) Anthracene. No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002060217A	FILIPPON CANAL	Poor	Moderate	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, macrophytes, physicochemical, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS) Anthracene.No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002100245H	MPELITSAS R.	Poor	Unknown	Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown.
EL1106R0002100244H	MPELITSAS R.	Poor	Unknown	Failing to achieve Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002100242H	MPELITSAS R.	Poor	Unknown	Failing to achieve Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002250071H	STRYMONASR.	Moderate	Unknown	Failing to achieve Good	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS) Hg.No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0004010077N	MAKROPOTAMOS R.	Unknown	Poor	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002010002N	STRYMONASR.	Moderate	Good	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substances (PS)Endosulfan, Hexachlorocyclohexane&Hg.No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0002220175N	XEROPOTAMOS R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002220074N	KERKINITIS R.	Unknown	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002100134N	KOKKINOREMA R.	Moderate	Good	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS)Hg. No exceedances of Priority Substances were observed during the 1st Update of the RBMP (2013-2015).
EL1106R0004020085N	BATHYREMA R.	Good	Good	Unknown	Good	Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002200068N	XEROPOTAMOS R.	Moderate	Moderate	Unknown	Good	Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002180066N	STRYMONIKO R.	Unknown	Good	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002160064N	SKAPANIS R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002080029N	EZIOBHS R.	Moderate	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0003010087N	PHGADOYLI R.	Good	Poor	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002100132N	AGION ANARGYRON R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060109N	LAKKOS R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002060108N	AGGITHS R.	Moderate	Moderate	Failing to achieve Good	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS)Hg. During the 1st Update of the RBMP new methodological approach to grouping for river water bodies was applied.
EL1106R0002060219N	KEFALARI R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002100135N	EPTAMYLOI R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060423N	XEROPOTAMOS R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060422H	XEROPOTAMOS R.	Moderate	Moderate	Unknown	Good	Ecological status: Based on the available data of the National Monitoring Network (NMN) (macroinvertebrates, macrophytes, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0002060218H	KEFALARI R.	Moderate	Unknown	Unknown	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060420H	DOXATOY R.	Poor	Bad	Failing to achieve Good	Failing to achieve Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, fish, physicochemical-specific pollutants, Hydro-morphological). Chemical status: During the 1st Update of the RBMP, there were exceedances recorded for the Priority Substances (PS)Sn, Mo, Hg (2013-2014).
EL1106R0002120054H	MEGALO REMA	Moderate	Poor	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060293A	FILIPPON CANAL	Poor	Unknown	Unknown	Good	Ecological status: In the approved RBMP, due to the inability to identify the ecological potential, the HMWB-AWB were treated as natural WB. During the 1st Update of the RBMP the ecological classification was based on the available data of the National Monitoring Network (NMN) (for the HMWB-AWB that have a monitoring station). For the HMWB-AWB that don't have a monitoring station the ecological potential is Uknown. Chemical status: New methodological approach to grouping for river water bodies.

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
EL1106R0B02240094N	AGGISTROY R.	Moderate	Good	Failing to achieve Good	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: In the approved RBMP there were exceedances recorded for the Priority Substance (PS)Chlorfenvinphos. During the 1st Update of the RBMP new methodological approach to grouping for river water bodies was applied.
EL1106R0002060326N	DOXATOY R.	Poor	Moderate	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems (macroinvertebrates, physicochemical, Hydro-morphological). Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060112N	ARCHANGELOU R.	Moderate	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0002060110N	XEROPOTAMOS R.	Moderate	Good	Unknown	Unknown	Ecologicalstatus: Newly approved national ecological classification systems.
EL1106R0002060414N	PIGON MYLOPOTAMOY-Z.PIGIS R.	Unknown	Moderate	Unknown	Good	New methodological approach to grouping for river water bodies.
EL1106R0002060416N	PIGON AG. VARVARAS R.	Poor	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.
EL1106R0004020127N	PIGON AKRINOY R.	Poor	Good	Unknown	Good	Ecologicalstatus: Newly approved national ecological classification systems. Chemical status: New methodological approach to grouping for river water bodies.

6.1.2 Assessment of Lake Water Bodies and reservoirs status

In the River Basin District of Eastern Macedonia (EL11), **one (1) reservoir and one (1) artificial lake WB** are identified, the ecological and chemical classification of which is presented in the following tables.

Table 6-3: Classification of reservoirs status of Eastern Macedonia RBD (EL11)

No	WB CODE	WB NAME	HMWB /AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
RB STRYMONAS (EL1106)									
1	EL1106RL004040001H	LEFKOGIA RES.	✓		Moderate	Good	2	2	Moderate

Table 6-4: Classification of artificial Lake WB statusof Eastern Macedonia RBD (EL11)

No	WB CODE	WB NAME	HMWB /AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
RB STRYMONAS (EL1106)									
1	EL1106L000002H	KERKINI RES.	✓	✓	Poor	Failing to achieve Good	2	2	Poor

6.1.3 Assessment of Transitional Water Bodies status

In the River Basin District of Eastern Macedonia (EL11), **one (1) transitional WB** is identified, the ecological and chemical classification of which is presented in the following table.

Table 6-5: Classification of Transitional WB status of Eastern Macedonia RBD (EL11)

No	WB CODE	WB NAME	HMWB /AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
RB STRYMONAS (EL1106)									
1	EL1106T0001N	STRYMON RIVER DELTA		✓	Bad	Good	2	2	Bad

Table 6-6: Comparison of Transitional WB classification status results of the Approved RBMP and the Approved RBMP - 1st Update of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
RB STRYMONAS (EL1106)						
EL1106T0001N	STRYMON RIVER DELTA	Moderate	Bad	Failing to achieve Good	Good	Newly approved national ecological classification systems. (Macroinvertebrates Index MAMBI). In the approved RBMP there were exceedances recorded for the Priority Substances (PS) Anthracene, Hexachlorobenzene, Benzo(a)pyrene, Endosulfan & Alachlor. No exceedances were observed during 2013-2015.

6.1.4 Assessment of Coastal Water Bodies status

In the River Basin District of Eastern Macedonia (EL11), **four (4) coastal WB** are identified, the ecological and chemical classification of which is presented in the following table.

Table 6-7: Classification of Coastal WB status of Eastern Macedonia RBD (EL11)

No	WB CODE	WB NAME	HMWB /AWB	CONNECTION WITH PROTECTED AREA	ECOLOGICAL STATUS / POTENTIAL	CHEMICAL STATUS	LEVEL OF TRUST		TOTAL STATUS
							ECOLOGICAL	CHEMICAL	
RB STRYMONAS (EL1106)									
1	EL1106C0001N	STRYMONIKOS KOLPOS		✓	Good	Good	2	2	Good
2	EL1106C0002N	AKTES SYMVOLOU		✓	High	Unknown	2	0	Unknown
3	EL1106C0003N	NEA PERAMOS		✓	Moderate	Good	1	1	Moderate
4	EL1106C0004N	DYT. KOLPOS KAVALAS		✓	Moderate	Good	1	1	Moderate

Table 6-8: Comparison of Coastal WB classification status results of the Approved RBMP and the Approved RBMP - 1st Update of Eastern Macedonia RBD (EL11)

WB CODE	WB NAME	ECOLOGICAL STATUS / POTENTIAL		CHEMICAL STATUS		COMMENTS
		Approved RBMP	Approved RBMP - 1st Update	Approved RBMP	Approved RBMP - 1st Update	
RB STRYMONAS (EL1106)						
EL1106C0002N	AKTES SYMVOLOU	Good	High	Unknown	Unknown	Newly approved national ecological classification systems.
EL1106C0003N	NEA PERAMOS	Moderate	Moderate	Unknown	Good	Newly approved national ecological classification systems.
EL1106C0004N	DYT. KOLPOS KAVALAS	Moderate	Moderate	Unknown	Good	Newly approved national ecological classification systems.

Figure 6-1: EcologicalstatusofSWBofEasternMacedonia RBD (EL11)

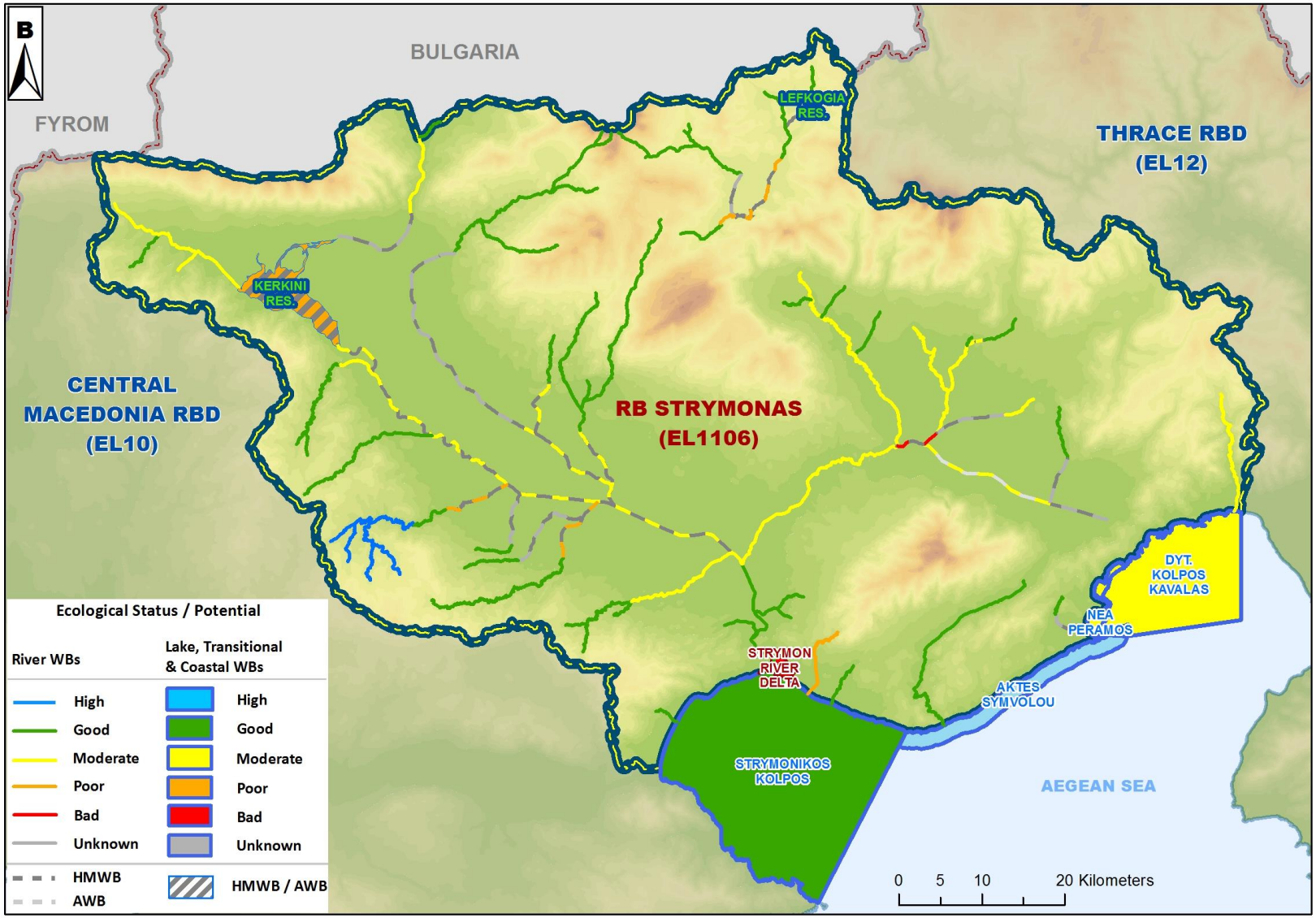


Figure 6-2: Chemical statusofSWBofEastern Macedonia RBD (EL11)

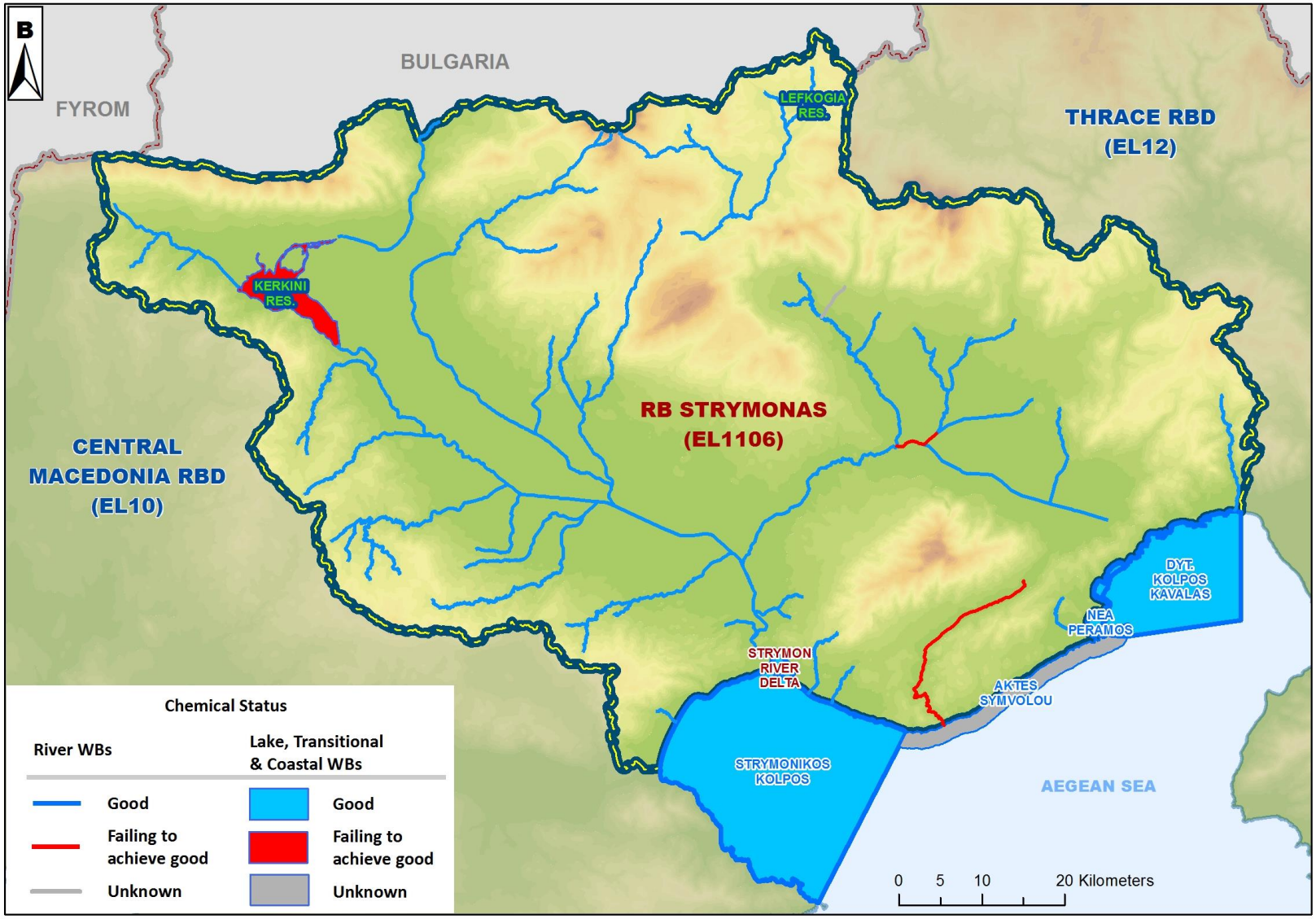
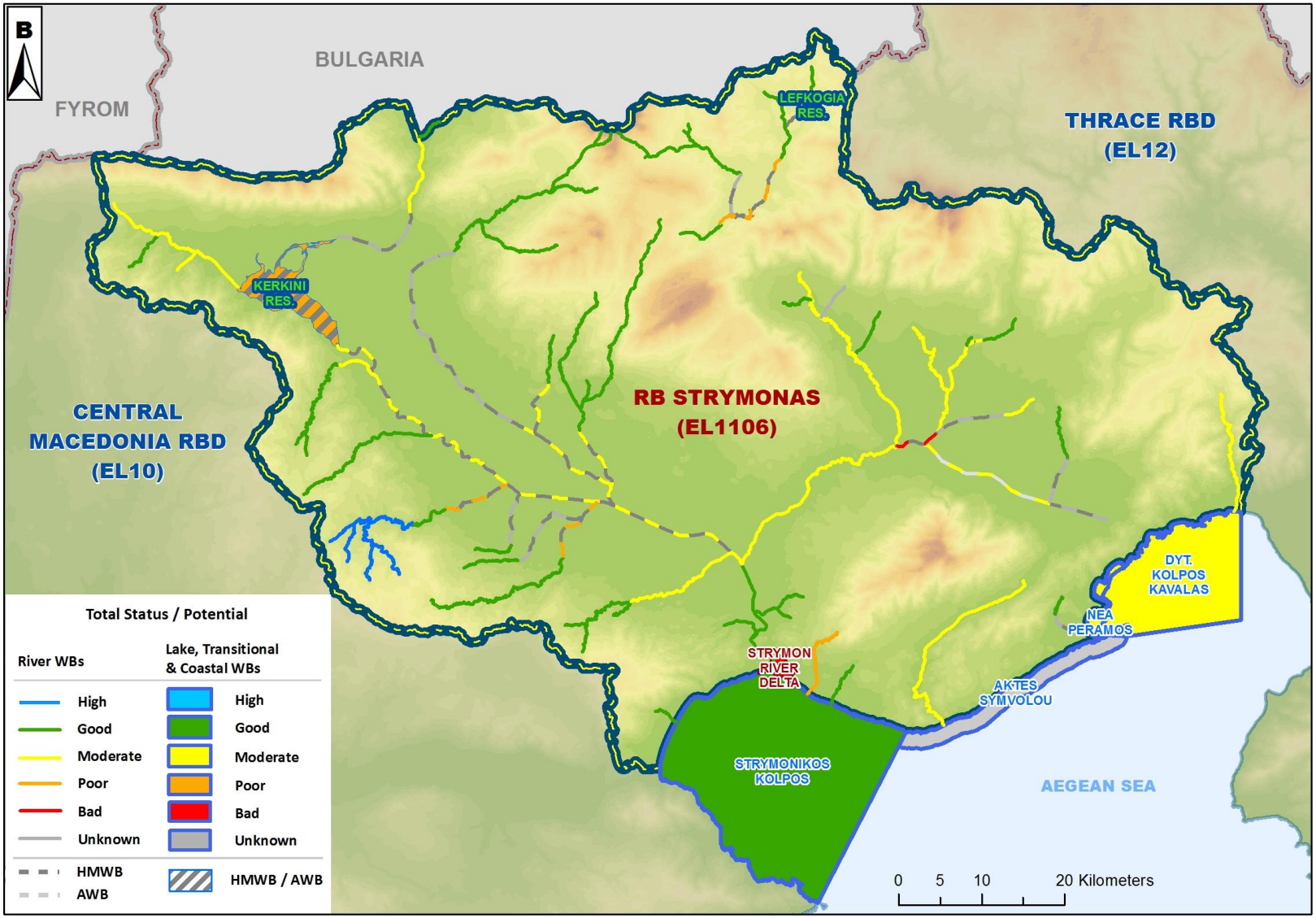


Figure 6-3: TotalstatusofSWBofEasternMacedonia RBD (EL11)



6.2 Classification of Groundwater Bodies status

In the River Basin District of Eastern Macedonia (EL11), **fifteen (15) GWB** are identified, the quantitative and quality status of which is presented in the following table and maps.

Table 6-9: Chemical and Quantitative status of GWB of Eastern Macedonia RBD (EL11)

A/A	GWB Code	GWB Name	Quality (Chemical)Status	Quantitative Status	Increased values of chemical elements due to natural background	Increased values of chemical elements due to human effects	Main Pressures	Seawater Infiltration	Protected Areas
RB STRYMONAS (EL1106)									
1	EL1100010	Serres	Good	Good	As,Ni	NO_3 NO_2 and NH_4	Agriculture, Urbanization	Local	NO
2	EL110B020	Agkistro	Good	Good	-	-	-	NO	YES
3	EL110B030	Falakro	Good	Good	-	-	-	NO	YES
4	EL1100040	Menoikio - Aggitis	Good	Good	-	-	-	NO	YES
5	EL1100050	Drama	Good	Good	Al	NO_3 NO_2 and NH_4	Agriculture, Urbanization	NO	NO
6	EL1100060	Paggaio	Good	Good	-	-	-	NO	YES
7	EL1100070	Marmaras	Good	Good	-	-	-	NO	NO
8	EL11FB080	Ano Poroia - Mpeles	Good	Good	-	-	-	NO	NO
9	EL1100090	Asprovalta	Good	Good	-	-	-	NO	NO
10	EL1100100	Krousia – Kerdylia	Good	Good	-	-	-	NO	NO
11	EL110B110	Vrontou	Good	Good	-	-	-	NO	NO
12	EL1100120	Neyrokopi	Good	Good	-	-	-	NO	NO
13	EL1100130	Symvolo – Kavala	Good	Good	-	-	-	NO	NO
14	EL1100140	Eleftheres – Nea Peramos	Bad	Bad	-	EC	Overabstractions, Level drop, deficit balance	YES	NO
15	EL1100150	Ofrynio	Good	Good	-	SO_4	-	Local	NO

Figure 6-4: Chemical status of GWB of Eastern Macedonia RBD (EL11)

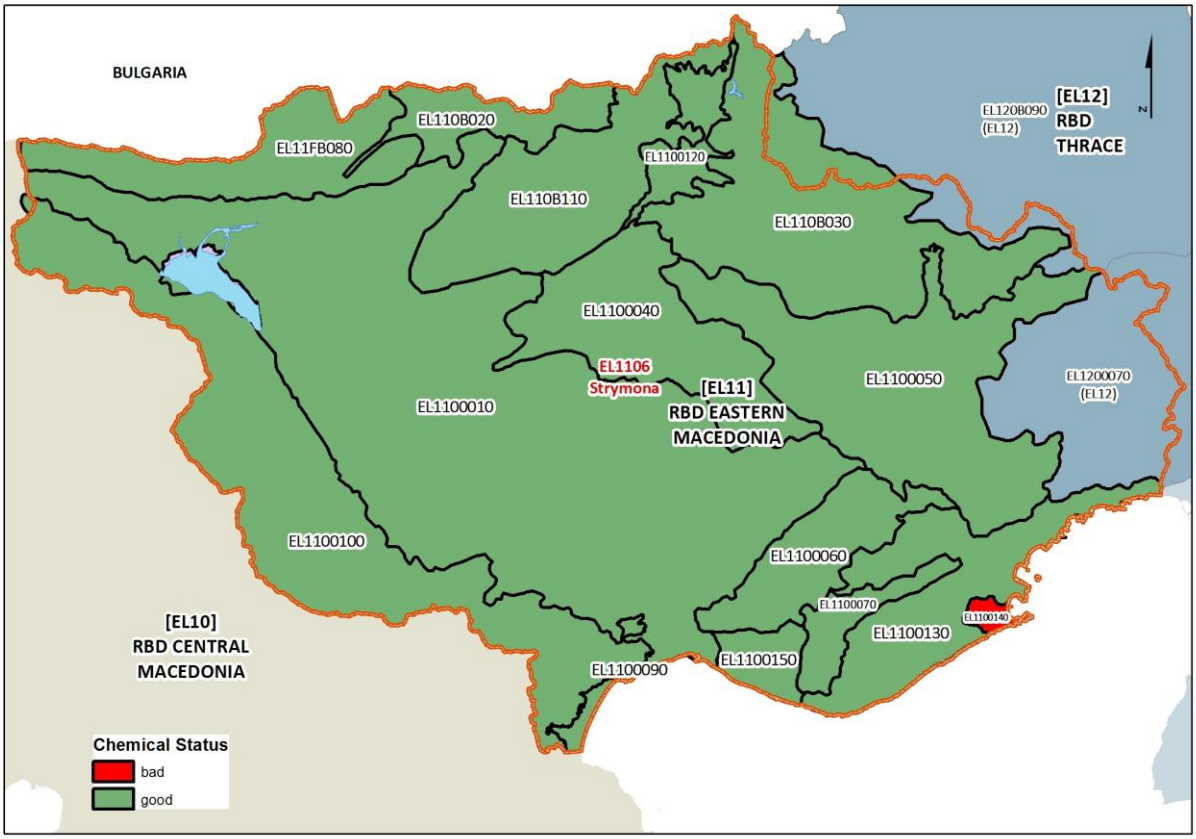
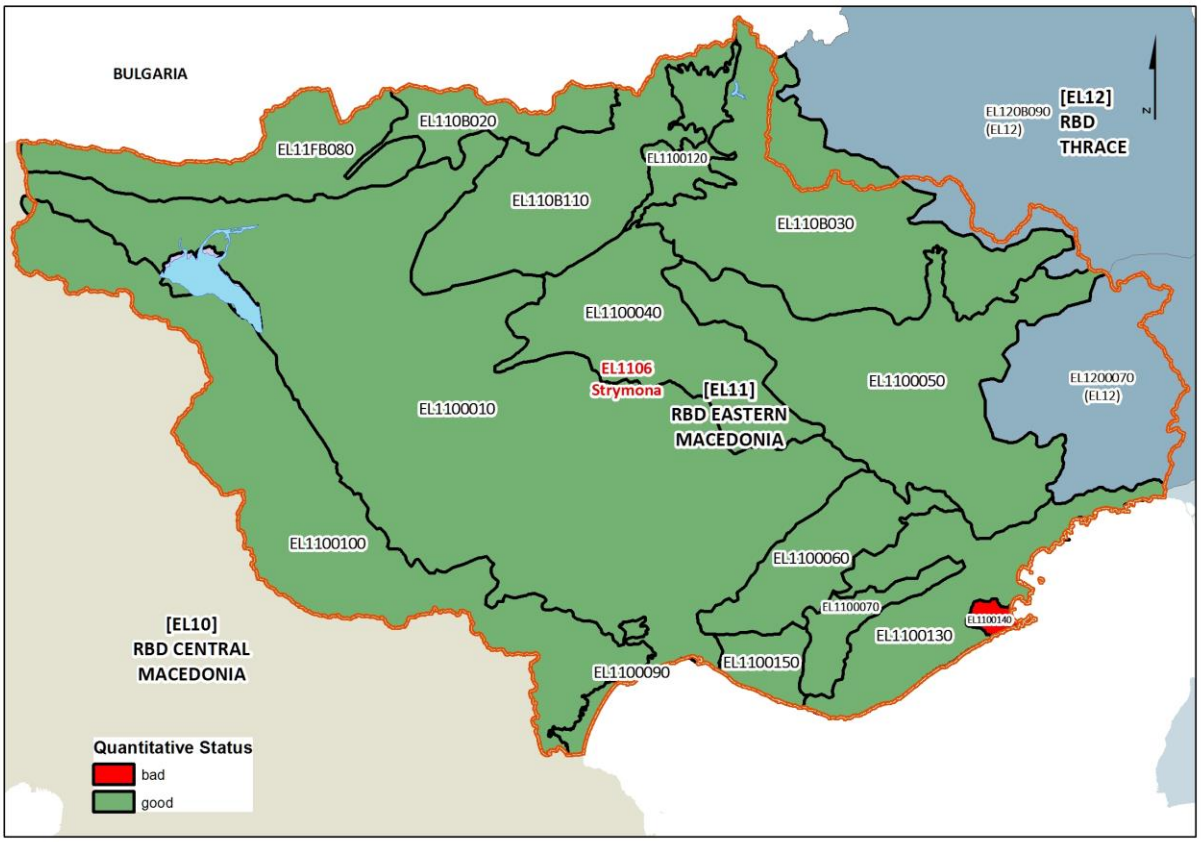


Figure 6-5: Quantitative status of GWB of Eastern Macedonia RBD (EL11)



7 ECONOMIC ANALYSIS OF WATER USE

7.1 Financial cost of water services

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

The water supply/sewerage service providers and the recovery of the financial cost for Eastern Macedonia RBD (EL11) are presented in the following tables. The total financial cost is estimated at 30.179.142 € and the total revenue at 27.638.492 €. The recovery rate of the total financial cost for water supply/sewerage service, at RBD level, is estimated at 91,58%.

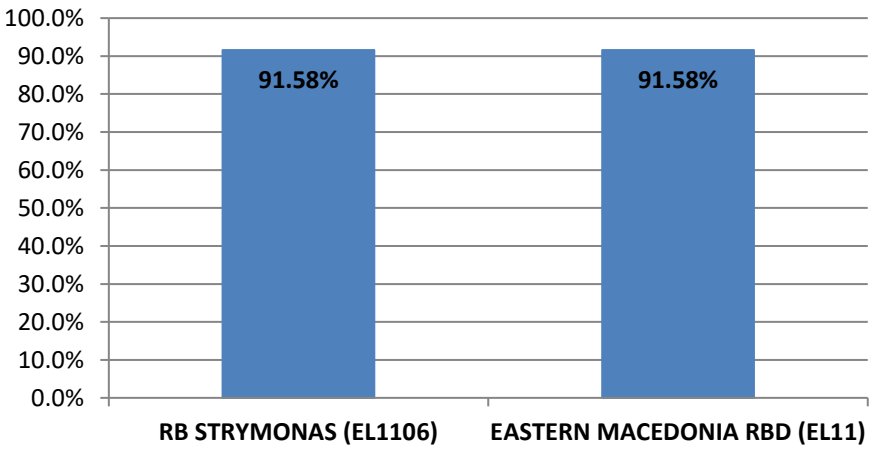
Table 7-1: Water/Sewerage service providers in the RB of Eastern Macedonia RBD (EL11)

Water / Sewerage service providers in the RB of Eastern Macedonia RBD (EL11)[1]
RB STRYMONAS (EL1106)
MEWSS VISALTIAS
MEWSS DRAMAS
MEWSS IRAKLIAS
MEWSS KAVALAS
MEWSS PAGGAIOY
MEWSS SERRON
MEWSS SINTIKIS
MUNICIPALITY OFAMFIPOLI
MUNICIPALITYOF DOXATO
MUNICIPALITY OFEMMANOYIL PAPPAS
MUNICIPALITYOF KATO NEYROKOPI
MUNICIPALITY OFNEA ZICHNI
MUNICIPALITY OFPARANESTI
MUNICIPALITY OFPROSOTSANI

Table 7-2: Financial cost recovery of RB water supply in Eastern Macedonia RBD (EL11)

RB	Total financial cost (€)	Average financial unity cost(€/m³)	Total Revenue (€)	Average unitrevenues (€/m³)	Recovery rate of total financial cost
RB STRYMONAS (EL1106)	30.179.142	1,1916	27.638.492	1,0913	91,58%
EASTERN MACEDONIA RBD (EL11)	**30.179.142**	**1,1916**	**27.638.492**	**1,0913**	**91,58%**

Figure 7-1: Financial cost recovery rate of RB water supply in Eastern Macedonia RBD (EL11)



1I) A provider may be spatially assigned to more than one RB; II) Each provider normally supplies and consumes water within the RBs to which located spatially.

7.1.2 Water supply services for agricultural usages

The water providers for agricultural use and the recovery of the financial cost for Eastern Macedonia RBD are presented in the following tables. The total financial cost is estimated at 13.601.958 € and the total revenue at 8.415.708 €. The recovery rate of the total financial cost for water supply services for agricultural usages, at RBD level, is estimated at 61,78%.

Table 7-3: Water providers for agricultural use to the RB of Eastern Macedonia RBD (EL11)

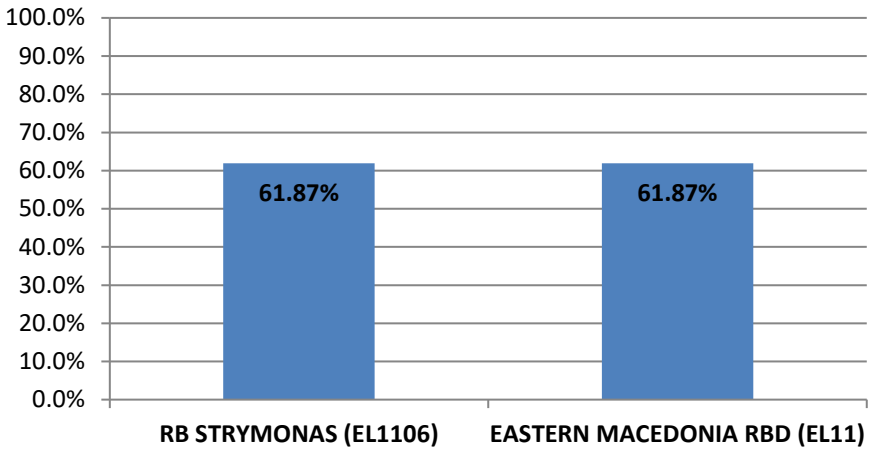
Water providers for irrigation in the RB of the Eastern Macedonia RBD (EL11)[2]
RB STRYMONAS (EL1106)
GOLRPEDIADASERRON
MUNICIPALITY OF EMMANOYIL PAPPAS
MUNICIPALITY OF PARANESTI
MEWSS PAGGAIOY
LOLR 1ST IRRIGATION NETWORK
LOLRAGIOY IOANNI
LOLR ALISTRATIS(TRANSREGIONAL)
LOLR VOIRANIS (TRANSREGIONAL)
LOLR DIMITRITSIOY (STRYMONIKOY - DIMITRITSIOY)
LOLR DYTIKIS DIORYGAS
LOLR EPARCHIAS FYLLIDOS
LOLR K. AGROY – FOTOLIVOYS
LOLR KOYDOYNION & NOTIAS DRAMAS
LOLR LEKANOPEDIOY – K. NEYROKOPIOY
LOLR NEAS AMISOY
LOLR NEOY SKOPOY
LOLRNEOCHORIOYSERRON
LOLR NIGRITAS
LOLRPIERIASKOILADA
LOLR PROVATA SERRON
LOLR PROSOTSANIS
LOLR REMVIS
LOLR SIDIROKASTROY
LOLR SITAGRON – MYLOPOTAMOY
LOLR FILIPPON
LOLR PSYCHIKOY - PETHELINOY

Table 7-4: Financial cost recovery of RB agricultural usage water supply in Eastern Macedonia RBD (EL11)

RB	Total financial cost (€)	Average financial unity cost (€/m³)	Total Revenue (€)	Average unitrevenues (€/m³)	Recovery rate of total financial cost
RB STRYMONAS (EL1106)	13.601.958	0,0283	8.415.708	0,0175	61,87%
EASTERN MACEDONIA RBD (EL11)	**13.601.958**	**0,0283**	**8.415.708**	**0,0175**	**61,87%**

2I) A provider may be spatially assigned to more than one RB; II) Each provider normally supplies and consumes water within the RBs to which located spatially.

Figure 7-2: Financial cost recovery rate of RB agricultural usage water supply in Eastern Macedonia RBD (EL11)



7.1.3 Water supply services for industrial use

The water providers for industrial use and the recovery of the financial cost for Eastern Macedonia RBD are presented in the following tables. The total financial cost is estimated at 2.229.720 € and the total revenue at 1.784.428 €. The recovery rate of the total financial cost for water supply services for industrial usages, at RBD level, is estimated at 80,03%.

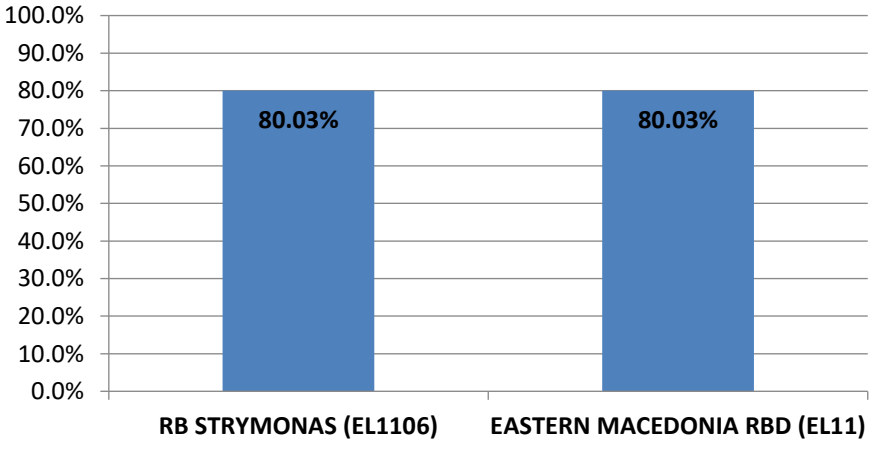
Table 7-5: Water providers for industrial use in the RB of Eastern Macedonia RBD (EL11)

Water providers for industrial usein the RB of Eastern Macedonia RBD (EL11)
RB STRYMONAS (EL1106)
ETBA INDUSTRIAL AREA SA
WATER / SEWERAGE SERVICE PROVIDERS*
** As presented in Table 7-1*

Table 7-6: Financial cost recovery of RBindustrial usage water supply of Eastern Macedonia RBD (EL11)

RB	Total financial cost (€)	Average financial unity cost (€/m³)	Total Revenue (€)	Average unitrevenues (€/m³)	Recovery rate of total financial cost
RB STRYMONAS (EL1106)	2.229.720	1,2186	1.784.428	0,9752	80,03%
EASTERN MACEDONIA RBD (EL11)	**2.229.720**	**1,2186**	**1.784.428**	**0,9752**	**80,03%**

Figure 7-3: Financial cost recovery rate of RB industrial usage water supply of Eastern Macedonia RBD (EL11)



7.2 Environmental Cost and Resource Cost

7.2.1 Environmental Cost Estimation

The environmental cost at RBD level amounts to 0,632 milion €. All environmental cost relates to the RB of Strymonas. The unit environmental cost at RBD level is 0,000249€/m^3.

Table 7-7: Environmental Cost in the RB of Eastern Macedonia RBD (EL11)

RB	TotalEnvironmentalCost (€)	Unit Environmental Cost (€/m^3)
RB STRYMONAS (EL1106)	632.000	0,000249
EASTERN MACEDONIA RBD (EL11)	**632.000**	**0,000249**

At RB of Strymonas, 100,0% of the total environmental cost relates to agriculture (for irrigation purposes).

7.2.2 Resource Cost Estimation

The Resource Cost at RBD level amounts to 750 thousand € for all years of measures implementation. The Unit Resource Cost at RBD level is estimated at 0,000296€/m^3.

Table 7-8: Resource cost in the RB of Eastern Macedonia RBD (EL11)

RB	Total Resource Cost (€)	Unit Resource Cost (€/m^3)
RB STRYMONAS (EL1106)	750.000	0,000296
EASTERN MACEDONIA RBD (EL11)	**750.000**	**0,000296**

At RB of Strymonas, 100,0% of the total resource cost relatesto agriculture (for irrigation purposes).

8 ENVIRONMENTAL OBJECTIVES – EXEMPTIONS

The environmental objectives set for the 90 SWB of Eastern Macedonia by 2021 are presented in the following table. For 2 SWBs the objective is to maintain high ecological status. For 45 SWBs the objective is to maintain good ecological status. For 15 SWBs the objective is to achieve good ecological status by 2027. For 13 HMWB and 1 AWB the objective is to determine and achieve good ecological potential by 2027 too. For 85 SWBs the objective is to maintain good chemical status.For 32 WBs the extension of the deadline under Article 4.4 is established.

Table 8-1: Environmental objectives of SWB by 2021

Environmental Objectives of SWB by 2021	COUNT OF SWB
No further deteriorationoccurs in good and high ecological status /potential	46
No further deterioration occurs in good chemical status	85
Achievement of good ecological status	15
Achievement of good chemical status	0
Determination of ecological status/potential	14
Determination of chemical status	2
Deadline extension (Article 4.4)	32
Deadline extension (Article4.5)	0
Deadline extension (Article4.6)	0
Deadline extension (Article4.7)	1

The environmental objectives set for the 15 GWB of Eastern Macedonia by 2021 are presented in the following table. For 1 GWB the object is to achieve good quantitative and chemical status by 2027. For this 1 GWB theextension of the deadline under Article 4.4 is established.

Table 8-2: Environmental objectives of GWB by 2021

Environmental Objectives of GWB by 2021	COUNT OF GWB
No further deterioration occurs in good quantitative status	14
No further deterioration occurs in good chemical status	14
Achievementofgood quantitative status	1
Achievementofgood chemical status	1
Deadline extension (Article 4.4)	1
Deadline extension (Article4.5)	0
Deadline extension (Article4.6)	0
Deadline extension (Article4.7)	0

8.1 Deadline Extension (Article 4.4 of Directive 2000/60/EC)

All categories of exemption of article 4.4 of Directive 2000/60/EC, as set in the 1st Update of RBMP, are presented in the following table (the reference to the exemption in article 4.7 is for the sake of completeness of the table, and more information is given in the following chapter 8.4).

Table 8-3: Exemptions of water bodies until 2021

	EXEMPTION		COUNT OF WB
	CATEGORY	SUBCATEGORY	
Ecological Status of WB	Article 4.4/ Deadline Extension	Solving the problem requires more time than is available	28
ChemicalStatus of WB	Article 4.4/ Deadline Extension	There is no information about the cause of the problem and therefore the solution can not be detected	3
ChemicalStatus of WB	Article 4.4/ Deadline Extension	Solving the problem requires more time than is available	2
Quantitative Status of GWB	Article 4.4/ Deadline Extension	Solving the problem requires more time than is available	1
ChemicalStatus of GWB	Article 4.4/ Deadline Extension	Solving the problem requires more time than is available	1
Ecological Status of WB	Article4.7/ New Modifications	It concerns a Dam project that is under construction (Dam of Marmara)	1

8.2 Less Strict Objectives (Article 4.5 of Directive 2000/60/EC)

In the current Update of RBMP, no less strict objectives are set for any surface or groundwater body. This exclusion category will be reviewed in the next RBMP, taking under consideration the new monitoring data and after the evaluation of the technically feasible measures.

8.3 Temporary Degradation (Article 4.6 of Directive 2000/60/EC)

In the current Update of RBMP, thereis no temporary degradation for any surface or groundwater body. This exclusion category will be reviewed in the next RBMP, taking under consideration the new monitoring data and after the evaluation of the technically feasible measures.

8.4 New and Planned Projects for the utilization of water resources (Article 4.7 of Directive 2000/60/EC)

In Eastern Macedonia RBD (EL11), the water bodies examined and eventually covered by the exemptions of article 4.7 concernone (1) river WB (MARMARA R., EL1106R0005010089N), which is associated with reservoir projects to serve irrigation needs. The projects related to this reservoir have a valid Environmental Approval Decision.

9 PROGRAM OF MEASURES

The Program of Measures is part of RBMP and aims at achieving the "Environmental objectives". Especially the implementation of the Programme Measure should ensure:

- the prevention of deterioration, the improvement and the remediation of surface water bodies, the achievement of "Good" ecological and chemical status, and the mitigation of the pollution through the discharge and the emission of hazardous substances.
- the protection, the improvement and the remediation of groundwater water bodies, the prevention of their pollution and the deteriorationof their water status in order to balance between abstraction and discharge.
- the conservation of Protected Areas.

The measures are divided into **Basic** and **Supplementary**.

The Basic Measures, according to par. 3 of Article 11 of the WFD are the minimum requirements that should be taken and include:

- Measures for the implementation of Community and national legislation on water protection **(Group I)**.
- Other basic measures **(Group II)**. These measures are related to the basic principles of EU and national legislation on water management and related to the horizontal implementation of actions per water bodies groups, in order to achieve or maintain Good status.

The Supplementary Measures are established and implemented in addition to the Basic Measures, in order to achieve the objectives identified in accordance with Article 4 of WFD. Member States may implement further supplementary measures with a view to additional protection or improvement of the water status beyond these that are specified by the Directive.

9.1 Program of Basic and Supplementary Measures

9.1.1 Actions implementing Union Directives (Group I Basic Measures)

The following table lists the provisions for the incorporation of the EU Directives into National Law.

Table 9-1: Provisions for the incorporation of EU Directives into National Law

DIRECTIVE	INCORPORATION INTO 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.

DIRECTIVE	INCORPORATION INTO NATIONAL LAW
Protection of Wild Birds (Directive 2009/147/EC) **and Habitats** (Directive 92/43/EEC) **Natura 2000 Sites**	**JMD EP 37338/1807/E103/1.9.2010 (Government Gazette 1495/B/2010)** «Determination of measures and procedures for the conservation of wildlife and its habitats, in compliance with the provisions of Directive 79/409/EEC of the Council Directive of 2 April 1979 "on the conservation of wild birds", as codified by the Direcive 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 as well as wild fauna and flora" and its amendment **JMD EP 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 and of wild fauna and flora". **Law 3937/2011 (Government Gazette 60/A/2011)** "Conservation of biodiversity and other provisions". **JMD 50743/2017 (Government Gazette 4432/N/2017)** "Revision of the national list of sites of the European Natura 2000 Ecological Network".
Environmental Impact Assessment for Projects/Activities (Directives 2011/92/EU, 2014/52/EU)	**Law 1650/1986 (Government Gazette 160/A/1986)** "or the protection of the environment". **Law 3010/2002 (Government Gazette 91/A/2002)** "Harmonization of Law 1650/86 with Directives 97/11/EC and 96/61/EC, delimitation process and subject settings for waterfalls and other provisions". **Law 4014/2011 (Government Gazette 209/A/2011)** "Environmental Licensing of projects and activities, arbitrary arrangement in connection with the creation of an environmental balance and other provisions of the Ministry of the Environment".
Water Intended for Human Consumption (Directives 98/83/EC, 2015/1787/EU)	**Law no. C1 (d)/G.P. oik. 67322/06.09.2017 (Government Gazette 3282/B/2017)** "Quality of water intended for human consumption in compliance with the provisions of Directive 98/83/EC of the Council of European Union, of 3 November 1998 as amended with Directive (EU) 2015/1787 (L260, 7.10.2015)".
Industrial Emissions Directive IED (Pollution Prevention and Control) (Directive 2010/75/EU)	**MD 36060/1155/E.103/2013 (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)".

DIRECTIVE	INCORPORATION INTO NATIONAL LAW
Protection against pollution caused by nitrates from agricultural sources (Directive 91/676/EEC)	**JMD 16190/1335/19.05.1997 (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". **MD oik. 19652/1906/1999 (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 article 4 of 16190/1335/1997 JMD "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 **MD 20419/2522/2001 (Government Gazette 1212/B/2001), MD 24838/1400/E103/2008 (Government Gazette 1132/B/2008), MD 106253/2010 (Government Gazette 1843/B/2010), MD 190126/2013 (Government Gazette 983/B/2013), MD 147070/2014 (Government Gazette 3224/B/2014)** and in force. **MD 1420/82031/2015 (Government Gazette 1709/B/2015)** "Code of Good Agricultural Practice for the Protection of Waters Against Nitrate Pollution from agricultural sources", as amended by **MD 2001/118518/2015, (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"».
Plant Protection Products (Directive 2009/128/EC, Regulation (EC) No 1107/2009, Regulation (EU) No 652/2014)	**Law 4036/27.01.2012 (Government Gazette 8/A/2012)** "Marketing of pesticides, rational use of these and related provisions" as amended and in force.
Major Accidents (Seveso) Directive (Directive 2012/18/EU)	**JMD 172058/2016 (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)».
Sewage Sludge Directive (Directive 86/278/EEC)	**JMD 80568/4225/05.07.1991 (Government Gazette 641/B/1991)** "Methods, conditions and restrictions for the use in agriculture of sewage sludge from domestic and urban effluent treatment" for harmonization with the provisions of Council Directive 86/278/EEC "on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture".
Urban Wastewater Treatment (Directives 91/271/EEC, 98/15/EC)	**JMD 5673/400/05.03.1997 (Government Gazette 192/B/1997)** "Measures and conditions for urban wastewater treatment" and its amendments **MD 19661/1982/2.8.1999 (Government Gazette 1811/B/1999) and MD 48392/939/28.3.2002 (Government Gazette 405/B/2002).**

The planned actions for the implementation of the community and national legislation on water protection are presented in the following table.

Table 9-2: Actions for the implementation of Community Directives

DIRECTIVE	PLANNED ACTIONS	IMPLEMENTING BODIES
Bathing water Directive (2006/7/EC)	• Continue to monitor the quality of bathing water in accordance with Directive 2006/7/EC.	Special Secretariat for Water,Directorate of Water of the Decentralized Administration
	• Updating the Greek Bathing Water Profiles Registry.	
Habitats Directive (92/43/EEC) Birds Directive (2009/147/EC)	• Setting /ApprovalManagementPlansforprotectedareasofNatura 2000 network relating with management water issues	Ministry of Environment and Energy,Management Agencies of Protected Areas
	• Monitoring/Assessment of the conservation status of habitats and species directly depending on water in Natura 2000 areas.	
Drinking water (Directives 98/83/EC,2015/1787/EC)	• Implementation of Water Safety Plans to ensure public health through the adoption and implementation of Good practice in the water supply distribution systems.	Ministry of Health
Environmental Impact Assessment Directives (2011/92/EC, 2014/52/EC)	• Amendment of theMinisterial Decision 170225/2014 – Specifications for the contents of environmental permitting dossiers for projects and activities of A category) so that for certain categories of projects, which should be first specified, to make the following mandatory: - Emissions of pollutants by category, - Calculation of pollution impacts in WB defined in the Management Plans and - Comparing these concentrations with the Environmental Quality Standards. • Establishment of a monitoring program and notification of results to the relevant Water Directorate. • Determination of the procedure for the examination of potential affiliation in paragraph 7 of Art. 4 of the WFD (4.7) as described in the 1st Update of the RBMP.	Ministry of Environment and Energy
Industrial Emissions Directive IED, (2010/75/EC)	• Keeping registration and records of installations that are in line with the provisions of the Directive.	Decentralized administration
Nitrates Directive (91/676/EC)	• Setting up an Action Plan and taking of any additional Supplementary measure orreinforcement action, in accordance with article 5 of Joint Ministerial Decision 16190/1335/1997. The study on the drafting of Action Plans in all the vulnerable zones of the country has been entrusted by the Ministry of Rural Development and Foodto the Agricultural University of Athens and is under preparation.	Special Secretariat for Water/ Ministry of Rural Development and Food
	• Systematic monitoring of nitrate levels in WBs that are or may be subject to nitrate pollution.	Special Secretariat for Water, Ministry of Rural Development and Food
Plant Protection Products (Directive 2009/128/EC, Regulation (EU) No. 1107/2009, Regulation (EU) No. 652/2014)	• Rational use of plant protection products	Ministry of Rural Development and Food
Major Accidents (Seveso) Directive (2012/18/EC)	• Keeping registration and records of installations that are in line with the provisions of the Directive.	Decentralized administration
Sewage sludge Directive (86/278/EEC)	• Setting up a Joint Ministerial Decision, on Measures, Conditions and Procedures for the Use of Sludge from Domestic and Urban Wastewater Treatment and Certain Wastewater, in compliance with the provisions of Directive 86/278 / EEC and in replacement of Joint Ministerial Decision 80568/4225 / 1991 and promotion of actions related to the safe disposal of treated sludge.	Ministry of Environment and Energy

DIRECTIVE	PLANNED ACTIONS	IMPLEMENTING BODIES
Urban Waste Water Treatment Directive (91/271/ EC, 98/15/EC)	• Completion of sewerage and waste water treatment projects of the settlements that concerns the provisions of the Directive (covering all agglomerations with a population greater than 2,000 p.e.).	Region, MEWSS, Municipalities
	• Strengthening actions to control the effective operation of existing wastewater treatment and drainage projects.	Region

9.1.2 Other Basic Measures (Group II Basic Measures)

Table 9-3: Basic measures of other categories

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M11B0201 Upgrading of the organizational function of **Organizations of Land Reclamation** for the compliance with the financial and other data in order to meet the requirements of the Joint Ministerial Decision 132275/19.05.2017 (Government Gazette 1751 B'/22.05.2017) of the National Water Committee, which deals with pricing and costing rules for water supply services.	Measures to implement the cost recovery principle (Art. 9)	NEW MEASURE	Organization of Land Reclamation (Local, General) / Region / Ministry of Environment & Energy(Special Secretariat for Water) /Ministry of Rural Development & Food
M11B0202 Upgrade of the organizational function of **MEWSS** for the compliance with the financial and other data in order to meet the requirements of the Joint Ministerial Decision 132275/19.05.2017 (Government Gazette 1751 B'/22.05.2017) of the National Water Committee, which deals with pricing and costing rules for water supply services.	Measures to implement the cost recovery principle (Art. 9)	NEW MEASURE	MEWSS / Ministry of Environment & Energy (Special Secretariat for Water) / Ministry of Interior
M11B0203 Upgrading of the organizational function of **the Local Government Organizations** for the compliance with the financial and other data in order to meet the requirements of the Joint Ministerial Decision 132275/19.05.2017 (Government Gazette 1751 B'/22.05.2017) of the National Water Committee, which deals with pricing and costing rules for water supply services.	Measures to implement the cost recovery principle (Art. 9)	NEW MEASURE	Local Government Organizations / Ministry of Environment & Energy (Special Secretariat for Water) / Ministry of Interior
M11B0204 Training and expertise of all the stakeholders (Decentralized Administrations, Regions, MEWSS, LOLR, Local Government Organizations of the Joint Ministerial Decision 132275/19.05.2017 (Government Gazette 1751 B'/22.05.2017) of the National Water Committee, which deals with pricing and costing rules for water supply services.	Measures to implement the cost recovery principle (Art. 9)	NEW MEASURE	Ministry of Environment & Energy (Special Secretariat for Water)
M11B0301 Preparation / Update of the Water Supply Masterplan.	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure OM06-02	MEWSS / Municipals /Water suppliers/ Decentralized Administration (Water Directorate)
M11B0302 Actions for the reinforcement, rehabilitation, modernization of water supply networks and leakage control.	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Consolidation of the measures OM05-01 and OM05-02	Municipalities / MEWSS / Drinking water providers / Region / Decentralized Administration (Water Directorate)
M11B0303 Increase of the efficiency of water use in land reclamation infrastructures.	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure OM05-05	Ministry of Rural Development and Food, Regions

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M11B0304 Investments for saving water in agriculture.	Measures to promote an efficient and sustainable water use (Art. 4)	NEW MEASURE	Individuals / Irrigation water providers / Ministry of Rural Development and Food / Regions
M11B0305 Determination of maximum irrigation requirements for crops for private water abstractions.	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure OM07-08	Decentralized Administration (Water Directorate), Regional directorate of Rural Economy and Veterinary Medicine
M11B0306 Strengthening loss reduction actions on collective irrigation networks.	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure OM05-05	GOLR/LOLR/Collective Irrigation Networks, Region
M11B0307 Preparation of manual of technical specifications for application of water reuse methods.	Measures to promote an efficient and sustainable water use (Art. 4)	Continuation of measure OM08-02	Ministry of Environment & Energy (Special Secretariat for Water)
M11B0308 Update of the existing Strategic Plan to Address Water Scarcity and Drought	Measures to promote an efficient and sustainable water use (Art. 4)	NEW MEASURE	Decentralized Administration (Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water)
M11B0401 Definition and delimitation of zones and/or measures for the protection of water abstraction points, intended for human consumption from groundwater bodies.	Measures to meet the requirements of Article 7 (drinking water)	Modification / Specialization of the measures OM06-03 and OM06-04	Decentralized Administration (Water Directorate) and Drinking water providers (MEWSS, Municipalities etc.)
M11B0402 Protection of GWBs included in the register of protected areas for human consumption and establishment of an institutional framework of protection.	Measures to meet the requirements of Article 7 (drinking water)	Modification of the measure OM06-05	Decentralized Administration (Water Directorate)
M12B0403 Surface water projects for water supply protection.	Measures to meet the requirements of Article 7 (drinking water)	NEW MEASURE	Municipalities / MEWSS / Water providers / Decentralized Administration (Water Directorate)
M11B0404 Implementation of Water Safety Plans.	Measures to meet the requirements of Article 7 (drinking water)	Modification of the measure OM06-01	MEWSS, Municipalities, Drinking water providers, Decentralized Administration (Water Directorate)
M11B0501 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, γ) zones of collective irrigation networks, δ) coastal GWBs with extensive or local salinization problems, regardless of their origin.	Measures to control surface and groundwater abstractions	Modification / Specialization of the measure OM07-06	Decentralized Administration (Water Directorate)
M11B0502 Annual electronic recording of measurements of surface and groundwater abstractions.	Measures to control surface and groundwater abstractions	Modification / Specialization of the measure OM07-03	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate), Regions
M11B0601 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.	Measures to control the artificial recharge of groundwater aquifers	Continuation of the measure OM08-01	Region, Municipalities, Decentralized Administration (Water Directorate), Region

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M11B0602 Establishment of a National Register of Waste Disposal Sites (Joint Ministerial Decision 145116/2011 - Government Gazette 354B/08.03.2011).	Measures to control the artificial recharge of groundwater aquifers	Integration of measures OM09-01 and OM12-01	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate)
M11B0701 Strengthening environmental inspections and controls.	Measures for point source pollution	NEW MEASURE	Region
M11B0702 Modernization of national legislation on waste and industrial waste management.	Measures for point source pollution	Continuation of measure OM09-01	Ministry of Environment & Energy (Special Secretariat for Water),Ministry of health
M11B0703 Program of exploratory monitoring of the quality of groundwater bodies and surface water bodies in the areas of existing Landfills.	Measures for point source pollution	Modification / Specialization of the measure SM05-04	Landfill Operators, National Monitoring Network coordinated by the Water Directorate
M11B0704 Conditions for the licensing of new/extension of existing aquaculture units.	Measures for point source pollution	Modification / Specialization of the measure OM09-07	Ministry of Environment & Energy,Decentralized Administration,Region
M11B0705 Preparation of rules for cesspit protection.	Measures for point and diffuse source of pollution	Modification of the measure SM05-01	Decentralized Administration (Water Directorate)
M11B0801 Biological agriculture.	Measures for diffuse source pollution	NEW MEASURE	Ministry of Rural Development and Food (Directorate of Quality Systems, Organic Production and Geographical Indications)
M11B0802 Modernization of the institutional framework for sludge management by municipal waste water treatment plants with emphasis on widening the scope and updating the quality characteristics of the applicable sludge.	Measures for diffuse source pollution	Modification of the measure OM10-03	Ministry of Environment & Energy (Environmental Certification Directorate)
M11B0803 Reduce diffuse pollution from agriculture in the vulnerable zones of the Directive 91/676/EEC.	Measures for diffuse source pollution	NEW MEASURE	Ministry of Rural Development and Food, Region
M11B0902 Determination of minimum natural lakes level, determination of maximum range of reservoir level variation.	Measures to confront the negative effects on water status	NEW MEASURE	Project principal, Region, Protected Areas Management Bodies, Decentralized Administration (Water Directorate)
M11B0903 Development of national methodology and specifications for the determination of ecological provision of river water bodies.	Measures to confront the negative effects on water status	Continuation of measure OM07-04	Ministry of Environment & Energy (Special Secretariat for Water)
M11B0904 Special Measures for the Achievement of Good Ecological Potential in Heavily Modified Water Bodies (HMWB).	Measures to confront the negative effects on water status	NEW MEASURE	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate), Region
M11B0905 Determination of selected areas for river sediment deposits removal to meet the needs of technical projects.	Measures to confront the negative effects on water status	Continuation of measure OM11-01	Municipalities, Region, Decentralized Administration (Water Directorate)
M11B1101 Compilation of pollution sources register (emissions, discharges and leaks).	Measures for Priority Substances and other pollutants	Modification / Specialization of the measure OM13-01	Ministry of Environment & Energy (Special Secretariat for Water)
M11B1102 Establishment / setting of emission limits for RBs for priority substances and other pollutants in the Joint Ministerial Decision 51354/2641/E103/2010 as in force, as well as for physicochemical (PSC) parameters in relation to the quality objectives set out in the Management Plans.	Measures for Priority Substances and other pollutants.	Modification / Specialization of the measure OM09-02	Decentralized Administration (Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water)

9.1.3 Supplementary Measures

In order to achieve the goals of the River Bain Management Plan, it is necessary to support the implementation of the Basic Measures with Supplementary Measures.

In RBD 11, it was decided to propose additional measures for the following reasons:

(a) To maintain the "good" status of surface WBs or GWBs, as well as to increase knowledge and awareness on specific issues for the rational use of water by targeted users. In this case, the supplementary measures have a horizontal, general application and the affected water bodies are not identified.

(b) In the water bodies, which are estimated that despite the implementation of the basic measures program, they will not achieve the objective of "good" status by 2021, and in particular:

- in water systems which, according to measurements of the qualitative and quantitative parameters or the new methodological approach of their aggregation, are in a state of "Failing to achieve Good",
- in water systems that are in "Unknown" or in "good" condition, but there is clear evidence, through the analysis of pressures, that they are at risk of not achieving their environmental objectives.

The measures of (b) case are taken into account for the calculation of environmental costs and/or resource costs, according to the provisions of Joint Ministerial Decision No 135275 of the National Water Committee (Government Gazette 1751/B/22-05-2017). The following table lists the water bodies of the RBD for which it is considered necessary to take relevant targeted additional measures.

Table 9-4: WBs of the Eastern Macedonia RBD (EL11), for which additional measures are deemed necessary

WB CODE	WB NAME	WB CATEGORY	TOTAL STATUS	PRESSURES
RBSTRYMONAS (EL1106)				
EL1106R0002220073N	KERKINITIS R.	R	Moderate ecological, Good chemical	2.2 -Diffuse-Agriculture
EL1106R0002220074N	KERKINITIS R.	R	Moderate ecological, Good chemical	2.2 -Diffuse-Agriculture
EL1106R0002060007N	AGGITHS R.	R	Moderate ecological, Good chemical	2.2 -Diffuse-Agriculture
EL1106R0002060006N	AGGITHS R.	R	Moderate ecological, Good chemical	2.2 -Diffuse-Agriculture
EL1106R0002060420H	DOXATOY R.	R	Bad ecological, Failing to achieve Good chemical	2.2 -Diffuse-Agriculture 3.1 - Abstraction or flow diversion –Agriculture 4.1.2 - Physical alteration of channel/bed/riparian area/shore - Agriculture
EL1106R0005010089N	MARMARA R.	R	Good ecological, Failing to achieve Good chemical	2.7 - Diffuse - Atmospheric deposition
EL1106L000002H	KERKINI RES.	L	Poor ecological, Failing to achieve Good chemical	2.2 -Diffuse-Agriculture 3.1 - Abstraction or flow diversion –Agriculture 2.7 - Diffuse - Atmospheric deposition
EL1106T0001N	STRYMON RIVER DELTA	T	Badecological, Good chemical	2.4 - Diffuse – Transport 2.9 - Diffuse - Aquaculture

WB CODE	WB NAME	WB CATEGORY	TOTAL STATUS	PRESSURES
EL1100010	SERRES	GWB	Good quantitative, Good chemical	2.2 -Diffuse-Agriculture 3.1 - Abstraction or flow diversion –Agriculture
EL1100140	ELEFTHERES – NEA PERAMOS	GWB	Bad quantitative, Failing to achieve Good chemical	2.2 -Diffuse-Agriculture 3.1 - Abstraction or flow diversion –Agriculture
EL1100150	OFRYNIO	GWB	Good quantitative, Good chemical	2.2 -Diffuse-Agriculture 3.1 - Abstraction or flow diversion –Agriculture

The program of measures of the RBD of Eastern Macedonia includes 20 supplementary measures, which are presented in the following table.

Table9-5: Table of Supplementary Measures of Eastern Macedonia RBD (EL11)

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M11S0201 Development of the Monitoring System of the Measures Program of the RBMP of the River basic district and provision of support services for the implementation of the program of measures of the River basic district.	Administrative measures	New measure	All WBs	Decentralized Administration (Water Directorate)	650.000
M11S0202 Special protection measures in GWBs areas where there are thermal waters.	Administrative measures	New measure	GWB AGKISTRO (EL110B020) GWB SERRES (EL1100010)	Decentralized Administration (Water Directorate)	
M11S0501 Inspections at the estuaries of rainwater pipelines and other point sources of pollution that result in surface water bodies.	Emission control	New measure	DYT. KOLPOS KAVALAS (EL1106C0004)	Municipals / MEWSS / Region/ Decentralized Administration (Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water	2.000 per position
M11S0502 Implementation of investment in agriculture and livestock holdings, aiming on improving environmental performances.	Emission control	New measure	All WBs	Ministry of Rural Development and Food/ Region	329.500

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M11Σ0701 Package of measures for the protection of Lake Kerkini.	Recreation and restoration of wetlands	Modification of the measure SM07-01	KERKINI RES. (EL1106L000002H)	Coordination: Decentralized Administration (Water Directorate) Implementation and supervision: Technical Services Directorate Participation in studies and supervision: Management Body of Kerkini Lake	1.200.000
M11S0801 Designation and delineation of areas of GWBs exhibiting local salinization intrusion or with bad qualitative status due to salinization.	Abstractions Control	Continuation of measure SM08-01	GWBSERRES (EL1100010), GWBELEFTHERES – N. PERAMOS (EL1100140), GWB OFRYNIO (EL1100150)	Decentralized Administration (Water Directorate) / Regions	70.000 per GWB
M11S0901 Monitoring of level and inputs, water balance sheet and water management in Kerkini Reservoir.	Demand Management Measures	New measure	KERKINI RES. (EL1106L000002H), STRYMONASR. (EL1106R0002000028H)	Coordination, evaluation&network design: Decentralized Administration (Water Directorate). Participation in network operation: Technical Services Directorates of DA and Serres Region. Participation in the evaluation, design and operation of the network: Management Body of Kerkini Lake.	400.000
M11S1401 Application of Artificial Recharge GWB of Ofrynio - EL1100150	Artificial Recharge of GWBs	Continuation of measure SM14-01	GWB OFRYNIO (EL1100150)	Decentralized Administration (Water Directorate)	1.500.000
M11S1501 Professtional training of farmers for the protection of water bodies.	Educational Measures	New measure / Connects with measure SM15-01	All WBs	Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, Region	168.045

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M11S1502 Educational actions to promote the rational management of water resources.	Educational measures	New measure	All WBs	Decentralized Administration (Water Directorate), Region	150.000
M11S1601 Pilot measures to apply precision agriculture to reduce water consumption.	Research, development & demonstration programmes	New measure	All WBs	Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, Regions	289.960
M11S1602 Consultancy services for agriculture exploitation management	Research, development & demonstration programmes	New measure	All WBs	Decentralized Administrations of the Ministry of Rural Development and Food	448.120
M11S1603 Design and implementation of specific program exploratory monitoring with the aim of collecting data on the baseline identification of WB Downstream Dams as HMWB.	Research, development & demonstration programmes	New measure	STRYMONASR. (EL1106R0002000028H) MYLOREYMA R. (EL1106R0004040080H)	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate)	100.000
M11S1604 Hydrogeological study for the regulation of karst springs around the plain of Drama and redefining the water balance of the Drama field with emphasis on irrigation use.	Research, development & demonstration programmes	Modification of the measure SM16-03	DOXATOY R. (EL1106R0002060420H)	Decentralized Administration (Water Directorate)	350.000
M11S1605 Investigation of suitable sites for the construction of artificial wetlands.	Research, development & demonstration programmes	Continuation of measure SM16-06	KERKINITIS R. (EL1106R0002220073N) KERKINITIS R. (EL1106R0002220074N) AGGITHS R. (EL1106R0002060007N) AGGITHS R. (EL1106R0002060006N)	Decentralized Administration (Water Directorate)	400.000

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M11S1606 Research program to identify the causes of macroinvertebrates degradation in river WBs.	Research, development & demonstration programmes	New measure	MAKROPOTAMOS R.(EL1106R0004010077N) MYLOREYMA R.(EL1106R0004030078H) ASPROXOMA R.(EL1106R0009010092N) EZIOBHS R.(EL1106R0002080029N) DOXATOY R.(EL1106R0002060326N) XEROPOTAMOS R.(EL1106R0002060422H) MEGALO REMA(EL1106R0002120054H) SKAPANIS R.(EL1106R0002160063H) AGIOY IOANNOY R.(EL1106R0002100031H)ERYTHROREMA R.(EL1106R0002100239H) KERKINITIS R.(EL1106R0002220074N)	Ministry of Environment & Energy (Special Secretariat for Water) and Monitoring Bodies (HCMR)	50.000
M11S1607 Hydrogeological study investigating alternative measures to tackle the quantitative degradation of the GWB of Eleftheres-Nea Peramos EL1100140.	Research, development & demonstration programmes	Modification of the measure SM16-04	GWBELEFTHERES – N. PERAMOS (EL1100140)	Decentralized Administration (Water Directorate)	120.000
M11S1608 Investigation of appropriate measures to combat the salty wedge intrusion phenomenon at the estuaries of Strymonas river and measures for the adaptation of the fish species in the transitional SWB.	Research, development & demonstration programmes	Continuation of measure SM16-01	STRYMON RIVER DELTA (EL1106T0001N)	Decentralized Administration (Water Directorate)	100.000
M11S1609 Special study to investigate environmental quality standards exceedances of certain Priority Substances and Specific Pollutants.	Research, development & demonstration programmes	Continuation of measure SM16-05	MARMARA R. (EL1106R0005010089N) DOXATOY R. (EL1106R0002060420H) KERKINI RES. (EL1106L000002H)	Decentralized Administration (Water Directorate)	50.000
M11S1610 Special Hydrogeological – Hydrochemical study for the determination of GWBs or parts thereof, where there are chemical elements with high natural background values (indicatively:Fe, As, B, U, Mg etc.), when the aforementioned parts are linked with waterworks.	Research, development & demonstration programmes	New measure	GWBSERRES (EL1100010), GWBDRAMA (EL1100050)	Decentralized Administration (Water Directorate), Region, Municipalities, MEWSS	50.000 per GWB

10 NEXT STEPS

10.1 Difficulties encountered in the preparation of the 1st Update

During the process of drafting the 1st Update of the RBMP, the following issues and difficulties arose, regarding mainly the available data of the National Monitoring Network:

- The statutory National Monitoring Network, insomecases, presents particularities in the distribution of the monitoring stations for GWBs (i.e. thickening/thinning).
- Measurement deficiencies were observedin 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.
- The National Monitoring Network data in bodies identified as HMWB have in many cases resulted in a classification that is inconsistent with the theoretical underlying of the assessment (i.e. finding a systemic degradation of macroinvertebrates in conditions of good physicochemical status).
- There were no measurements of all biological quality elements in all National Monitoring Network stations in surface water bodies.
- Available measurements for priority substances were relatively limited.
- Fragmentation of technical and economic data obtained from the completed questionnaires by the water service providers.

10.2 Next Steps – Implementation of the 1st Update of the RBMP

In order to achieve the objectives of the Management Plan, the Program of Basic and Supplementary Measures is required. For the optimal implementation of the Program, the Regional Working Group on the Implementation of the Programs of River Basin Management Plans, which was already established during the implementation of the 1st RBMP, is required to draw up an Action Plan. The main axes for structuring the Action Plan are as follows:

- 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 Porgram of Measures are as follows:

- Coordination of the bodies involved in the implementation of the Program and provision of channels of communication with other stakeholders.
- Assessing the results of the National Monitoring Network and adapting it where deemed appropriate.
- Transboundary cooperation at local and national level.

Finally, with a view to the effective implementation of the 1st Update of the RBMP, institutional interventionsare also proposed concerning: (a) the jurisdiction of the Water Directorates so that they are not linked to the administrative boundaries of the Decentalized Administration but to the boundaries of the Water Districts and (b) the administrative affiliation and supervision of the actions

of the relevant Water Directorate per Water Residential Department by the Special Secretariat for Water/Ministry of Environment and Energy (enriching their responsibilities).

11 TRANSBOUNDARY COOPERATION

11.1 Transboundary waters – Cooperation Framework

In Eastern Macedonia RBD (EL11), the only RB of Strymonas River (EL1106) is part of the transboundary river basin of Strymonas, which Greece shares with Bulgaria.

In the field of transnational cooperation for the management of transboundary water resources, the following agreements between Bulgaria and Greece are in force: (a) the Greek-BulgarianAgreement of 1963 on the cooperation about the use of water resources of rivers that flow through the territories of the two countries (LD 4393/1964, Government Gazette 193 A') and (b) the Greek - Bulgarian Agreement on Nestos waters (1995), which was ratified by Greece under Law 2402/1995 (Government Gazette 98 A'). In addition to the above agreements, the transboundary cooperation also includes initiatives by academic bodies and cooperation in joint research projects on transboundary basins.

Recently, from mid-2010 to today, much progress has been made concerning the active political cooperation between Greece, Bulgaria and Turkey in the field of transboundary water management.

Bulgaria, as a member of the EU since 2007, has the obligation to fully implement Directive 2000/60/EC.

On July 27 of 2010, the Joint Statement of the Minister of Environment, Energy and Climate Change of Greece and the Minister of Environment and Water of Bulgaria "On the understanding and cooperation in the field of water resources use in the respective territories of common river basins shared by the Republic of Bulgaria and the Hellenic Republic" was signed. The declaration provides, among other things, for the establishment of a Joint Expert Working Group on cooperation on water and the environment in transboundary basins.

TheJoint Working Group met for the first time in Drama on 16 May 2011and held its second meeting in Sofia on 12 October 2011. The third meeting took place in Thessaloniki on 23 April 2013, the fourth in Athens on 8 May 2015 and the fifth in Sandanski on 13 May 2016. The last, sixth meeting, of the Joint Working Group took place in Kavala on 21 June 2017.

The following three meetings of the sub-group on Technical Data were also held: in Kavala on 26 April 2012, in Blagoevgrad on 25 and 26 July 2013 and in Athens on 23 June 2015.

11.2 Transboundary River Basin of Strymonas

Bulgaria has been divided into four (4) River Basin Districts in accordance with Directive 2000/60/EC. The Bulgarian part of the transboundary river basin of Strymonas belongs to the "BG4" RBD, located in Blagoevgrad (see figure below).

Figure 11-1: Transboundary River Basin of Strymonas

12 STATISTICAL DATA OF EASTERN MACEDONIA RBD (EL11)

The following Tables present aggregated statistics for the Eastern Macedonia RBD (EL11)

Table 12-1: Categories of WB per RB of Eastern Macedonia RBD (EL11)

WB Categories	RB Strymonas (EL1106)	Total RBD
River WB	83	83
Lake WB and Reservoirs	2	2
Transitional WB	1	1
Coastal WB	4	4
TOTAL OF SWB	**90**	**90**
Groundwater WB	**15**	**15**
TOTAL WB	**105**	**105**
Heavily modified water bodies (HMWB) and artificial Water bodies (AWB)	26	26
WB Connection with protected areas	43	43

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

Table 12-2: Typology of SWB per RB of Eastern Macedonia RBD (EL11)

TYPOLOGY OF SWB	RB Strymonas (EL1106)	Total RBD
River WB	**83**	**83**
Type R-M1	37	37
Type R-M2	12	12
Type R-M3	0	0
Type R-M4	22	22
Type R-M5	6	6
Type R-L2	6	6
Reservoirs & Artificial Lakes	**2**	**2**
Type L-M5/7	0	0
Type L-M8	0	0
Type GR-SR	2	2
Lake WB	**0**	**0**
Type GR-DNL	0	2
Type GR-SNL	0	2
Type GR-VSNL	0	1
Transitional WB	**1**	**1**
Type TW 1	0	0
Type TW 2	1	1
Coastal WB	**4**	**4**
Type IIIE	4	4

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

Table 12-3: Assessment (classification) results of SWBs status per RB in Eastern Macedonia RBD (EL11)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Length (km)	% of Length
RIVER WB						
TOTAL	ECOLOGICAL	High	1	1,20%	40,97	4,90%
		Good	45	54,22%	372,79	44,60%
		Moderate	17	20,48%	273,56	32,73%
		Poor	5	6,02%	43,40	5,19%
		Bad	1	1,20%	5,57	0,67%
		Unknown	14	16,87%	99,51	11,91%
	CHEMICAL	Good	80	96,39%	801,07	95,27%
		Failing to achieve Good	2	2,41%	34,73	4,15%
		Unknown	1	1,20%	4,81	0,58%

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Area (km^2)	% of Area
RESERVOIRS						
TOTAL	ECOLOGICAL	Good and higher				
		Moderate	1	100,0%	1,1	100,0%
		Poor				
		Bad				
		Unknown				
	CHEMICAL	Good	1	100,0%	1,1	100,0%
		Failing to achieve Good				
		Unknown				

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Area (km^2)	% of Area
LAKE WB						
TOTAL	ECOLOGICAL	Good and Higher				
		Moderate				
		Poor	1	100,0%	46,1	100,0%
		Bad				
		Unknown				
	CHEMICAL	Good				
		Failing to achieve Good	1	100,0%	46,1	100,0%
		Unknown				

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Area (km²)	% of Area
TRANSITIONAL WB						
TOTAL	ECOLOGICAL	High				
		Good				
		Moderate				
		Poor				
		Bad	1	100,0%	6,57	100,0%
		Unknown				
	CHEMICAL	Good	1	100,0%	6,57	100,0%
		Failing to achieve Good				
		Unknown				

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Area (km²)	% of Area
COASTAL WB						
TOTAL	ECOLOGICAL	High	1	25,0%	56,3	7,71%
		Good	1	25,0%	479,7	65,72%
		Moderate	2	50,0%	193,9	26,57%
		Poor				
		Bad				
		Unknown				
	CHEMICAL	Good	3	75,0%	673,60	92,29%
		Failing to achieve Good				
		Unknown	1	25,0%	56,3	7,71%

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)

STATUS/POTENTIAL			RB Strymonas (EL1106) [Eastern Macedonia EL11]			
			Number	% of Number	Area (km²)	% of Area
GROUNDWATER BODIES						
TOTAL	CHEMICAL	Good	14	93,33%	6717,43	99,72%
		Bad	1	6,67%	18,83	0,28%
		Unknown				
	QUANTITATIVE	Good	14	93,33%	6717,43	99,72%
		Bad	1	6,67%	18,83	0,28%
		Unknown				

Eastern Macedonia RBD consistsof one RB, RB of Strymona River (EL1106)