SPECIAL SECRETARIAT FOR WATER

MINISTRY OF ENVIRONMENT & ENERGY

1st Update of River Basin Management Plans

River Basin District of

Western Sterea Ellada (EL04)

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 M2 "RIVER BASIN DISTRICT OF WESTERN STEREA ELLADA (EL04), RIVER BASIN DISTRICT OF EPIRUS (EL05), RIVER BASIN DISTRICT OF THESSALIA (EL08)"

JOINT VENTURE: "1st UPDATE OF RIVER BASIN MANAGEMENT PLANS WESTERN STEREA ELLADA (EL04), EPIRUS (EL05), THESSALIA (EL08)"

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RIVER BASIN DISTRICT OF WESTERN STEREA ELLADA (EL 04)

Summary of 1st Update of River Basin Management Plans – English (Deliverable 22b Study M2)

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1st UPDATE OF RIVER BASIN MANAGEMENT PLANS

RIVER BASIN DISTRICT OF WESTERN STEREA ELLADA (EL04)

Summary

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Abbreviations

Abbreviation	Interpretation
AR	At Risk
AWB	Artificial Water Body/bodies
EQR	Ecological Quality Ratio
GD	Guidance Document
GIG	Geographical Intercalibration Group (
GOLR	General Organization of Land Reclamation
GWB	Groundwater Body/bodies
HMWB	Heavily Modified Water Body/ bodies
LOLR	Local Organization of Land Reclamation
MEWSS	Municipal Enterprise for Water Supply and Sewerage
NR	Not at Risk
NWMN	National Water Monitoring Network

Abbreviation	Interpretation
PAR	Probably At Risk
PNR	Probably Not at Risk
RB	River Basin
RBD	River Basin District
RBMP	River Basin Management Plan
SCI	Site of Community Importance
SPA	Special Protection Area
SWB	Surface Water Body/bodies
WB	Water body/bodies
WFD	Water Framework Directive
WISE	Water Information System of Europe

1 INTRODUCTION – 1st UPDATE OF RIVER BASIN MANAGEMENT PLANS

1.1 INTRODUCTION

By decision 908/2014 (Government Gazette 2562 B' 25-09-2014) of the National Water Committee the 1st River Basin Management Plan of the River Basin District examined was approved.

The 1st Update has major changes and improvements from the 1st Management Plan:

- It is based on the use of data from the National Water Monitoring Network (NWMN), for the 2012-2015 period
- It 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 a program of measures has being accomplished
- It 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 with the Directive 2008/56/EC and has achieved synergy of actions and of program of measures
- It 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
- It 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 they receive, as well as the actions implemented to fill in the gaps identified in the 1st Management Plan
- It takes into account the new requirements arising from the EU Directive 2000/60/EC Guidance Documents.
- It 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
- It takes into account the new analytical methodologies for critical aspects of the implementation of Directive 2000/60 EC as presented below.

All detailed methodologies are available on the relevant website of the Special Secretariat for Water http://wfdver.ypeka.gr.

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 but also in the proposed programs of measures (basic and supplementary).

1.2 CONSULTATION PROCESS

The consultation process on the 1st Update of River Basin Management Plans lasted from November 2015 to December 2017 and included the following:

• **1st Phase**: In November 2015, the content of the foreseen activities for the 1st Update of the RBMP was posted on the website of the Ministry of Environment and Energy timetable tender documents for the site of the RBMP (www.ypeka.gr) as well as the detailed timetable of the consultation process.

• **2nd Phase**: In June 2016, data on the important issues of water resources management in each RBD were posted on the same website, containing briefly the results of the National Water Monitoring Network for the RBD, the main pressures, the identification of the competent authorities and stakeholders involved in the consultation. Also, in December 2016, the basic common methodologies for the designation and classification of water bodies status, assessment of pressures and impacts including hydromorphological pressures, the definition of Highly Modified Water Bodies and the

identification of the exemptions of Article 4 of Directive 2000/60 / EC, were posted on the same website.

• **3rd Phase**: In June 2017 a draft of the 1st Update of RBMP was posted on a special website of the Special Secretariat (http://wfdver.ypeka.gr), as well as a questionnaire. This phase included the publication of the Strategic Environmental Impact Study.

The consultation was completed in December 2017.

2 DIFFERENTIATIONS IN COMPARISON WITH THE 1st RBMP

2.1 NEW ANALYTICAL METHODOLOGIES FOR CRITICAL ASPECTS OF THE IMPLEMENTATION OF DIRECTIVE 2000/60/EC

For the 1st Update of RBMP of the country, new analytical methodologies were developed for critical aspects of the implementation of Directive 2000/60/EC. All the analytical methodologies are available on the website of the Special Secretariat for Water http://wfdver.ypeka.gr/:

- 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 "exceptions" to the achievement of the environmental objectives of Directive 2000/60/EC:
    - Identification of the "exceptions" of paragraphs 4 to 6 of Article 4 of Directive 2000/60 / EC (4.4 - 4.6)
    - Identification of the "exceptions" of paragraph 7 of Article 4 of Directive 2000/60 / EC (4.7) on new modifications
- Assessment (designation classification) of surface water bodies status:
    - Assessment of the ecological and chemical status of river water bodies
    - Assessment of ecological and chemical status of lake water bodies
    - Assessment of the ecological and chemical status of coastal and transitional water bodies
- Assessment methodologies for individual BQEs for each surface water 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 assessing the biological quality elements in coastal and transitional waters.

2.2 MAIN DIFFERENTIATIONS IN COMPARISON WITH THE 1st RBMP

Table 2-1. Main differentiations in comparison with the 1st RBMP

Content of 1st Update of RBMP/ Activity	Differentiation in comparison with the 1st RBMP
COMPETENT AUTHORITIES	The competent authorities are not differentiated in comparison with the 1st RBMP. In the Update, the inventory of the competent authorities and stakeholders involved in the Water Management, as it derives from the existing institutional framework, is rationalized and it is presented in accordance with the requirements of the new EU Guidance Document (GD Reporting 2016).
DESIGNATION OF SURFACE WATER BODIES - TYPOLOGY	In the Update, new typology was developed for river and lake WB. Furthermore, the reservoirs are reported as River Heavily Modified WB but their assessment is done with elements and tools designated for lakes, as lakes is the category of natural WB they resemble the most. In accordance with the above the number of WB is revised. It is noted that during the Update, the prefix of the WB codes were reformulated from GR to EL, in order to be compatible with the EE databases.
DESIGNATION OF GROUNDWATER BODIES	The number of GWB is revised based of the results of the NWMN or/and special studies completed from the publication of the 1st RBMP till today. It is noted that during the Update, the prefix of the WB codes were reformulated from GR to EL, in order to be compatible with the EE databases.
HEAVILY MODIFIED WATER BODIES (HMWB) AND ARTIFICIAL WATER BODIES (AWB)	The HMWB that were defined under the 1st RBMP are re-examined based on the new methodology and the data from the NWMN.
PROTECTED AREAS	The Registry of Protected Areas of the 1st RBMP is revised based on: The new Natura 2000 areas proposed by the Ministry of Environment and Energy according with the provisions of the Bird (2009/147/EC) and Habitat (92/43/EEC) Directives. The monitoring results from the Bathing Waters and the provisions of the Bathing Waters Directive (2006/7/EC) Other directives on water protection with more strict objectives as the Drinking Water Directive (80/778/EEC, as revised by the Directive 98/83/EC)), the Shellfish Directive (2006/113/EC), freshwater fish Directive (2006/44/EC), Nitrates Directive (91/676/EECC), Urban Waste Water Treatment Directive (91/271/EEC) etc New data that came up after the publication of the 1st RBMP and the relevant EE Guidance Documents. Furthermore it is noted that in the framework of the Update the CORINE protected areas and Landscapes of Special Natural Beauty were not included in the Registry of Protected Areas.

Content of 1st Update of RBMP/ Activity	Differentiation in comparison with the 1st RBMP
PRESSURES AND IMPACTS	The analysis of pressures and impacts in the Update is done according to the new national methodology and data produced after the approval of the 1st RBMP. The main differentiation is the new analytical method of assessment of hydromorphological pressures.
CLASSIFICATION OF THE STATUS OF SURFACE WATER BODIES	In the framework of the Update the classification of status of SWB in done according to the new national methodologies approved by the EU and based on the results of the NWMN. For the WB where no monitoring data is available, the classification of status was done by grouping based on their type and the analysis of pressures.
CLASSIFICATION OF THE STATUS OF GROUNDWATER BODIES	The classification of status of the GWB is not different from the 1st RBMP. The classification is based on the new data from the NWMN.
NATIONAL WATER MONITORING NETWORK	The Update takes in consideration the results of the NWMN of the status of the national WB with important number of sampling for the period 2112-2015 for BQE, Physicochemical and chemical indicators and hydromorphological quality elements. It also includes monitoring of the chemical and quantitative status of the GWB.
ECONOMIC ANALYSIS OF WATER USE	For the economical analysis of water uses, the provisions of the new Joint Ministerial Decision 135275/22.05.17 on water pricing are taken in consideration.
ENVIRONMENTAL OBJECTIVES – EXEMPTIONS	In the framework of the Update, the environmental objectives and exemptions are set according to the new national methodologies, developed according the EU guidance.
PROGRAMME OF MEASURES	The PoM of the 1st Update is differentiated from the 1st RBMP, following the new methodologies: Continuation/improvement of 1st RBMP measures New measures for the achievement of the environmental objectives set Correlation of measures with significant pressures Correlation of measures with Basic Measure Types and implementation indicators set by the EU Synergies of PoM with the National Strategy on Climate Change Adaptation.

3 WESTERN STEREA ELLADA RIVER BASIN DISTRICT

3.1 RIVER BASINS

Western Sterea Ellada River Basin District (EL04) is one of is one of the fourteen water districts in which the country was divided by Law 1739/1987 (Government Gazette 201/A/1987).

Western Sterea Ellada River Basin District consists three main hydrological river basin: Acheloos RB, Evinos RB and Mornos RB. Furthermore, significant part of RBD EL04 is occupied by the RBs of Acheloos tributaries (Tavropos, Trikeriotis, Agrafiotis and Inachos) and also by smaller watercourses (ie. Xiropotamos, Arapis etc). It should be noted, however, that the sub-basin of p. Tavropos (Megdova), upstream of the Plastira dam (area of 161 km^2), although it is hydrologically located to Acheloos RB, from managerial aspect it is included to Pinios RB (of the RBD EL08), as the total, practically, of the water resources are diverted to the Thessaly side. Similarly, the total water resources of the Mornos sub-basin, upstream of the Mornos dam, and part of the water resources of the Evinos sub-basin, upstream of Agios Dimitrios dam, are diverted to the Attiki RBD (EL06) for the water supply of Athens.

The boundaries of the main hydrological basins are defined by the following ranges:

RB Acheloos (EL0415): West: Thyamo, Makry, Valtos, Athamania. Northwest: Lakmos. East: Pindos, Tymfristos, Oxia, Panaitoliko.

RB Evinos (EL0420): North, Northwest: Panaitoliko. Northeast: Vardousia. South-east: Mount Nafpaktias and Arakynthos.

RB Mornos (EL0421): Gkiona, Oiti.

Map 1. River Basin District of Western Sterea Ellada (EL04)

The River Basins (RB) constituting the River Basin District of Western Stereas Elladas (EL 04), 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 Basins of Western Sterea Ellada River Basin District (EL04)

River Basin	Code	Area (km^2)
Acheloos	EL0415	7 531
Evinos	EL0420	1 344
Mornos	EL0421	1 259
Lefkadas	EL0444	365

3.2 COMPETENT AUTHORITIES

Law 3199/2003 (Government Gazette A' 280) on the Protection and Management of Water Bodies harmonises the National Law with the provisions of the Directive 2000/60/EC and defines the competent authorities for the protection and management of Water Bodies.

Designated competent authorities at national level:

- The **National Water Committee**
- The **National Water Council**
- The **Special Secretariat for Water**

Table 3-2. National competent authority ID

Official Name	**Special Secretariat for Water**
Acronym	S.S.W.
Contact Information	
Address	Amaliados 17
Postal Code	11523
City	Athens
Country	Greece
Web-page	http://www.ypeka.gr/ http://wfdver.ypeka.gr/
Contact	tel: 210 6475102, 213 1515410-1 e-mail: info.egy@prv.ypeka.gr

Designated competent authorities at Decentralised Administration level:

- **Decentralised Administration Water Council**
- **Water Directorates of the Decentralised Administration**

Table 3-3. Decentralised Administration competent authority ID

Official Name	**Decentralised Administration of Peloponnese, Western Greece and Ionian Islands /Water Directorate of Western Greece**
Acronym	W.D.W.G.
Contact Information	
Address	Athinon 105
Postal Code	26504
City	Rio Patras
Country	Greece
Web-page	www.apd-depin.gov.gr
Contact	Tel: 2610 335669, 2610 338735, 2610 910996, 2610 910986 e-mail: ydat@apd-depin.gov.gr

Table 3-4. Decentralised Administration competent authority ID (Water Directorate of Ionion)

Official Name	**Decentralised Administration of Peloponnese, Western Greece and Ionian Islands /Water Directorate of ionion**
Acronym	W.D.I
Contact Information	
Address	Alikes Potamou

Official Name	**Decentralised Administration of Peloponnese, Western Greece and Ionian Islands /Water Directorate of ionion**
Postal Code	49100
City	Corfu
Country	Greece
Web-page	http://www.apd-depin.gov.gr
Contact	Tel: 2661 361639 e-mail: lagadas@1745.syzefxis.gov.gr

Table 3-5. Decentralised Administration competent authority ID (Water Directorate of Thessaly)

Official Name	**Decentralised Administration of Epirus - Western Makedonia / Water Directorate of Thessaly**
Acronym	W.D.T
Contact Information	
Address	Farsalon 148
Postal Code	41335
City	Larissa
Country	Greece
Web-page	www.thessaly.gov.gr, http://www.apdthest.gov.gr
Contact	Tel: 2410 613720, 2410 617174 (extention.122), e-mail: dydatonthes@apdthest.gov.gr

Table 3-6. Decentralised Administration competent authority ID (Water Directorate of T

Official Name	**Decentralised Administration of Epirus - Western Makedonia / Water Directorate of Continental Greece (Sterea Ellada)**
Acronym	W.D.C.G
Contact Information	
Address	Theodoratou & Velliou
Postal Code	35133
City	Lamia
Country	Greece
Web-page	www.thessaly.gov.gr, http://www.apdthest.gov.gr
Contact	Tel: 22310 46337, e-mail: dydatonster@apdthest.gov.gr, kostas.siafis@apdthest.gov.gr

Table 3-7. Decentralised Administration competent authority ID (Water Directorate of T

Official Name	**Decentralised Administration of Epirus - Western Makedonia / Water Directorate of Continental Attiki**
Acronym	W.D.A
Contact Information	
Address	L. Messogion 239 & Paritsi, Neo Psychiko
Postal Code	15451
City	Athens
Country	Greece
Web-page	http://www.apdattikis.gov.gr
Contact	Tel: 210 3725703

The following table gives a snapshot of the role played by each competent authority on every water management and protection thematic.

Table 3-8. Main competences for every water protection and management thematic

Competent Authority	Role												
	Pressure and impact analysis	**Economic analysis**	**Monitoring of surface water**	**Monitoring of groundwater**	**Assessment of status of surface water**	**Assessment of status of groundwater**	**Preparation of RBMP**	**Preparation of PoM**	**Implementation of measures**	**Public participation**	**Enforcement of regulations**	**Co-ordination of implementation**	**Reporting to the European Commission**
Special Secretariat for Water of the Hellenic Ministry of Environment & Energy	M	M	M	M	M	M	M	M	M	M	M	M	M
Water Directorate of the Decentralised Administration	O	O	-	-	-	-	O	O	M	M	M	M	-
Hellenic Ministry of Foreign Affairs	-	-	-	-	-	-	-	-	O	-	M	-	-
Hellenic Ministry of Rural Development and Food	-	-	-	-	-	-	-	-	M	-	O	-	-
Hellenic Ministry of Infrastructure and Transport	-	-	-	-	-	-	-	-	M	-	O	-	-
Hellenic Ministry of Economy and Development	-	-	-	-	-	-	-	-	M	-	O	-	-
Hellenic Ministry of Health	-	-	-	-	-	-	-	-	M	-	O	-	-
Hellenic Ministry of Shipping and Island Policy	-	-	-	-	-	-	-	-	M	-	O	-	-
Hellenic Ministry of Interior	-	-	-	-	-	-	-	-	M	-	O	-	-
Municipalities	-	-	-	-	-	-	-	-	M	O	-	-	-
Regions	-	-	-	-	-	-	-	-	M	O	O	-	-
M: Main role, O: Other role, -: No role													

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 Western Sterea Ellada (EL04) are identified **120 surface water bodies,** that are presented to the following table by category.

Table 4-1. Number of surface water bodies of Western Sterea Ellada RBD (EL04) for each RB

Type of WB	RB				Total RBD
	RB Acheloos (EL0415)	RB Evinos (EL0420)	RB Mornos (EL0421)	RB Lefkadas (EL0444)	
River WB	68	16	10	1	95
Reservoirs	4	1	1	-	6
Lake WB	6	-	-	-	6
Transitional WB	3	-	-	1	4
Coastal WB	4	-	1	4	9
Total	**85**	**17**	**11**	**6**	**120**

All the surface water bodies are presented in the following tables.

Table 4-2. River WBs and the new typology, according to the European Decision 2013/480/EC and the MED GIG RB

No	WB NAME	WB CODE	HMWB /AWB*	Length (km)	Immediate Catchment Area (km^2)	Upstream Catchment area (km^2)	Mean Annual Flow (hm^3)	WB Type
RB ACHELOOS (EL0415)								
1	PLATANIAS R.	EL0415R000000008N	NAT	8,6	30,78	30,78	21,97	R-M1
2	AGRILIAS R.	EL0415R000101001N	NAT	9,3	36,93	36,94	19,42	R-M5
3	ACHELOOS P.2	EL0415R000200003H	HMWB	17,2	75,79	5.607,95	4353,38	R-M3
4	ACHELOOS P.3	EL0415R000200004H	HMWB	7,7	52,89	5.532,16	4314,41	R-M3
5	ACHELOOS P.4	EL0415R000200009H	HMWB	12	52,55	4.755,99	3810,47	R-M3
6	ACHELOOS P.5	EL0415R000200011H	HMWB	9,9	112,54	4.691,67	3736,31	R-M3
7	ACHELOOS P.6	EL0415R000200039N	NAT	22,5	120,35	1.520,99	1386,85	R-M3
8	ACHELOOS P.7	EL0415R000200044N	NAT	10,6	65,99	1.238,62	1132,50	R-M3
9	ACHELOOS P.8	EL0415R000200049N	NAT	17	93,09	942,56	889,50	R-M2
10	ACHELOOS P.9	EL0415R000200052N	NAT	18	98,08	796,92	779,39	R-M2
11	ACHELOOS P.10	EL0415R000200054N	NAT	19,4	65,26	640,19	660,96	R-M2
12	ACHELOOS P.11	EL0415R000200058N	NAT	7,3	63,62	308,32	336,85	R-M2
13	ACHELOOS P.12	EL0415R000200059N	NAT	29,3	163,28	244,69	267,34	R-M2
14	ACHELOOS P.13	EL0415R000200060N	NAT	9,6	24,33	81,5	89,04	R-M1
15	ACHELOOS P.14	EL0415R000200062N	NAT	2,4	36,73	36,73	40,13	R-M1
16	ACHELOOS P.1	EL0415R000201002H	HMWB	20,6	114,42	5.719,11	4410,53	R-M3
17	DIMIKOS P.	EL0415R000202005H	HMWB	11,1	59,91	723,27	480,24	R-M2
18	ENOTIKI TAFROS	EL0415R000202007H	HMWB	2,8	4,32	406,14	289,36	R-M2
19	ERMITSAS R.	EL0415R000202106N	NAT	24,1	93,69	93,69	56,37	R-M5

No	WB NAME	WB CODE	HMWB /AWB*	Length (km)	Immediate Catchment Area (km^2)	Upstream Catchment area (km^2)	Mean Annual Flow (hm^3)	WB Type
20	TAFROS YPERCHEILISIS OZEROY	EL0415R000204010H	HMWB	3,1	11,75	11,76	51,96	R-M4
21	ZERVAS R.	EL0415R000206012N	NAT	16,3	146,61	146,62	80,63	R-M2
22	INACHOS P.1	EL0415R000208013N	NAT	10,6	100,22	295,33	237,10	R-M2
23	INACHOS P.2	EL0415R000208014N	NAT	24,5	195,1	195,1	169,53	R-M2
24	KRIKELIOTIS R.1	EL0415R000210015N	NAT	22,2	144,27	558,94	487,40	R-M2
25	KRIKELIOTIS R.2	EL0415R000210019N	NAT	5,1	22,35	163,35	163,92	R-M2
26	KRIKELIOTIS R.3	EL0415R000210020N	NAT	13,3	140,99	140,99	141,49	R-M2
27	KORIKISTIANO R.	EL0415R000210116N	NAT	6,1	60,14	60,14	48,04	R-M1
28	KARPENISIOTIS R.1	EL0415R000210217N	NAT	15,5	106,85	191,18	143,03	R-M2
29	KARPENISIOTIS R.2	EL0415R000210218N	NAT	9,3	84,32	84,32	63,09	R-M1
30	TAYROPOS P.1	EL0415R000212021N	NAT	39,8	191,63	864,53	538,62	R-M2
31	TAYROPOS P.2	EL0415R000212029N	NAT	12,2	57,24	331,47	147,20	R-M2
32	GAVRENITIS	EL0415R000212122N	NAT	5,1	50,13	50,13	43,90	R-M1
33	AGIOTRIADITIKO R.	EL0415R000212223N	NAT	7,7	74,89	74,89	65,58	R-M1
34	TAYROPOS P. - PARAPOTAMOS MEGA R.1	EL0415R000212324N	NAT	7,7	54,8	105,95	92,77	R-M2
35	TAYROPOS P. - PARAPOTAMOS MEGA R.2	EL0415R000212325N	NAT	3,1	51,15	51,14	44,78	R-M1
36	KAROYCHAS R.	EL0415R000212426N	NAT	4,1	33,94	33,94	29,72	R-M1
37	SARANTAPOROY R.1	EL0415R000212527N	NAT	5,6	37,68	76,51	66,99	R-M1
38	SARANTAPOROY R.2	EL0415R000212528N	NAT	5,1	38,84	38,84	34,01	R-M1
39	ASPROS R.	EL0415R000212630N	NAT	6,4	31,37	31,38	27,47	R-M1
40	KARITSIOTIS R.	EL0415R000212731N	NAT	8	49,45	49,45	39,77	R-M1
41	MEGALO P.	EL0415R000212832N	NAT	5,9	24,36	24,43	19,65	R-M1
42	FRAGGISTANOREMMA	EL0415R000214033N	NAT	7,7	42,15	42,15	33,66	R-M1
43	AGRAFIOTIS P.1	EL0415R000216034N	NAT	16	93,27	263,47	283,54	R-M2
44	AGRAFIOTIS P.2	EL0415R000216035N	NAT	13,9	119,78	170,19	193,08	R-M2
45	AGRAFIOTIS P.3	EL0415R000216036N	NAT	3,5	50,4	50,4	57,18	R-M1
46	GRANITSIOTIS R.	EL0415R000218037N	NAT	10,9	72,52	72,52	57,92	R-M1
47	LEPIANITIS R.	EL0415R000220038N	NAT	5,1	31,82	31,82	25,41	R-M1
48	PRASIAS R.	EL0415R000222040N	NAT	7,6	58,1	58,1	46,40	R-M1

No	WB NAME	WB CODE	HMWB /AWB*	Length (km)	Immediate Catchment Area (km^2)	Upstream Catchment area (km^2)	Mean Annual Flow (hm^3)	WB Type
49	ACHELOOS P. - PARAPOTAMOS PLATANIAS R.1	EL0415R000224041N	NAT	4,8	10,84	42,17	33,68	R-M1
50	ACHELOOS P. - PARAPOTAMOS PLATANIAS R.2	EL0415R000224042N	NAT	3,8	31,32	31,32	25,02	R-M1
51	VATANIADA R.	EL0415R000226043N	NAT	5,2	61,74	61,74	64,69	R-M1
52	KOYMPOYRGIANITIKO R.1	EL0415R000228045N	NAT	9,6	24,63	230,06	173,84	R-M2
53	KOYMPOYRGIANITIKO R.2	EL0415R000228048N	NAT	8,3	106,7	106,73	80,65	R-M2
54	KOYMPOYRGIANITIKO R. - PARAPOTAMOS PLATANIAS R.1	EL0415R000228146N	NAT	3,2	8,75	98,69	74,57	R-M1
55	KOYMPOYRGIANITIKO R. - PARAPOTAMOS PLATANIAS R.2	EL0415R000228147N	NAT	3,6	90,16	89,94	67,96	R-M1
56	ARENTAS R.1	EL0415R000230050N	NAT	3,1	3,87	52,55	39,76	R-M1
57	ARENTAS R.2	EL0415R000230051N	NAT	8,2	48,67	48,68	36,84	R-M1
58	GKOYRA R.	EL0415R000232053N	NAT	5,2	58,64	58,65	44,32	R-M1
59	VATHYRREYMATOS R.	EL0415R000234055N	NAT	5,7	80,19	80,12	151,61	R-M1
60	KAMNAITIKO P.	EL0415R000236056N	NAT	24,4	138,71	138,76	48,94	R-M2
61	MOYTSARITIKO R.	EL0415R000238057N	NAT	7,6	47,73	47,73	52,15	R-M1
62	LEPENITSIS R.	EL0415R000240061N	NAT	4,7	20,43	20,43	22,32	R-M1
63	TAFROS VALTI	EL0415R000301063N	NAT	6,2	170,79	170,44	82,50	R-M4
64	XIROPOTAMOS R.	EL0415R000501064N	NAT	4,7	121,83	121,83	66,61	R-M5
65	MYTIKA R.	EL0415R000701065N	NAT	11,2	30,3	30,31	19,81	R-M1
66	VOYTOYMIAS R.	EL0415R000901066N	NAT	8,8	49	48,99	29,57	R-M5
67	NISSIS R.	EL0415R001101067N	NAT	14,1	101,47	101,48	64,19	R-M4
68	AMFILOCHIAS R.	EL0415R001301068N	NAT	9,9	81,14	81,09	49,68	R-M5
RB EVINOS (EL0420)								
69	EYINOS P.2	EL0420R000200070N	NAT	36,8	248,58	1.077,38	520,00	R-M3
70	EYINOS P.3	EL0420R000200073H	HMWB	26,5	89,15	640,56	292,92	R-M2
71	EYINOS P.4	EL0420R000200078N	NAT	8,5	21,61	270,36	185,16	R-M2
72	EYINOS P.5	EL0420R000200081N	NAT	12,6	145,45	181,29	124,16	R-M2
73	EYINOS P.1	EL0420R000201069N	NAT	9,6	85,66	1.159,32	578,00	R-M3
74	PORIARIS R.	EL0420R000202071N	NAT	6,4	46,64	46,64	36,92	R-M1
75	KOTSALOS R.	EL0420R000204072N	NAT	20,7	141,6	141,61	112,08	R-M2

No	WB NAME	WB CODE	HMWB /AWB*	Length (km)	Immediate Catchment Area (km^2)	Upstream Catchment area (km^2)	Mean Annual Flow (hm^3)	WB Type
76	CHALIKIOTIKO R.	EL0420R000206074N	NAT	19	96,45	96,46	76,34	R-M4
77	GIDRMANDITIS R.	EL0420R000208075N	NAT	6,5	68,28	68,29	54,05	R-M4
78	DIPLATANOY R.	EL0420R000210076N	NAT	6,5	34,98	34,98	27,69	R-M1
79	KLINOVITIS R.	EL0420R000212077N	NAT	3,1	21,33	21,33	14,61	R-M1
80	EYINOS P. - PARAPOTAMOS KERASORREMA 1	EL0420R000214079N	NAT	4,8	26,55	67,45	46,20	R-M1
81	EYINOS P. - PARAPOTAMOS KERASORREMA 2	EL0420R000214080N	NAT	5,6	40,89	40,9	28,01	R-M1
82	KALOGERIKO R.	EL0420R000216082N	NAT	5,8	35,84	35,84	24,55	R-M1
83	LOGGIES R.	EL0420R000301093N	NAT	5,6	34,7	34,64	23,34	R-M1
84	KATO VASILIKIS R.	EL0420R000501094N	NAT	4	49,51	49,49	33,35	R-M1
RB MORNOS (EL0421)								
85	ERATEINIS R.	EL0421R000101083N	NAT	8,7	73,7	73,67	27,98	R-M5
86	MORNOS P.2	EL0421R000200085H	HMWB	14,2	83,01	752,61	587,00	R-M2
87	MORNOS P.3	EL0421R000200091N	NAT	20,7	204,83	230,38	90,77	R-M2
88	MORNOS P.1	EL0421R000201084N	NAT	24,8	222,06	974,37	782,00	R-M2
89	LIMNITSIANO R.	EL0421R000202086N	NAT	5,8	58,46	58,46	35,16	R-M1
90	MORNOS P. - PARAPOTAMOS KERASORREMA	EL0421R000204087N	NAT	3,9	27,03	27,04	16,26	R-M1
91	KOKKINOS R.	EL0421R000206088N	NAT	9,6	85,16	85,17	33,55	R-M1
92	GRANITSORREMA	EL0421R000208089N	NAT	4,9	23,59	23,6	9,30	R-M1
93	MPELESITSA R.	EL0421R000210090N	NAT	6,7	80,09	80,11	31,57	R-M1
94	MORNOS P. - PARAPOTAMOS MEGA R.	EL0421R000212092N	NAT	4,3	25,54	25,54	10,06	R-M1
RB LEFKADAS (EL0444)								
95	KAROYCHAS P.	EL0444R000101095N	NAT	3	53,43	53,17	35,52	R-M4
* ***NAT****: Natural WB,* ***HMWB****: Heavily Modified WB,* ***AWB****: Artificial WB*								

Table 4-3. Lake WBs according to the new methodology per RB

No	WB Name	WB Code	HMWB/ AWB*	Surface (km^2)	Perimeter (km)	WB Type
RB ACHELOOS (EL0415)						
1	LIMNI TRICHONIDA	EL0415L000000004N	NAT	96,51	53,51	GR-DNL
2	LIMNI LYSIMACHIA	EL0415L000000005H	NAT	13,04	22,91	GR-SNL
3	LIMNI OZEROS	EL0415L000000006N	NAT	9,39	13,55	GR-SNL

4	LIMNI AMVRAKIA	EL0415L000000008N	NAT	14,53	34,35	GR-DNL
5	LIMNI VOYLKARIA	EL0415L000000009N	NAT	9,12	22,12	GR-VSNL
6	LIMNI SALTINI	EL0415L000000010N	NAT	1,99	8,85	GR-SP1
* ***NAT****: Natural WB,* ***HMWB****: Heavily Modified WB,* ***AWB****: Artificial WB*						

Table 4-4. Reservoirs WB according to the new methodology per RB

No	WB Name	WB Code	HMWB / AWB*	Surface (km^2)	Perimeter (km)	Immediate Catchment Area (km^2)	Upstream Catchment area (km^2)	Mean Annual Flow (hm^3)	WB Type
RB ACHELOOS (EL0415)									
1	TECHNITI LIMNI KREMASTON	EL0415RL00200002H	HMWB	71,7	248,95	456,43	3.568,30	3.177,92	L-M8
2	TECHNITI LIMNI KASTRAKIOY	EL0415RL00200003H	HMWB	26,91	131,28	247,19	4.110,60	3.547,08	L-M5/7 W
3	TECHNITI LIMNI STRATOY	EL0415RL00200004H	HMWB	7,82	20,63	79,15	4.336,30	3.671,24	GR-SR
4	TECHNITI LIMNI TAYROPOY	EL0415RL00212001H	HMWB	23,56	85,32	92,46	166,30	147,20	L-M5/7 W
RB EVINOS (EL0420)									
5	TECHNITI LIMNI EYINOY	EL0420RL00200005H	HMWB	2,89	18,2	59,99	351,20	292,92	L-M5/7 W
RB MORNOS (EL0421)									
6	TECHNITI LIMNI MORNOY	EL0421RL00200006H	HMWB	14,8	60,35	164,84	583,70	483,16	L-M5/7 W
* ***NAT****: Natural WB,* ***HMWB****: Heavily Modified WB,* ***AWB****: Artificial WB*									

Table 4-5. Transitional WB per RB

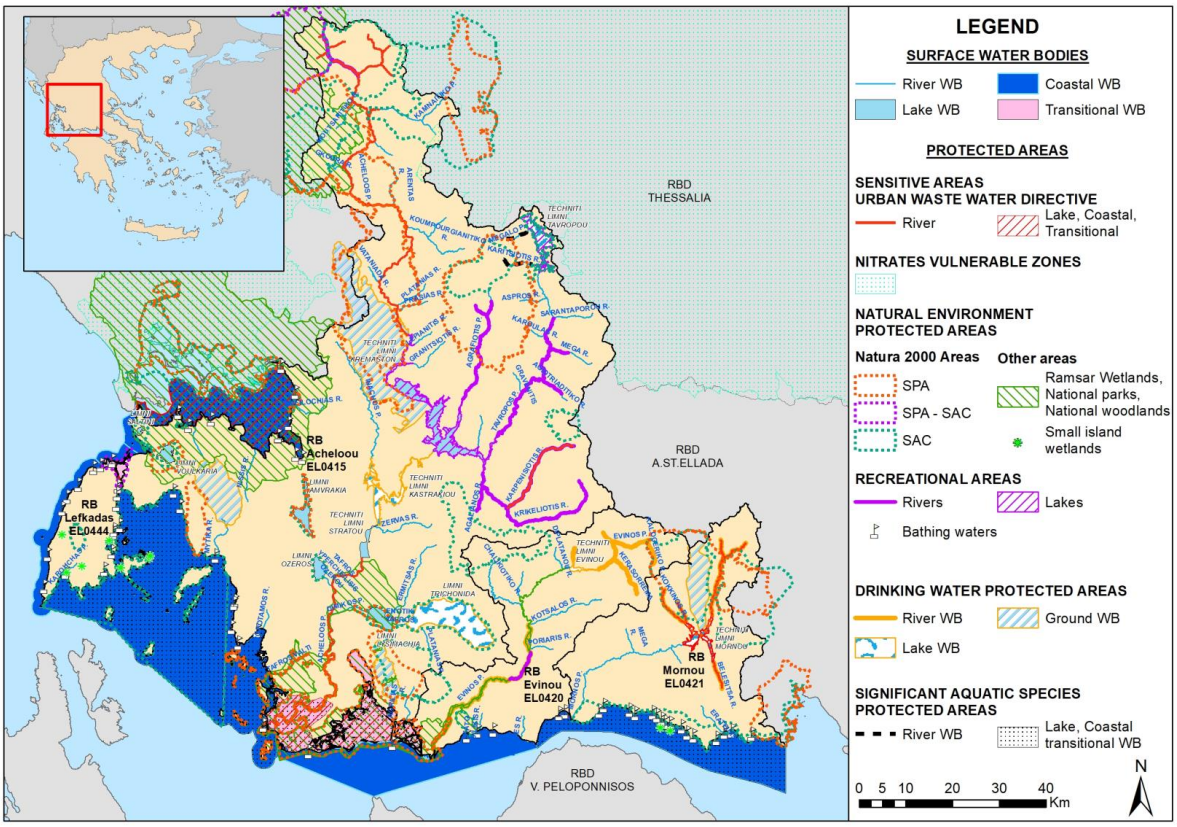
No	WB Name	WB Code	HMWB / AWB*	Surface (km^2)	Perimeter (km)	WB Type
RB ACHELOOS (EL0415)						
1	LIMNOTHALASSA AITOLIKOU	EL0415T0001N	NAT	17,19	21,79	TW-1 (Oligo-mesohaline choked)
2	LIMNOTHALASSA MESOLONGIOU (KENTRIKI, KLEISOVA)	EL0415T0002N	NAT	130,65	270,55	TW-1 (CL-Poly-euhaline choked and restricted)
3	EKVOLES ACHELOOU	EL0415T0003N	NAT	110,39	103,36	TW-2 (Estuaries)
RB LEFKADAS (EL0444)						

No	WB Name	WB Code	HMWB / AWB*	Surface (km^2)	Perimeter (km)	WB Type
4	LIMNOTHALASSA STENON (LEFKADAS)	EL0444T0004N	NAT	8,61	31,78	TW-1 (Other)
* ***NAT:*** *Natural WB,* ***HMWB****: Heavily Modified WB,* ***AWB****: Artificial WB*						

Table 4-6. Coastal WB per RB

No	WB Name	WB Code	HMWB / AWB*	Surface (km^2)	Perimeter (km)	WB Type
RB ACHELOOS (EL0415)						
1	THALASSA MESOLONGIOU	EL0415C0002N	NAT	363,74	175,06	IIIE
2	ANAT. ESOTERIKO ARCHIPELAGOS IONIOU (ECHINADES)	EL0415C0003N	NAT	229,13	318,41	IIIE
3	ORMOS DERMATA	EL0415C0008N	NAT	23,35	36,83	IIIE
4	NOTIOS AMVRAKIKOS KOLPOS	EL0415C0009N	NAT	270,53	187,88	IIIE
RB MORNOS (EL0421)						
5	KORINTHIAKOS KOLPOS - AKTES AITOLOAKARNANIAS	EL0421C0001N	NAT	329,98	184,96	IIIE
RB LEFKADAS (EL0444)						
6	DYT. ESOTERIKO ARCHIPELAGOS IONIOU (ECHINADES) KAI ORMOS VASILIKIS	EL0444C0004N	NAT	875,9	424,03	IIIE
7	DYT. AKTES LEFKADAS	EL0444C0005N	NAT	82,36	99,4	IIIE
8	ORMOS LEFKADAS	EL0444C0006N	NAT	20,98	24,82	IIIE
9	STENA LEFKADAS	EL0444C0007H	HMWB	20,98	37,07	IIIE
* ***NAT:*** *Natural WB,* ***HMWB****: Heavily Modified WB,* ***AWB****: Artificial WB*						

Map 2. Classification of SWB of RBD of Western Sterea Ellada (EL04), according to the new typology of the 1st Update of RBMP



4.2 GROUNDWATER BODIES

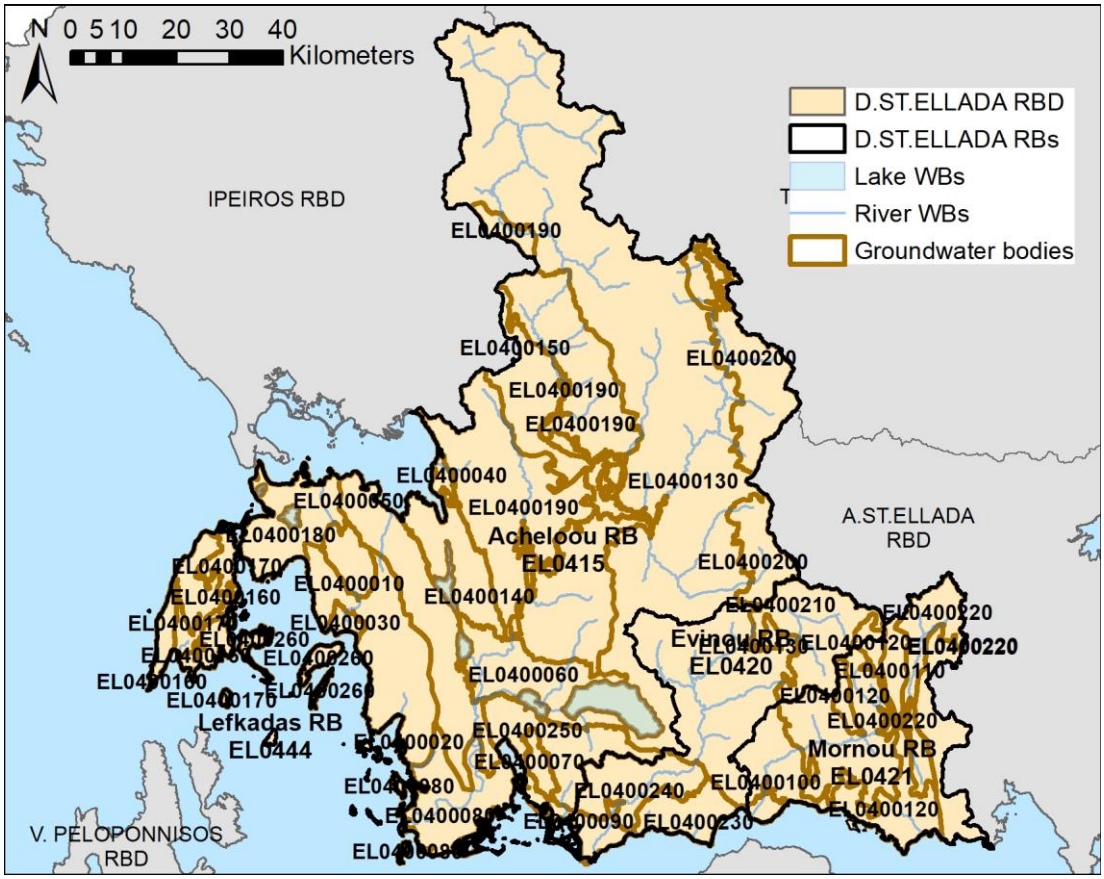
Under the 1st Update of RBMP the initially delimited GWB were re-examined.

Table 4-7. The GWB of the RBD

NO	GWB Name	GWB Code	Surface (km^2)
	RB ACHELOOS (EL0415)		
1	SYSTIMA MONASTIRAKIOU	EL0400010	89.66
2	SYSTIMA AKARNANIKON OREON	EL0400020	437.82
3	SYSTIMA KANDILAS	EL0400030	24.97
4	SYSTIMA ANOIXIATIKOU - LOUTROU AMFILOCHIAS	EL0400040	24.77
5	SYSTIMA KATOUNAS-LESINIOU	EL0400050	435.93
6	SYSTIMA AGRINIOU	EL0400060	275.74
7	SYSTIMA ARAKYNTHOU	EL0400070	41.85
8	SYSTIMA DELTA ACHELOOU-OINIADON	EL0400080	286.63
9	SYSTIMA OLONOU-PINDOU	EL0400130	3921.90
10	SYSTIMA AMFILOCHIAS	EL0400140	226.67
11	SYSTIMA VALTOY EMPESOY	EL0400150	294.51
12	SYSTIMA VONITSAS - VOYLKARIA	EL0400180	239.88
13	SYSTIMA YDROFORION LEKANIS ACHELOOY	EL0400190	1497.23

NO	GWB Name	GWB Code	Surface (km^2)
14	SYSTIMA YDROFORION ANATOLIKOY TMIMATOS LEKANIS ACHELOOY	EL0400200	485.27
15	SYSTIMA YDROFORION KATO ROY ACHELOOY	EL0400250	246.71
RB EVINOS (EL0420)			
16	SYSTIMA MESOLONGIOU-EVINOU	EL0400090	97.35
17	SYSTIMA YDROFORION ANO ROU LEKANIS EVINOU	EL0400210	287.00
18	SYSTIMA YDROFORION ANTIRRIOU	EL0400230	134.99
19	SYSTIMA YDROFORION KATO ROU LEKANIS EVINOU	EL0400240	204.70
RB MORNOS (EL0421)			
20	SYSTIMA MORNOU	EL0400100	28.46
21	SYSTIMA VARDOUSION	EL0400110	64.58
22	SYSTIMA YDROFORION ERATEINIS - TOLOFONA	EL0400120	256.27
23	SYSTIMA YDROFORION LEKANIS ANO ROU MORNOU	EL0400220	559.60
RB LEFKADAS (EL0444)			
24	SYSTIMA MEGANISIOU - KASTOU - KALAMOU	EL0400260	50.52
25	SYSTIMA LEFKADAS	EL0400160	208.70
26	SYSTIMA VASILIKIS - NYDRIOU – LEFKADAS	EL0400170	96.26

Map 3. Position and delimitation of the GWB of Western Sterea Ellada (EL04)



4.3 HEAVILY MODIFIED WATER BODIES (HMWB) AND ARTIFICIAL WATER BODIES (AWB)

Eighteen (18) HMWB are identified from a total of 120 SWB in RBD of Western Sterea Ellada (EL04), while no artificial water bodies were identified.

Table 4-8. Total number and surface of HMWB and AWB in the RBD

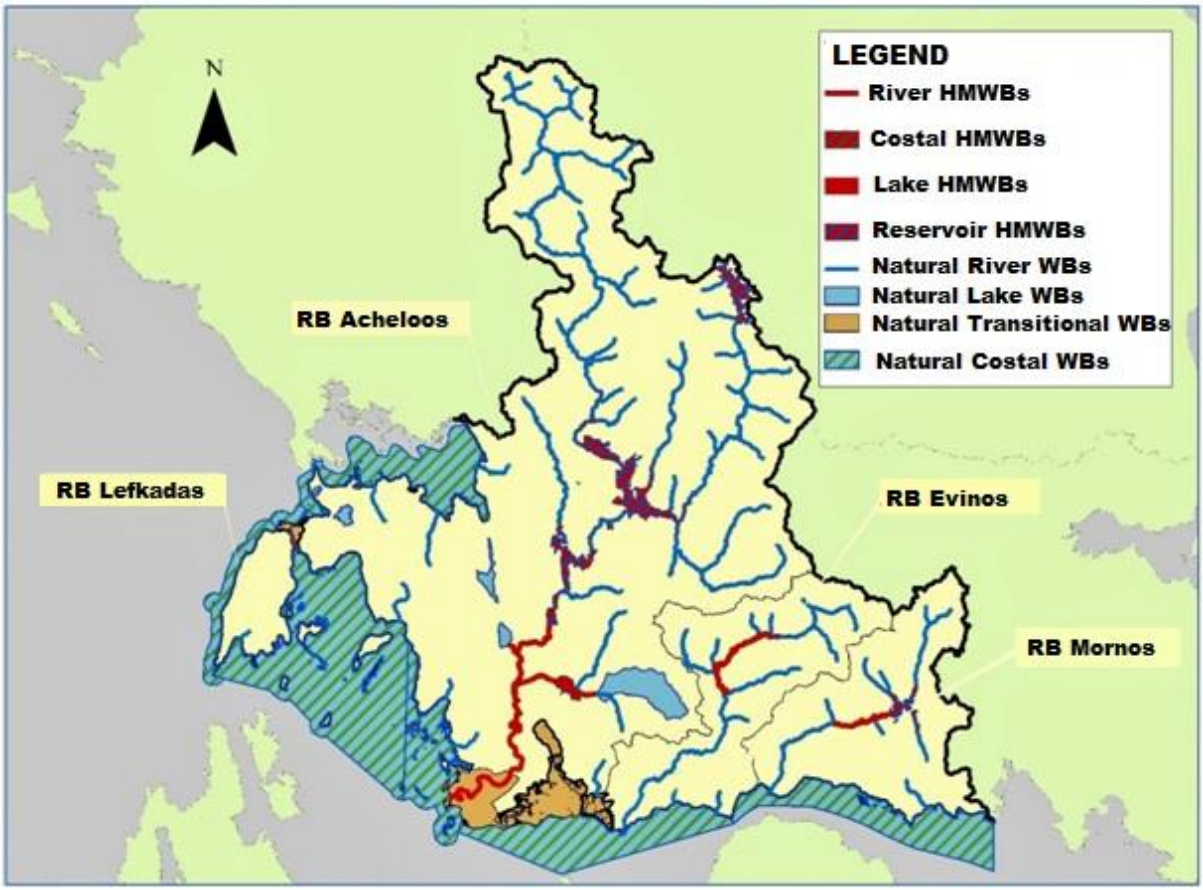
Type of WB	HMWB	
	Number of WB	Surface - length (%)
Lake WB	1	9,0
Longitudinal River WB	10	12,6
River WB (Reservoirs)	6	100,0
Coastal WB	1	0,1

The following table presents the WB that were identified as HMWB and AWB per RB.

Table 4-9. HMWBs in the EL04 RBD

WB NAME	WB CODE	CATEGORY	AREA - LENGTH	« Designated water usage» according to the article 4(3)(α) of WFD
RB ACHELOOS (EL0415)				
TECHNITI LIMNI TAYROPOY	EL0415RL00200001H	RL	23,56 km^2	Activities for the purposes of which water is stored: Irrigation, power generation, water supply
TECHNITI LIMNI KREMASTON	EL0415RL00200098H	RL	71,70 km^2	Activities for the purposes of which water is stored: Power generation, irrigation, Flood protection
TECHNITI LIMNI KASTRAKIOY	EL0415RL00200097H	RL	26,92 km^2	Activities for the purposes of which water is stored: power generation, irrigation, water supply, Flood protection
TECHNITI LIMNI STRATOY	EL0415RL00200096H	RL	7,82 km^2	Activities for the purposes of which water is stored: power generation, irrigation, flood protection
ACHELOOS P.1	EL0415R000201002H	R	21,70 km	Water regulation
ACHELOOS P.2	EL0415R000200003H	R	17,19 km	
ACHELOOS P.3	EL0415R000200004H	R	7,74 km	
ACHELOOS P.4	EL0415R000200009H	R	11,96 km	
ACHELOOS P.5	EL0415R000200011H	R	9,91 km	
LIMNI LYSIMACHIA	EL0415L000000005H	L	13,05 km^2	Water regulation, flood protection
ENOTIKI TAFROS	EL0415R000202007H	R	2,76 km	
DIMIKOS P.	EL0415R000202005H	R	11,11 km	
TAFROS YPERCHEILISIS OZEROY	EL0415R000204010H	R	2,91 km	Water regulation, flood protection
RB EVINOS (EL0420)				
TECHNITI LIMNI EYINOY	EL0420RL002000100H	RL	2,89 km^2	Activities for the purposes of which water is stored: Drinking water supply, irrigation
EYINOS P.3	EL0420R000200073H	R	26,47 km	
RB MORNOS (EL0421)				
TECHNITI LIMNI MORNOY	EL0421RL002000101H	RL	14,80 km^2	Activities for the purposes of which water is stored: water supply, irrigation
MORNOS P.2	EL0421R000200085H	R	14,20 km	
RB LEFKADAS (EL0444)				
STENA LEYKADAS	EL0444C0007H	C	1,63 km^2	Navigation including port facilities

Map 4. HMWB in the RBD of Western Sterea Ellada (EL04)



4.4 PROTECTED AREAS

In accordance with Directive 2000/60/EC, the member states shall ensure the establishment of a registry of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water.

This registry is called Registry of Protected Areas (RPA) and according to the Appendix V of the Presidential Decree 51/2007, it includes the following type or areas:

- **Water bodies designated for Drinking Water Abstraction:**

Table 4-10. Areas of Abstraction of Drinking water

NO	WB Name	WB Code	Area Code
RB ACHELOOS (EL0415)			
1	Systima Monastirakiou	EL0400010	EL0400010A7
2	Systima Arakynthou	EL0400070	EL0400070A7
3	Systima Empesou - Valtou	EL0400150	EL0400150A7
RB MORNOS (EL0421)			
4	Systima Vardousion	EL0400110	EL0400110A7

- **Water Bodies designated as Recreational waters including areas designated as Bathing Waters:** According to the list of Bathing Water Profiles of Greece (SSW, 2016), in Western Sterea Ellada RBD, in 2016, 68 Bathing Water Sites have been designated in coastal WB.

Furthermore, they exist not designated Recreational WB that are used for alternative tourism (like rafting and kayak). In total, in the RBD 11 protected inland waters are identified.

- **Urban Waste Water Treatment Directive Sensitive Areas and Nitrates Directive Nitrate Vulnerable Zones (NVZ):**
  In the RBD of EL04 is located a small area of "Pediada Artas Prevezas" (EL0514NI02), about 13km^2, and a small area of the area "Pinios - Thessalian Field" (EL0816NI01), about 25,58km^2, Nitrate Vulnerable Zones, which do not include any WB of the EL04 RBD. Under the 1st Update of the RBMP, the necessity of designating new Nitrate Vulnerable Zones was examined and no such necessity exists.
  According to the national legal framework (decision 19661/1982/1999 - Government Gazette 1811B'/29.09.1999), in the Western Sterea Ellada RBD (EL04), existing eight (8) Urban Waste Water Treatment Directive Sensitive Areas, which are presented together with the WBs contained in these areas.

Table 4-11. Urban Waste Water Treatment Directive Sensitive Areas in the Western Sterea Ellada RBD (EL04)

NO	Urban Waste Water Treatment Directive Sensitive Areas	WB Code	WB Name
1	STENO LEFKADAS (Thalassia Periochi)	EL0444C0007H	Stena Lefkadas
2	LIMNOTHALASSA AITOLIKOU-MESOLONGIOU	EL0415T0002N	LIMNOTHALASSA MESOLONGIOU (KENTRIKI, KLEISOVA)
3	AMVRAKIKOS KOLPOS	EL0415C0009N	Notios Amvrakikos kolpos
4	DELTA POTAMOU ACHELOOU	EL0415T0003N	EKVOLES ACHELOOU
5	TECHNITI LIMNI MORNOU	EL0421RL00200006H	TECHNITI LIMNI MORNOU
6	POTAMOS ACHELOOS	EL0415R000200054N	ACHELOOS P. 10
		EL0415R000200052N	ACHELOOS P. 9
		EL0415R000200039N	ACHELOOS P. 6
		EL0415R000200058N	ACHELOOS P. 11
		EL0415R000200044N	ACHELOOS P. 7
		EL0415R000200049N	ACHELOOS P. 8
		EL0415R000240061N	LEPENITSIS R.
		EL0415R000200059N	ACHELOOS P. 12
		EL0415R000200062N	ACHELOOS P. 14
		EL0415R000200060N	ACHELOOS P. 13
		EL0415R000200004H	ACHELOOS P. 3
		EL0415R000201002H	ACHELOOS P. 1
		EL0415R000200011H	ACHELOOS P. 5
		EL0415R000200009H	ACHELOOS P. 4
		EL0415R000200003H	ACHELOOS P. 2
7	POTAMOS KARPENISSIOTIS	EL0415R000210217N	KARPENISIOTIS R. 1
		EL0415R000210218N	KARPENISIOTIS R. 2
8	REMATA POU EISREOUN	EL0421R000206088N	KOKKINOS R.

NO	Urban Waste Water Treatment Directive Sensitive Areas	WB Code	WB Name
	STIN TECHNITI LIMNI MORNOU	EL0421R000208089N	GRANITSORREMA
		EL0421R000212092N	MORNOS P. - PARAPOTAMOS MEGA R.
		EL0421R000200091N	MORNOS P. 3
		EL0421R000210090N	MPELESITSA R.

- **Areas designated for Birds and Habitats protection including the Natura 2000 protected sites :** The designation of natural protected areas is adaptable to the national specific conditions. The following map 5 depicts these areas.

- **Areas designated for the protection of economically significant aquatic species:** There are nine (9) aquatic farms in Western Sterea Ellada RBD (EL04): three (3) freshwater fish farms and six (6) coastal/transitional waters aquacultures.

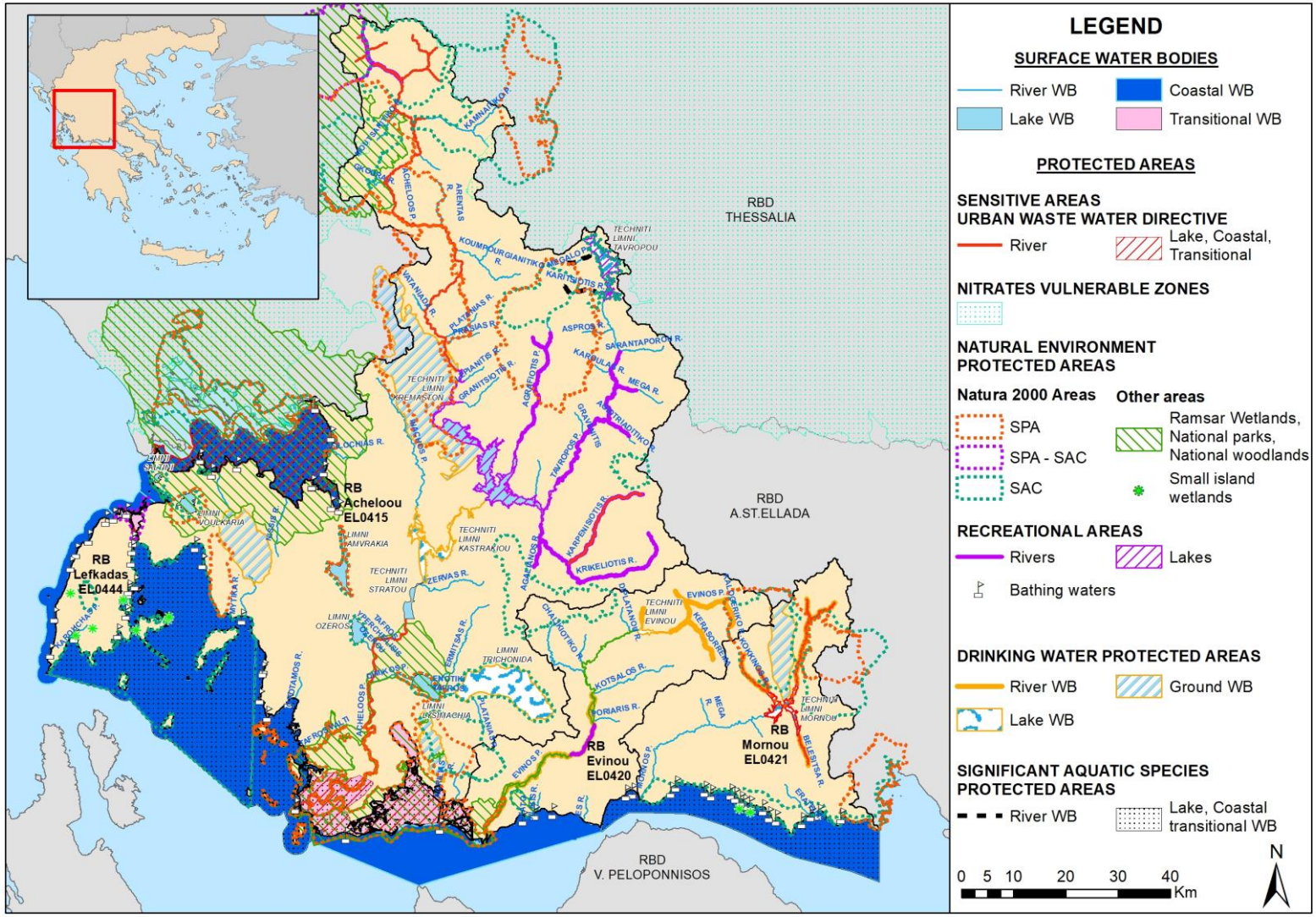
Table 4-12. Proposed protection areas according to Directive 2006/113/EC

No	Protected Area Code	WB Code	WB name	WB category
1	EL0415T0003NFI	EL0415T0003N	Ekvoles Acheloou	Transitional
2	EL0415T0002NFI	EL0415T0002N	Limnothalassa Mesolongiou (Kentriki, Kleisova)	Transitional
3	EL0421C0001NFI	EL0421C0001N	Korinthiakos kolpos - Aktes Aitoloakarnanias	Coastal
4	EL0415C0003NFI	EL0415C0003N	Anat. Esoteriko archipelagos Ioniou (Echinades)	Coastal
5	EL0444C0004NFI	EL0444C0004N	Dyt. Esoteriko archipelagos Ioniou (Echinades) kai Ormos Vasilikis	Coastal
6	EL0415C0009NFI	EL0415C0009N	Notios Amvrakikos kolpos	Coastal

Table 4-13. Proposed protection areas according to Directive 2006/44/EC

No	Protected Area Code	WB Code	WB name	WB category
1	EL0415R000212832NFI	EL0415R000212832N	Megalo Potami	River
2	EL0415R000212731NFI	EL0415R000212731N	Rema Karitsiotis	River
3	EL0415L000000004NFI	EL0415L000000004N	Limni Trichonida	Lake

Map 5. Protected areas of Western Sterea Ellada (EL04)



5 ANALYSIS OF PRESSURES IN WATER BODIES

Anthropogenic pressures on the bodies of water include all human activities that influence or may influence the water bodies of the area where they are developed. These pressures are characterized as significant as long as they form the cause for the WBs to be in danger of non-achieving their environmental objectives, in accordance with EU Guideline No 03.

The following are data-results of the analysis of anthropogenic pressures that has been done, for the needs of the 1st Update of RBMP.

5.1 POINT SOURCES OF POLLUTION

Point sources of pollution include all sources of nutrients (BOD, N, P). The list of these pressures includes:

- Waste Water Treatment Plants (WWTP)
- Discharges not connected to WWTP
- Hotels
- Industrial sites
- Livestock Farming
- Aquaculture – Fish farming
- Waste disposal sites
- Runoff deriving from mining activities (mines)

From the above point sources of pollution derives the annual load of BOD, N and P produced.

It is noted that the pollutants produced by the livestock units are included in the diffuse pressures and are taken into account in the corresponding section.

Figure 5-1. Total annual loads of BOD, N andP that are produced in RB (EL0415), (EL0420), (EL0421) and (EL0444) from point sources of pollution

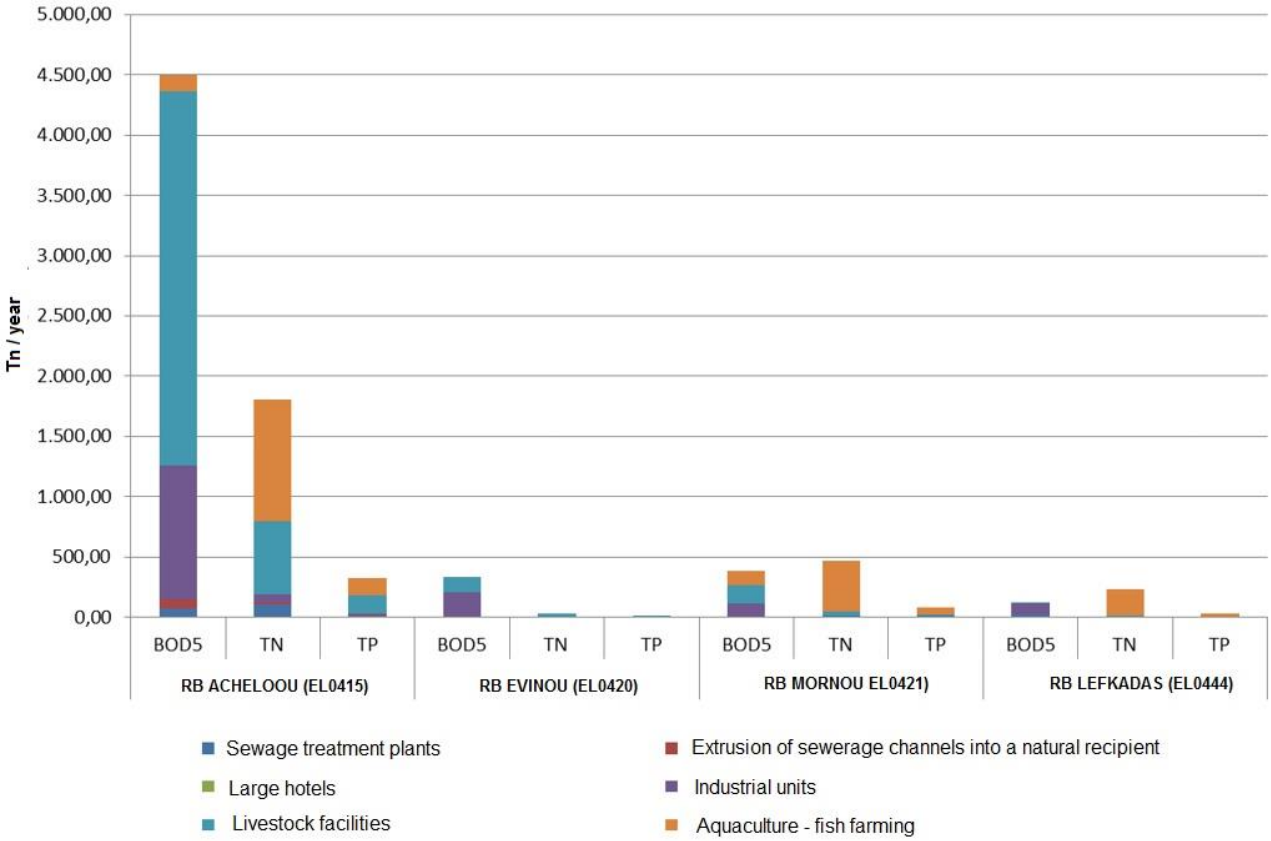


Table 5-1. Total annual load of BOD, N and P that are produced in Acheloos RB (EL0415) from point sources

POINT SOURCES OF POLLUTION	BOD (t/y)	N (t/y)	P (t/y)
Waste Water Treatment Plants (WWTP)	70,64	107,46	17,4
Discharges not connected to WWTP	75,38	15,08	3,14
Hotels	0,00	0,00	0,00
Industrial Sites	1.114,20	72,90	14,70
Livestock units	3.100,10	601,21	150,74
Aquaculture – Fish farming	135,31	1.013,77	138,88
TOTAL	**4.495,62**	**1.810,42**	**324,86**

Table 5-2. Total annual load of BOD, N and P that are produced in Evinos RB (EL0421) from point sources

POINT SOURCES OF POLLUTION	BOD (t/y)	N (t/y)	P (t/y)
Waste Water Treatment Plants (WWTP)	0,74	1,18	0,25
Discharges not connected to WWTP	0,00	0,00	0,00
Hotels	0,00	0,00	0,00
Industrial Sites	207,00	0,00	0,00
Livestock units	126,04	34,67	18,53
Aquaculture – Fish farming	0,00	0,00	0,00
TOTAL	**333,78**	**35,85**	**18,78**

Table 5-3. Total annual load of BOD, N and P that are produced in Mornos RB (EL0421) from point sources

POINT SOURCES OF POLLUTION	BOD (t/y)	N (t/y)	P (t/y)
Waste Water Treatment Plants (WWTP)	9,52	17,66	13,14
Discharges not connected to WWTP	0,00	0,00	0,00
Hotels	0,61	0,24	0,20
Industrial Sites	107,10	1,68	0,37
Livestock units	149,37	33,42	11,50
Aquaculture – Fish farming	115,40	412,76	56,93
TOTAL	**382,00**	**465,76**	**82,14**

Table 5-4. Total annual load of BOD, N and P that are produced in Lefkada RB (EL044) from point sources

POINT SOURCES OF POLLUTION	BOD (t/y)	N (t/y)	P (t/y)
Waste Water Treatment Plants (WWTP)	25,37	7,50	2,11
Discharges not connected to WWTP	0,00	0,00	0,00
Hotels	0,27	0,11	0,09
Industrial Sites	92,20	2,94	0,72
Livestock units	9,73	2,64	1,39
Aquaculture – Fish farming	0,00	221,7	30,18
TOTAL	**127,57**	**234,89**	**34,49**

5.2 DIFFUSE SOURCES OF POLLUTION

Diffuse sources of pollution include all sources of nutrients (BOD, N, P). The list of these pressures includes:

- Agriculture
- Discharges not connected to sewerage network
- Farming
- Other diffuse sources

From the above diffuse sources of pollution derives the annual load of BOD, N and P produced.

Figure 5-2. Total annual loads of BOD, N and P that are produced in RB (EL0415), (EL0420), (EL0421), (EL0444) from diffuse sources of pollution

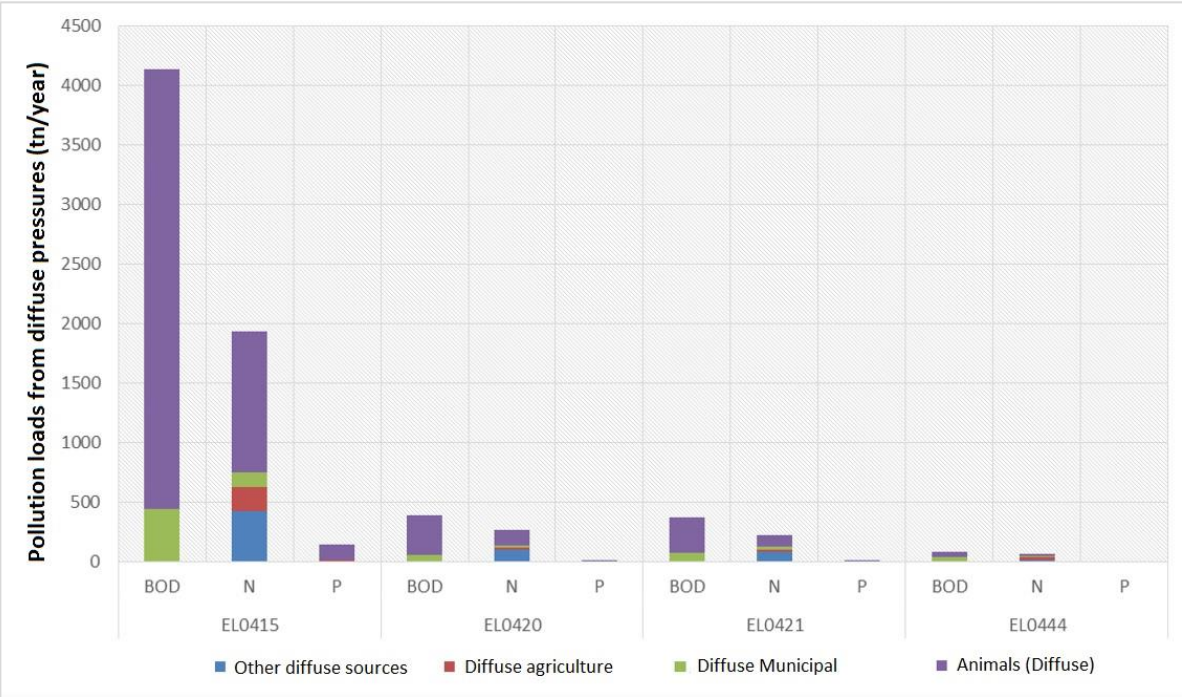


Table 5-5. Total annual load of BOD, N and P that are produced in Acheloos RB (EL0415) from diffuse sources of pollution

LAND USE	BOD (t/y)	N (t/y)	P (t/y)
URBAN	444,91	127,12	3,44
AGRICULTURE	0,00	203,78	5,55
FARMING	3698,61	1178,15	130,01
OTHER SOURCES	0,00	424,25	4,63
TOTAL	**4143,52**	**1933,29**	**143,63**

Table 5-6. Total annual load of BOD, N and P that are produced in Evinos RB (EL0421) from diffuse sources of pollution

LAND USE	BOD (t/y)	N (t/y)	P (t/y)
URBAN	54,65	15,61	0,39
AGRICULTURE	0,00	23,57	0,56
FARMING	335,65	126,95	10,26
OTHER SOURCES	0,00	99,70	0,97
TOTAL	**390,30**	**265,84**	**12,18**

Table 5-7. Total annual load of BOD, N and P that are produced in Mornos RB (EL0421) from diffuse sources of pollution

LAND USE	BOD (t/y)	N (t/y)	P (t/y)
URBAN	78,61	22,46	0,57

LAND USE	BOD (t/y)	N (t/y)	P (t/y)
AGRICULTURE	0,00	15,24	0,43
FARMING	292,75	96,29	10,41
OTHER SOURCES	0,00	87,16	0,89
TOTAL	**371,36**	**221,15**	**12,29**

Table 5-8. Total annual load of BOD, N and P that are produced in Lefkada RB (EL044) from diffuse sources of pollution

LAND USE	BOD (t/y)	N (t/y)	P (t/y)
URBAN	42,71	12,20	0,37
AGRICULTURE	0,00	27,15	0,61
FARMING	40,97	15,61	2,18
OTHER SOURCES	0,00	11,04	0,17
TOTAL	**83,68**	**66,00**	**3,34**

5.3 HYDROMORPHOLOGICAL PRESSURES

RB Acheloou (EL0415)

Table 5-9. Hydro morphological alterations due to projects on SWB (HMWB-AWB) of Acheloos RB (EL0415)

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km^2) / LENGTH (km) HMWB-AWB	HMWB-AWB
KARDITSAS	Artificial lake (Techniti Limni) Tayropoy	Hydropower production (190 GWh/year), Drinking water supply of Karditsa, Irrigation LOLR Plastira and Pezoulas-Fylaktis ($115*10^6$ m^2), Recreation	EL0415RL00200001H	23,56 km^2	HMWB
EYRYTANIAS - AITOLOAKARNANIAS	Artificial lake (Techniti Limni) Kremaston	Hydropower production (953 GWh/year)	EL0415RL00200002H	71,70 km^2	HMWB
AITOLOAKARNANIAS	Artificial lake (Techniti Limni) Kastrakioy	Hydropower production (660 GWh/year), Drinking water supply of Agrinio	EL0415RL00200003H	26,92 km^2	HMWB
AITOLOAKARNANIAS	Artificial lake (Techniti Limni) Stratoy	Hydropower production (315 GWh/year), Irrigation of Acheloos GOLR ($350*10^6$ m^2)	EL0415RL00200004H	7,92 km^2	HMWB
AITOLOAKARNANIAS	Stream setting of Acheloos P. (downstream of Stratos)	Hydropower generation (315 GWh/year), Irrigation of Acheloos GOLR ($350*10^6$ m^2), Flood protection	EL0415R000201002H, EL0415R000201003H, EL0415R000201004H, EL0415R000201009H, EL0415R0002010011H	68,50 km	HMWB

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km²) / LENGTH (km) HMWB-AWB	HMWB-AWB
AITOLOAKARNANIAS	Adjustment of the water balance of the Lysimachia Lake	Irrigation of lake riparian areas, Flood protection	EL0415L000000005H	13,05 km²	HMWB
AITOLOAKARNANIAS	Adjustment of union trench of the Trichonidas - Lysimachias	Flood protection	EL0415R000202007H	2,76 km	HMWB
AITOLOAKARNANIAS	Adjustment of Dimikoy P.	Flood protection	EL0415R000202005H	11,11 km	HMWB
AITOLOAKARNANIAS	Adjustment of deainage trench of Ozeros	Flood protection	EL0415R000204010H	2,91 km	HMWB

RB EVINOU (EL0420)

Table 5-10. Hydro morphological alterations due to projects on SWB (HMWB-AWB) of Evinos RB (EL0420)

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km²) / LENGTH (km) HMWB-AWB	HMWB-AWB
AITOLOAKARNANIAS	Artificial lake (Techniti Limni) Evinou	Drinking water supply of Athens, Irrigation of surroundings areas	EL0420RL00200005H	2,89 km²	HMWB
AITOLOAKARNANIAS	Water flow regulation of evinos river. (downstream of Evinos' reservoir)	Drinking water supply of Athens, Irrigation of surroundings areas	EL0420R000200073H	26,47 km	HMWB

RB MORNOU (EL0421)

Table 5-11. Hydro morphological alterations due to projects on SWB (HMWB-AWB) of Mornos RB (EL0421)

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km²) / LENGTH (km) HMWB-AWB	HMWB-AWB
FOKIDOS	Artificial lake (Techniti Limni) Mornoy	Drinking water supply of Athens, Irrigation of Fokidas & Aitoloakarnania areas	EL0421RL00200006H	14,80 km²	HMWB
FOKIDOS	Flow regulation Mornoy P. (downstream of Mornos' reservoir)	Drinking water supply of Athens, Irrigation of Fokidas & Aitoloakarnania areas		14,20 km	HMWB

RB LEFKADAS (EL0444)

Table 5-12. Hydro morphological alterations due to projects on SWB (HMWB-AWB) of Lefkadas RB (EL0444)

REGIONAL UNIT	PROJECT	USE OF PROJECT	WB CODE	AREA (km²) / LENGTH (km) HMWB-AWB	HMWB-AWB
LEYKADOS	Marina Leykados	Navigation, Port facilities, Recreation	EL0444C0007H	1,63 km²	HMWB

5.4 WATER ABSTRACTION

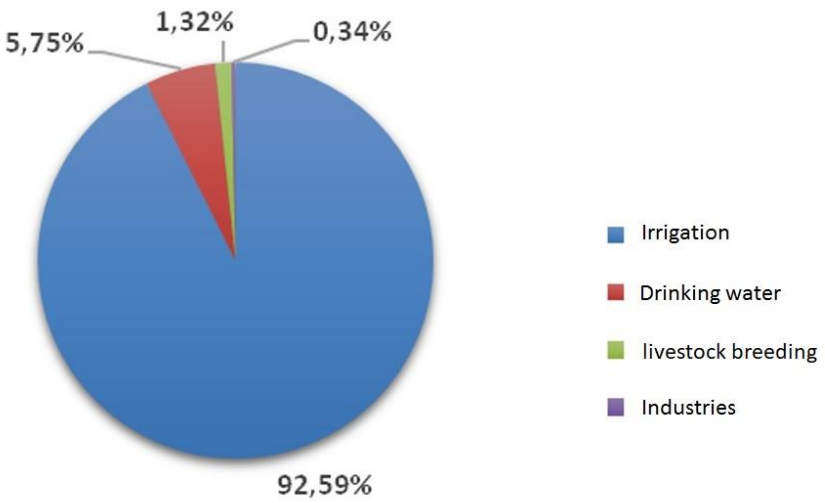
This paragraph includes information on the total annual water abstraction for all activities and uses:

- Public Water Supply
- Irrigation
- Farming
- Industry

In Acheloos River Basin, total estimated abstractions are 469,5 hm³. The biggest amount of them is intended for irrigation (434,7 hm³), an important amount for drinking water (27,0 hm³), while the estimated abstractions are for livestock breeding (6,2 hm³) and industry (1,6 hm³) respectively.

Estimated water abstractions do not include the approximately 140 million m³ that are detached from texniti limni Plastira to the RBD EL08. The distribution of the various uses of the water abstractions that made at RB Acheloos are presented in the graph below.

Figure 5-3. Total water abstraction in Acheloos RB (EL0415)

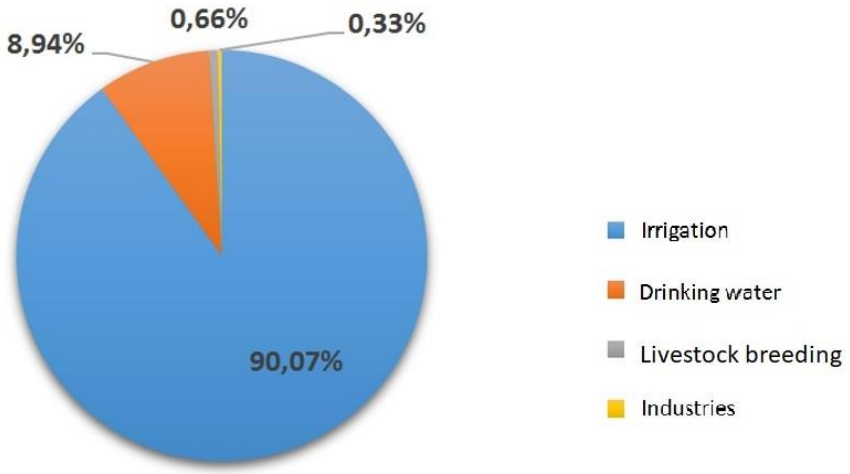


In Evinos River Basin total estimated abstractions are 60,4 hm³. The biggest amount of them is intended for irrigation (54,4 hm³), an important amount for drinking water (5,4 hm³), while the estimated abstractions are for livestock breeding (0,4 hm³) and industry (0,2 hm³) respectively.

Estimated abstractions do not include the approximately 230 million m³ that are extracted from the artificial lake of Evinos to the RBD EL06.

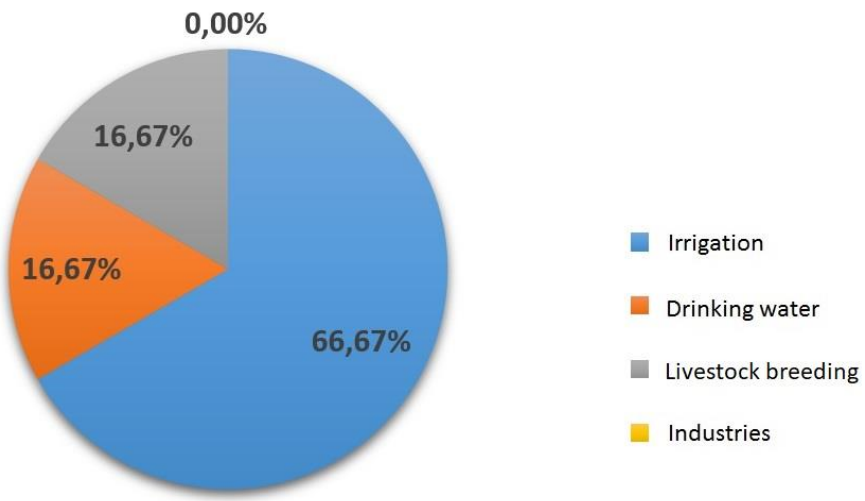
The distribution of the various uses of the water abstractions that made at Evinos RB (EL0420) are presented in the graph below.

Figure 5-4. Total water abstraction in Evinos RB (EL0420)



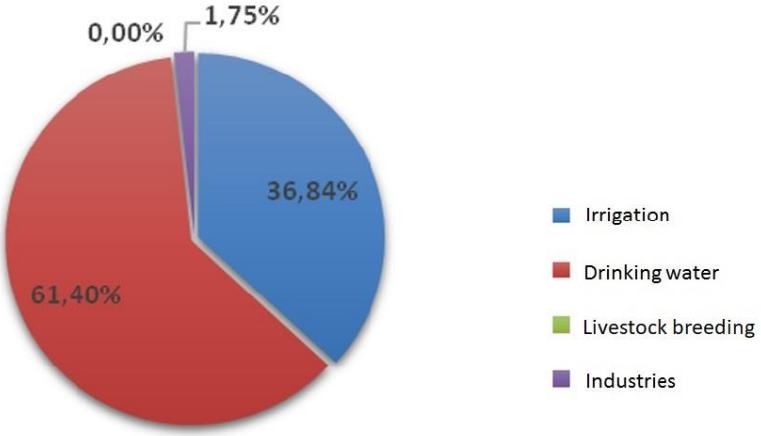
In the Mornos River Basin, total estimated abstractions are 11.4 hm^3. Of these, most of them are for irrigation (7.6 hm^3), a significant proportion larger than RB Acheloos and Evinos, are for drinking water (1.9 hm^3) and especially for livestock breeding (1.9 hm^3), while margins for industry (0.02 hm^3) are eliminated marginally. Estimated abstractions do not include the approximately 440 million m^3 discharged from Texniti limni Mornos to the RBD EL06. The distribution of the various uses of the water abstractions that made at RB Mornos is shown in the graph below.

Figure 5-5. Total water abstraction in Mornos RB (EL0421)



In the River Basin of Lefkada, the total estimated abstractions are 5.7 hm^3. Most of them, unlike the other RBs, are destined for drinking water (3.5 hm^3), highlighting the predominantly tourist and urban character of Lefkada, which is quite important for irrigation (2.1 hm^3) while in RB Lefkada the estimated industrial abstractions (0.1 hm^3) are significantly smaller, while the abstractions for livestock breeding (0.01 hm^3) are marginal. It is noted here that the main part of Lefkada's drinking water abstraction (≈3 hm^3) takes place in the springs of Ag. Georgiou close to P. Louros at RBD Hpeiros (EL05). The distribution of the various uses of the water abstractions that made in RB Lefkada is shown in the graph below.

Figure 5-6. Distribution of abstractions in Lefkadas RB (EL0444).



5.5 OTHER PRESSURES

Other pressures include:

- Runoff from mining and quarries
- Desalination plants
- Ports – Marinas - Navigation
- Groundwater Artificial Recharge
- Groundwater Alteration of water level or volume because of underground activity

Runoff from mining and quarries

In the Western Sterea Ellada RBD, there are 2 quarries in Acheloos RB (EL0415) and 3 mines in Mornos RB (EL0421).

Desalination plants

In the Western Sterea Ellada RBD, there are not any desalination plants.

Ports- Marinas-Navigation

In the Western Sterea Ellada RBD, there is 1 marina and 3 ports in Acheloos RB (EL0415), 1 marina and 1 port in Evinos RB (EL0420), 11 marinas and 2 ports in Mornos RB (EL0421) and 1 port and 8 marinas and 4 ports in Lefkada RB (EL0444).

Groundwater artificial recharge

In the Western Sterea Ellada RBD, there is no artificial recharge project.

The following overexploited GWB, could benefit from artificial recharge projects: Anoixiatikou - Loutrou Amfilochias (EL0400040)

Groundwater Alteration of water level or volume because of underground works

There are no changes in the groundwater level and water quality due to underground works

5.6 TOTAL NUTRIENT LOADS

Figure 5-7. Total nutrient surface loads (BOD, N and P) produced by point, diffuse and other pollution sources in RB (EL0415), (EL0420), (EL0421) and (EL0444)

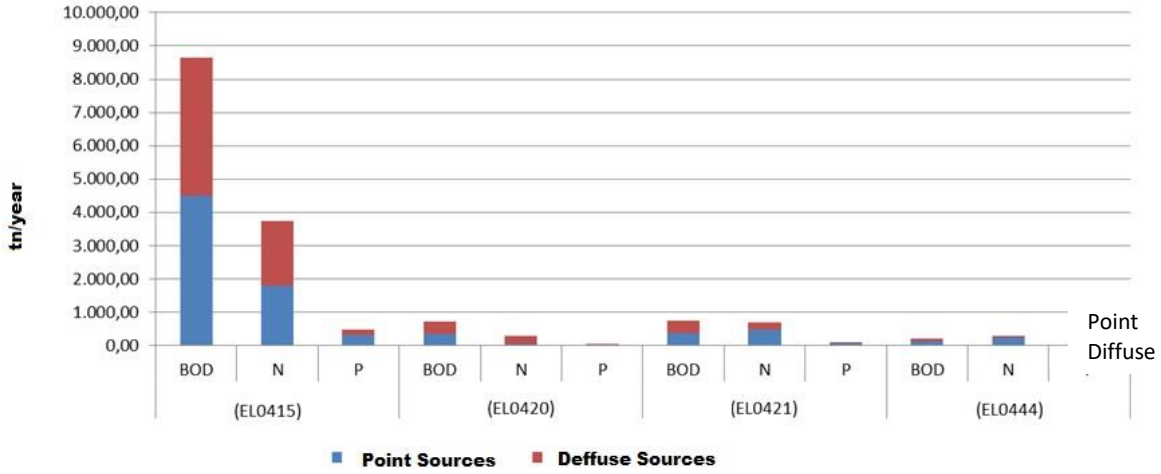


Table 5-13. Total annual nutrient surface loads (BOD, N and P) produced by all sources of pollution in Acheloos RB (EL0415)

POLLUTION SOURCE	BOD (t/y)	N (t/y)	P (t/y)
POINT	4.143,52	1.933,29	143,63
DIFFUSE	4.495,63	1.810,42	324,86
TOTAL	**8.639,15**	**3.743,71**	**468,49**

Table 5-14. Total annual nutrient surface loads (BOD, N and P) produced by all sources of pollution in Evinos RB (EL00420)

POLLUTION SOURCE	BOD (t/y)	N (t/y)	P (t/y)
POINT	390,30	265,84	12,18
DIFFUSE	333,78	35,85	18,78
TOTAL	**724,08**	**301,70**	**30,96**

Table 5-15. Total annual nutrient surface loads (BOD, N and P) produced by all sources of pollution in Mornos RB (EL0421)

POLLUTION SOURCE	BOD (t/y)	N (t/y)	P (t/y)
POINT	371,36	221,15	12,29
DIFFUSE	382,00	465,75	82,15
TOTAL	**753,36**	**686,91**	**94,44**

Table 5-16. Total annual nutrient surface loads (BOD, N and P) produced by all sources of pollution in Lefkada RB (EL00444)

POLLUTION SOURCE	BOD (t/y)	N (t/y)	P (t/y)
POINT	83,68	66,00	3,34
DIFFUSE	127,57	234,89	34,49
TOTAL	**211,25**	**300,89**	**37,83**

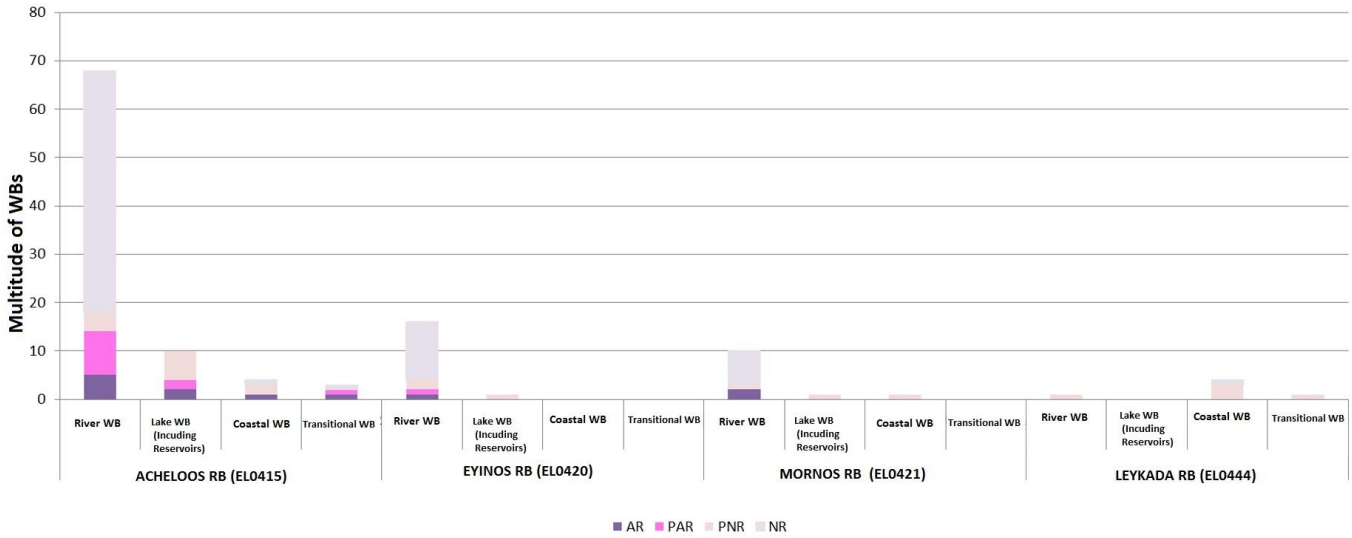
5.7 IMPACTS ASSESSMENT

5.7.1 Impacts assessment on SWB

Pressures Impact assessment and WB designation is based on the likelihood of failing to meet the WFD environmental objectives, taking in consideration the following information:

- The magnitude of pressure from emissions and abstractions : High (H), Middle (M), Low (L)
- Available data and Monitoring program results
- Expert judgement, when no data is available

Figure 5-8. Risk assessment failure to achieve objects of SWB in RB (EL0415), (EL0420), (EL0421) and (EL0444)



Acheloos RB (EL0415)

Table 5-17. Risk assessment of SWB failing to meet the WFD objectives in Acheloos RB (EL0415) – Number of WB

	Risk Assessment Categories								
	NR – Not at Risk		PNR - Probably not at Risk		PAR –Probably At Risk		AR- At Risk		Total
WB Type	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**
River WB	50	73,5%	4	5,9%	9	13,2%	5	7,4%	68
Lake WB	0	0,0%	6	60,0%	2	20,0%	2	20,0%	10
Transitional WB	1	25,0%	2	50,0%		0,0%	1	25,0%	4
Coastal WB	1	33,3%	0	0,0%	1	33,3%	1	33,3%	3
Total	**52**	**61,2%**	**12**	**14,1%**	**12**	**14,1%**	**9**	**10,6%**	**85**

Evinou RB (EL0420)

Table 5-18. Risk assessment of SWB failing to meet the WFD objectives in Evinou RB (EL0420) – Number of WB

	Risk Assessment Categories								
	NR – Not at Risk		PNR - Probably not at Risk		PAR –Probably At Risk		AR- At Risk		Total
WB Type	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**
River WB	12	75,0%	2	12,5%	1	6,3%	1	6,3%	16
Lake WB	0		1	100,0%	0	0,0%	0	0,0%	1
Transitional WB	0		0		0		0		0
Coastal WB	0		0		0		0		0
Total	**12**	**70,6%**	**3**	**17,6%**	**1**	**5,9%**	**1**	**5,9%**	**17**

Mornou RB (EL0421)

Table 5-19. Risk assessment of SWB failing to meet the WFD objectives in Mornou RB (EL0421) – Number of WB

	Risk Assessment Categories								
	NR – Not at Risk		PNR - Probably not at Risk		PAR –Probably At Risk		AR- At Risk		Total
WB Type	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**
River WB	7	70,0%	1	10,0%	0	0,0%	2	20,0%	10
Lake WB	0		1	100,0%	0		0		1
Transitional WB	0		1	100,0%	0		0		1
Coastal WB	0		0		0		0		0
Total	**7**	**58,3%**	**3**	**25,0%**	**0**	**0,0%**	**2**	**16,7%**	**12**

Lefkadas RB (EL0444)

Table 5-20. Risk assessment of SWB failing to meet the WFD objectives in Lefkadas RB (EL0444) – Number of WB

	Risk Assessment Categories								
	NR – Not at Risk		PNR - Probably not at Risk		PAR –Probably At Risk		AR- At Risk		Total
WB Type	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**	**Percentage of WB (%)**	**Number of WB**
River WB	0		1	100,0%	0	0,0%	0	0,0%	1
Lake WB	0		0		0		0		0
Transitional WB	1	25,0%	3	75,0%	0	0,0%	0	0,0%	4
Coastal WB	0		1	100,0%	0	0,0%	0	0,0%	1
Total	**1**	**16,7%**	**5**	**83,3%**	**0**	**0,0%**	**0**	**0,0%**	**6**

5.7.2 Impacts assessment on GWB

Acheloos RB(EL0415)

In Acheloos RB (EL0415) there are 15 GWB which are all in good Quantitative and Chemical status, except the GWB Systima Anoixiatikou - Loutrou Amfilochias which is in bad Quantitative and Chemical status.

Table 5-21. Chemical status and Quantitative status of GWB in Acheloou RB (EL0415)

No	WB CODE	WB NAME	Quantitative status	Decline water levels tendency	Chemical status	Quality problems	Pollutants tendency
1	EL0400010	Systima Monastirakiou	Good	NO	Good	NO	NO
2	EL0400020	Systima Akarnanikon oreon	Good	NO	Good	Presence of NO_3 due to agricultural activities. Natural loading of Cl	-
3	EL0400030	Systima Kandilas	Good	YES	Good	Presence of NO_3 due to agricultural activities. Natural loading of Cl. Local Exceedances of Fe trace elements	Locally
4	EL0400040	Systima Anoixiatikou - Loutrou Amfilochias	Bad	YES	Bad	Extended pollution (Cl) from sea infiltration due to water over-pumping. Local Exceedances of Fe and Mn trace elements	Locally
5	EL0400050	Systima Katounas-lesiniou	Good	NO	Good	Natural surcharge of SO_4.	NO
6	EL0400060	Systima Agriniou	Good	NO	Good	Presence of NO_3 due to agricultural activities. Local Exceedances of Fe and Mn trace elements	Locally
7	EL0400070	Systima Arakynthou	Good	NO	Good	Natural surcharge of Cl to the south part	NO
8	EL0400080	Systima Delta Acheloou-oiniadon	Good	NO	Good	Natural surcharge of SO_4. Local Exceedances of NO_3	NO
9	EL0400130	Systima Olonou-pindou	Good	NO	Good	NO	NO
10	EL0400140	Systima Amfilochias	Good	NO	Good	Natural surcharge of Cl and SO_4.	NO
11	EL0400150	Systima Valtou Empesou	Good	NO	Good	NO	NO
12	EL0400180	Systima Vonitsas – Voulkaria	Good	NO	Good	Natural surcharge of Cl	NO
14	EL0400190	Systima ydroforion lekanis Acheloou	Good	NO	Good	NO	NO
14	EL0400200	Systima ydroforion anatolikou tmimatos lekanis Acheloou	Good	NO	Good	NO	NO
15	EL0400250	Systima ydroforion kato rou Acheloou	Good	NO	Good	Local Natural surcharge of Cl and SO_4. Local Exceedances of Fe trace elements	NO

Evinou RB (EL0420)

In Evinoy RB (EL0420) there are 4 GWB which are all in good Quantitative and Chemical status.

Table 5-22. Chemical status and Quantitative status of GWB of RB Evinou (EL0420)

No	WB CODE	WB NAME	Quantitative status	Decline water levels tendency	Chemical status	Quality problems	Pollutants tendency
1	EL0400090	Systima Mesolongiou-evinou	Good	NO	Good	Presence of NO_3 due to agricultural activities and Cl due to sanitation. Local Exceedances of Fe and Mn trace elements	-
2	EL0400210	Systima ydroforion ano rou lekanis Evinou	Good	NO	Good	NO	NO
3	EL0400230	Systima ydroforion Antirriou	Good	NO	Good	NO	NO
4	EL0400240	Systima ydroforion kato rou lekanis Evinou	Good	NO	Good	NO	NO

Mornou RB (EL0421)

In Mornou RB (EL0421) there are 4 GWB which are all in good Quantitative and Chemical status.

Table 5-23. Chemical status and Quantitative status of GWB of RB Mornou (EL0421)

No	WB CODE	WB NAME	Quantitative status	Decline water levels tendency	Chemical status	Quality problems	Pollutants tendency
1	EL0400100	Systima Mornou	Good	NO	Good	NO	NO
2	EL0400110	Systima Vardousion	Good	NO	Good	NO	NO
3	EL0400120	Systima ydroforion Erateinis - Tolofona	Good	NO	Good	Local Natural surcharge of Cl and SO_4 within the coastal zone	NO
4	EL0400220	Systima ydroforion lekanis ano rou Mornou	Good	NO	Good	NO	NO

Lefkadas RB (EL0444)

In Lefkadas RB (EL0444) there are 3 GWB which are all in good Quantitative and Chemical status, except the GWB Systima Vasilikis – Nydriou - Lefkadas which is in bad Quantitative status.

Table 5-24. Chemical status and Quantitative status of GWB of RB Lefkadas (EL0444)

No	WB CODE	WB NAME	Quantitative status	Decline water levels tendency	Chemical status	Quality problems	Pollutants tendency
1	EL0400160	Systima Lefkadas	Good	NO	Good	Local Natural surcharge of Cl	NO
2	EL0400170	Systima Vasilikis – Nydriou - Lefkadas	Bad	YES	Good	Local Natural surcharge of Cl and SO_4	Locally
3	EL0400260	Systima Meganisiou - Kastou - Kalamou	Good	NO	Good	Local Natural surcharge of Cl	NO

6 STATUS OF WATER BODIES

6.1 SWB STATUS

Table 6-1. Status of River WBs and evolution from the 1st RBMP

WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
RB ACHELOOS (EL0415)					
EL0415R000000008N	PLATANIAS R.	Good	Moderate	Good	Good
EL0415R000101001N	AGRILIAS R.	Good	Moderate	Unknown	Good
EL0415R000200003H	ACHELOOS P.2	Moderate	Moderate	Failing to achieve Good	Good
EL0415R000200004H	ACHELOOS P.3	Unknown	Unknown	Unknown	Good
EL0415R000200009H	ACHELOOS P.4	Unknown	Moderate	Unknown	Good
EL0415R000200011H	ACHELOOS P.5	Unknown	Poor	Unknown	Good
EL0415R000200044N	ACHELOOS P.7	Good	High	Good	Good
EL0415R000202005H	DIMIKOS P.	Unknown	Moderate	Good	Good
EL0415R000202007H	ENOTIKI TAFROS	Unknown	Moderate	Failing to achieve Good	Good
EL0415R000202106N	ERMITSAS R.	Good	Poor	Unknown	Good
EL0415R000204010H	TAFROS YPERCHEILISIS OZEROY	Unknown	Moderate	Unknown	Good
EL0415R000206012N	ZERVAS R.	Good	Moderate	Unknown	Unknown
EL0415R000210218N	KARPENISIOTIS R.2	Moderate	Poor	Good	Good
EL0415R000212029N	TAYROPOS P.2	Good	High	Good	Good
EL0415R000212731N	KARITSIOTIS R.	Moderate	Good	Good	Good
EL0415R000212832N	MEGALO P.	Moderate	Good	Good	Good
EL0415R000216034N	AGRAFIOTIS P.1	Good	Moderate	Good	Good
EL0415R000216035N	AGRAFIOTIS P.2	Good	High	Good	Good
EL0415R000224041N	ACHELOOS P. - PARAPOTAMOS PLATANIAS R.1	Good	Good	Unknown	Good
EL0415R000228045N	KOYMPOYRGIANITIKO R.1	Moderate	Good	Good	Good
EL0415R000301063N	TAFROS VALTI	Good	Good	Unknown	Good
EL0415R000501064N	XIROPOTAMOS R.	Good	Moderate	Unknown	Good
EL0415R000901066N	VOYTOYMIAS R.	Good	Poor	Unknown	Good
EL0415R001101067N	NISSIS R.	Good	Good	Unknown	Good
EL0415R001301068N	AMFILOCHIAS R.	Good	Good	Unknown	Good
RB EVINOS (E04L20)					
EL0420R000200070N	EYINOS P.2	Moderate	High	Unknown	Unknown
EL0420R000301093N	LOGGIES R.	Good	Moderate	Good	Good
EL0420R000501094N	KATO VASILIKIS R.	Good	Good	Unknown	Good
RB MORNOS (EL0421)					
EL0421R000101083N	ERATEINIS R.	Good	Good	Unknown	Good

WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
EL0421R000200085H	MORNOS P.2	Good	Moderate	Good	Good
EL0421R000201084N	MORNOS P.1	Good	Moderate	Unknown	Good
RB LEFKADAS (EL0444)					
EL0444R000101095N	KAROYCHAS P.	Good	Good	Unknown	Good

Table 6-2. Status of Lake and Reservoir WBs and evolution from the 1st RBMP

WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
RB ACHELOOS (EL0415)					
EL0415RL00200004H	TECHNITI LIMNI STRATOY	Unknown	Good	Failing to achieve Good	Good
EL0415RL00212001H	TECHNITI LIMNI TAYROPOY	Moderate	Good	Failing to achieve Good	Good
EL0415L000000004N	LIMNI TRICHONIDA	Moderate	Good	Good	Good
EL0415L000000005H	LIMNI LYSIMACHIA	Unknown	Moderate	Unknown	Good
EL0415L000000008N	LIMNI AMVRAKIA	Moderate	Good	Good	Good
EL0415L000000009N	LIMNI VOYLKARIA	Unknown	Bad	Unknown	Good
EL0415L000000010N	LIMNI SALTINI	Unknown	Moderate	Unknown	Good

Table 6-3. Status of Transitional WB and evolution from the 1st RBMP

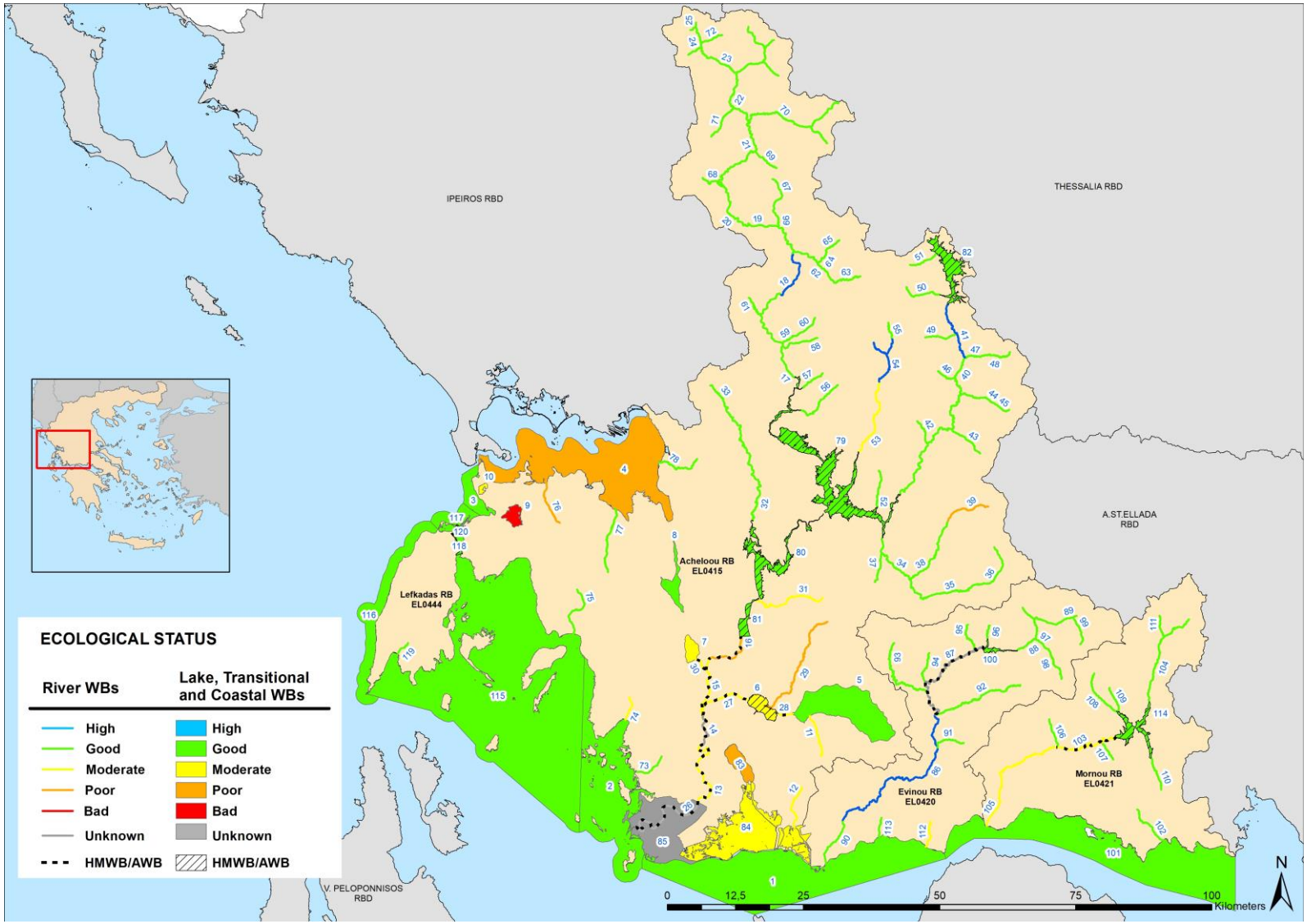
WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
RB ACHELOOS (EL0415)					
EL0415T0001N	LIMNOTHALASSA AITOLIKOY	Poor	Poor	Unknown	Good
EL0415T0002N	LIMNOTHALASSA MESOLOGGIOY (KENTRIKI, KLEISOVA)	Moderate	Moderate	Unknown	Good
EL0415T0003N	EKVOLES ACHELOOY	Moderate	Unknown	Unknown	Unknown
RB LEFKADAS (EL0444)					

WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
EL0444T0004N	LIMNOTHALASSA STENON (LEYKADAS)	Moderate	Good	Unknown	Good

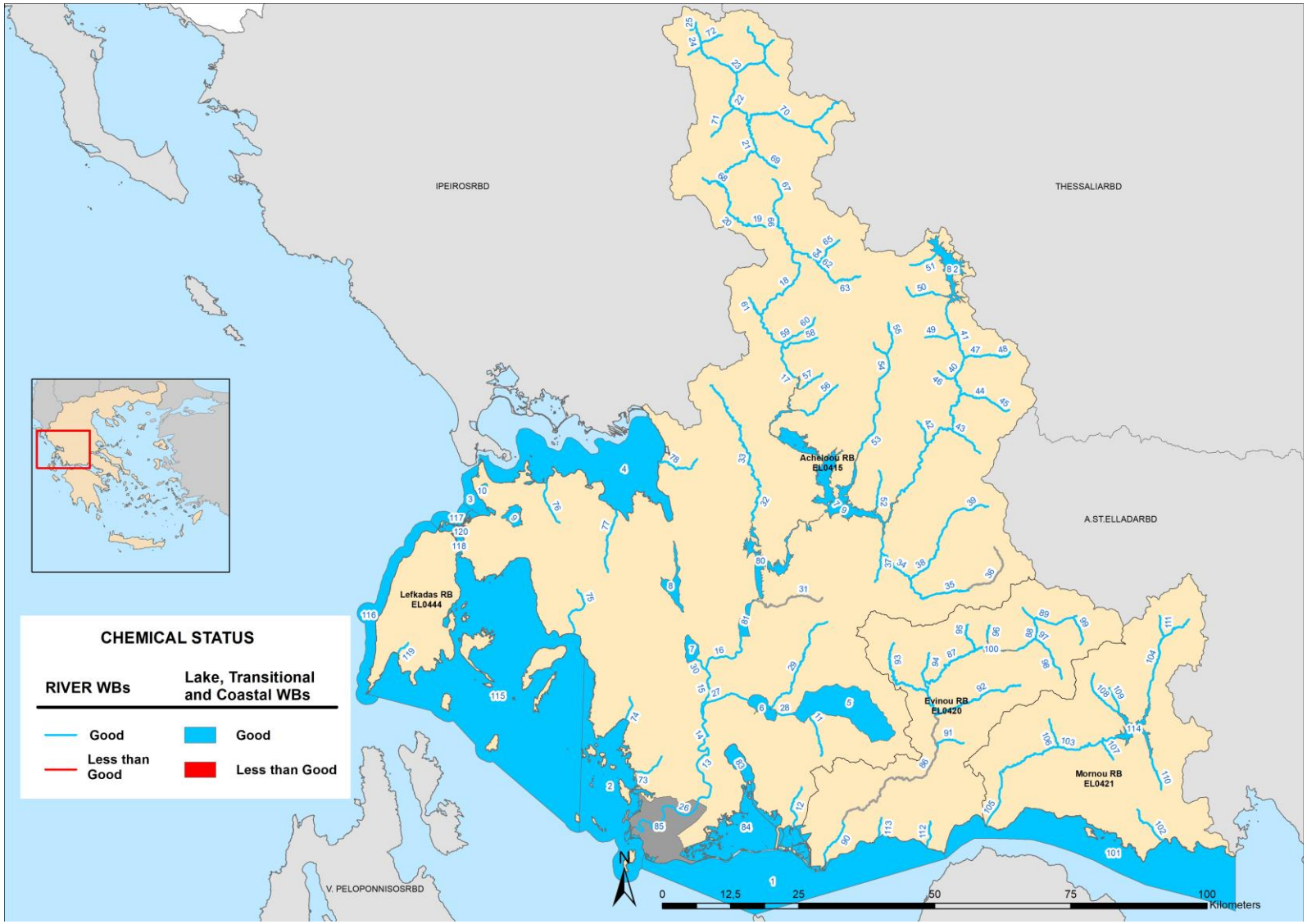
Table 6-4. Status of Coastal WB and evolution from the 1st RBMP

WB Code	WB Name	Ecological Status or Potential		Chemical Status	
		1st RBMP	1st Update of RBMP	1st RBMP	1st Update of RBMP
RB ACHELOOS (EL0415)					
EL0415C0002N	THALASSA MESOLOGGIOY	Moderate	Good	Unknown	Good
EL0415C0003N	ANAT. ESOTERIKO ARCHIPELAGOS IONIOY (ECHINADES)	Good	Good	Unknown	Good
EL0415C0008N	ORMOS DERMATA	High	Good	Unknown	Good
EL0415C0009N	NOTIOS AMVRAKIKOS KOLPOS	Moderate	Poor	Unknown	Good
RB MORNOS (EL0421)					
EL0421C0001N	KORINTHIAKOS KOLPOS - AKTES AITOLOAKARNANIAS	Good	Good	Unknown	Good
RB LEFKADAS (EL0444)					
EL0444C0004N	DYT. ESOTERIKO ARCHIPELAGOS IONIOY (ECHINADES) KAI ORMOS VASILIKIS	Good	Good	Unknown	Good
EL0444C0005N	DYT. AKTES LEYKADAS	High	Good	Unknown	Good
EL0444C0006N	ORMOS LEYKADAS	High	Good	Unknown	Good
EL0444C0007H	STENA LEYKADAS	Good	Good	Unknown	Good

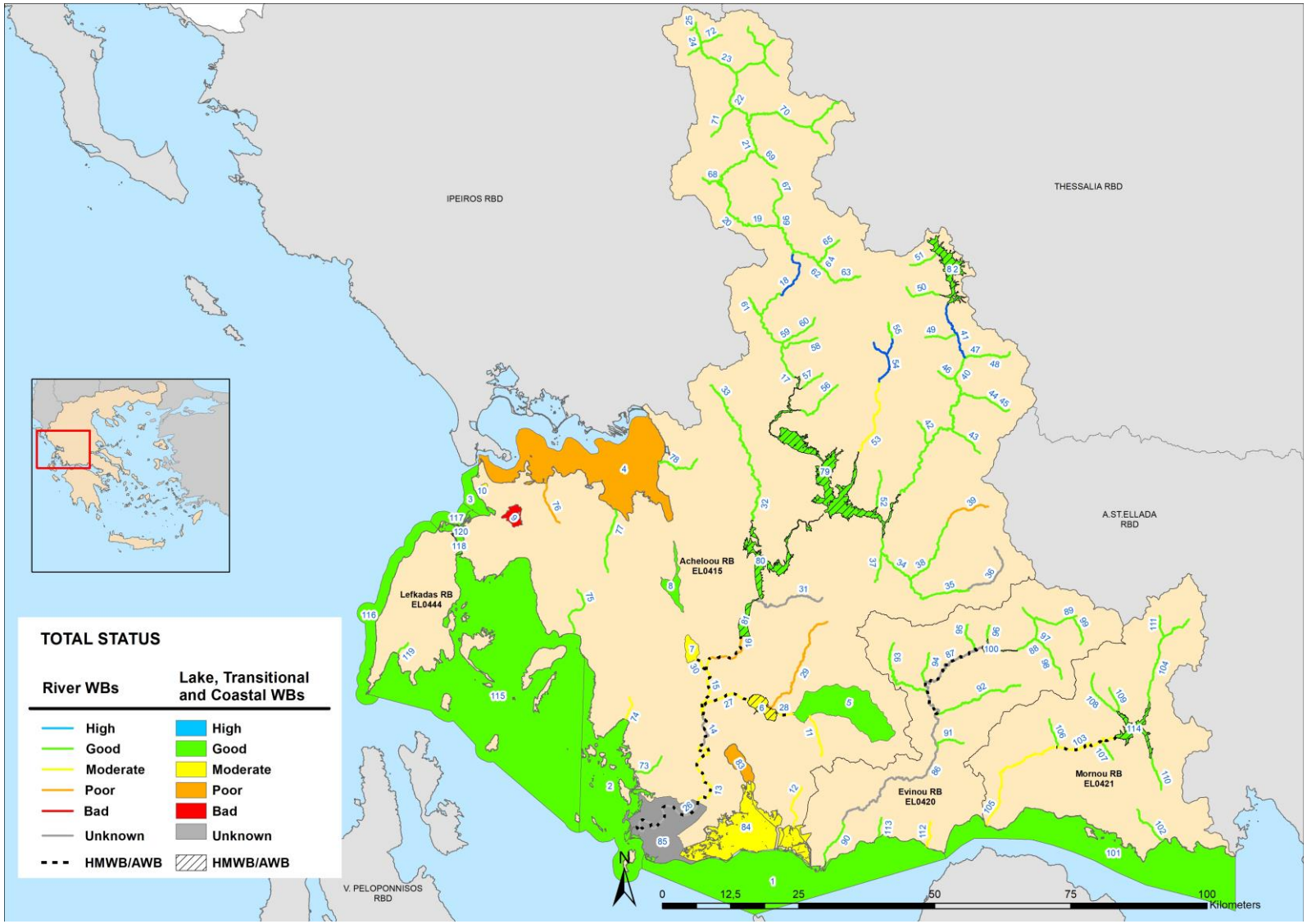
Map 6. Ecological status of SWB in RBD EL04



Map 7. Chemical status of SWB in RBD EL04



Map 8. Total status of SWB in RBD EL04



Legend

Map Index	WB Code	WB Name	Map Index	WB Code	WB Name	Map Index	WB Code	WB Name
1	EL0415C0002N	Thalassa Mesolongiou	**41**	EL0415R000212029N	TAVROPOS P. 2	**81**	EL0415RL00200004H	TECHNITI LIMNI STRATOU
2	EL0415C0003N	Anat. Esoteriko archipelagos Ioniou (Echinades)	**42**	EL0415R000212122N	GAVRENITIS	**82**	EL0415RL00212001H	TECHNITI LIMNI TAVROPOU
3	EL0415C0008N	Ormos Dermata	**43**	EL0415R000212223N	AGIOTRIADITIKO R.	**83**	EL0415T0001N	Limnothalassa Aitolikou
4	EL0415C0009N	Notios Amvrakikos kolpos	**44**	EL0415R000212324N	TAVROPOS P. - PARAPOTAMOS MEGA R. 1	**84**	EL0415T0002N	Limnothalassa Mesolongiou (Kentriki, Kleisova)
5	EL0415L000000004N	LIMNI TRICHONIDA	**45**	EL0415R000212325N	TAVROPOS P. - PARAPOTAMOS MEGA R. 2	**85**	EL0415T0003N	Ekvoles Acheloou
6	EL0415L000000005H	LIMNI LYSIMACHIA	**46**	EL0415R000212426N	KAROUCHAS R.	**86**	EL0420R000200070N	EVINOS P. 2
7	EL0415L000000006N	LIMNI OZEROS	**47**	EL0415R000212527N	SARANTAPOROU R. 1	**87**	EL0420R000200073H	EVINOS P. 3
8	EL0415L000000008N	LIMNI AMVRAKIA	**48**	EL0415R000212528N	SARANTAPOROU R. 2	**88**	EL0420R000200078N	EVINOS P. 4
9	EL0415L000000009N	LIMNI VOULKARIA	**49**	EL0415R000212630N	ASPROS R.	**89**	EL0420R000200081N	EVINOS P. 5
10	EL0415L000000010N	LIMNI SALTINI	**50**	EL0415R000212731N	KARITSIOTIS R.	**90**	EL0420R000201069N	EVINOS P. 1
11	EL0415R000000008N	PLATANIAS R.	**51**	EL0415R000212832N	MEGALO P.	**91**	EL0420R000202071N	PORIARIS R.
12	EL0415R000101001N	AGRILIAS R.	**52**	EL0415R000214033N	FRANGISTANOREMMA	**92**	EL0420R000204072N	KOTSALOS R.
13	EL0415R000200003H	ACHELOOS P. 2	**53**	EL0415R000216034N	AGRAFIOTIS P. 1	**93**	EL0420R000206074N	CHALIKIOTIKO R.
14	EL0415R000200004H	ACHELOOS P. 3	**54**	EL0415R000216035N	AGRAFIOTIS P. 2	**94**	EL0420R000208075N	GIDRMANDITIS R.
15	EL0415R000200009H	ACHELOOS P. 4	**55**	EL0415R000216036N	AGRAFIOTIS P. 3	**95**	EL0420R000210076N	DIPLATANOU R.
16	EL0415R000200011H	ACHELOOS P. 5	**56**	EL0415R000218037N	GRANITSIOTIS R.	**96**	EL0420R000212077N	KLINOVITIS R.
17	EL0415R000200039N	ACHELOOS P. 6	**57**	EL0415R000220038N	LEPIANITIS R.	**97**	EL0420R000214079N	EVINOS P. - PARAPOTAMOS KERASORREMA 1
18	EL0415R000200044N	ACHELOOS P. 7	**58**	EL0415R000222040N	PRASIAS R.	**98**	EL0420R000214080N	EVINOS P. - PARAPOTAMOS KERASORREMA 2
19	EL0415R000200049N	ACHELOOS P. 8	**59**	EL0415R000224041N	ACHELOOS P. - PARAPOTAMOS PLATANIAS R. 1	**99**	EL0420R000216082N	KALOGERIKO R.
20	EL0415R000200052N	ACHELOOS P. 9	**60**	EL0415R000224042N	ACHELOOS P. - PARAPOTAMOS PLATANIAS R. 2	**100**	EL0420RL00200005H	TECHNITI LIMNI EVINOU

Map Index	WB Code	WB Name	Map Index	WB Code	WB Name	Map Index	WB Code	WB Name
21	EL0415R000200054N	ACHELOOS P. 10	**61**	EL0415R000226043N	VATANIADA R.	**101**	EL0421C0001N	Korinthiakos kolpos - Aktes Aitoloakarnanias
22	EL0415R000200058N	ACHELOOS P. 11	**62**	EL0415R000228045N	KOUMPOURGIANITIKO R. 1	**102**	EL0421R000101083N	ERATEINIS R.
23	EL0415R000200059N	ACHELOOS P. 12	**63**	EL0415R000228048N	KOUMPOURGIANITIKO R. 2	**103**	EL0421R000200085H	MORNOS P. 2
24	EL0415R000200060N	ACHELOOS P. 13	**64**	EL0415R000228146N	KOUMPOURGIANITIKO R. - PARAPOTAMOS PLATANIAS R. 1	**104**	EL0421R000200091N	MORNOS P. 3
25	EL0415R000200062N	ACHELOOS P. 14	**65**	EL0415R000228147N	KOUMPOURGIANITIKO R. - PARAPOTAMOS PLATANIAS R. 2	**105**	EL0421R000201084N	MORNOS P. 1
26	EL0415R000201002H	ACHELOOS P. 1	**66**	EL0415R000230050N	ARENTAS R. 1	**106**	EL0421R000202086N	LIMNITSIANO R.
27	EL0415R000202005H	DIMIKOS P.	**67**	EL0415R000230051N	ARENTAS R. 2	**107**	EL0421R000204087N	MORNOS P. - PARAPOTAMOS KERASORREMA
28	EL0415R000202007H	ENOTIKI TAFROS	**68**	EL0415R000232053N	GKOURA R.	**108**	EL0421R000206088N	KOKKINOS R.
29	EL0415R000202106N	ERMITSAS R.	**69**	EL0415R000234055N	VATHYRREVMATOS R.	**109**	EL0421R000208089N	GRANITSORREMA
30	EL0415R000204010H	TAFROS YPERCHEILISIS OZEROU	**70**	EL0415R000236056N	KAMNAITIKO P.	**110**	EL0421R000210090N	MPELESITSA R.
31	EL0415R000206012N	ZERVAS R.	**71**	EL0415R000238057N	MOYTSARITIKO R.	**111**	EL0421R000212092N	MORNOS P. - PARAPOTAMOS MEGA R.
32	EL0415R000208013N	INACHOS P. 1	**72**	EL0415R000240061N	LEPENITSIS R.	**112**	EL0420R000301093N	LONGIES R.
33	EL0415R000208014N	INACHOS P. 2	**73**	EL0415R000301063N	TAFROS VALTI	**113**	EL0420R000501094N	KATO VASILIKIS R.
34	EL0415R000210015N	KRIKELIOTIS R. 1	**74**	EL0415R000501064N	XIROPOTAMOS R.	**114**	EL0421RL00200006H	TECHNITI LIMNI MORNOU
35	EL0415R000210019N	KRIKELIOTIS R. 2	**75**	EL0415R000701065N	MYTIKA R.	**115**	EL0444C0004N	Dyt. Esoteriko archipelagos Ioniou (Echinades) kai Ormos Vasilikis
36	EL0415R000210020N	KRIKELIOTIS R. 3	**76**	EL0415R000901066N	VOUTOUMIAS R.	**116**	EL0444C0005N	Dyt. Aktes Lefkadas
37	EL0415R000210116N	KORIKISTIANO R.	**77**	EL0415R001101067N	NISSIS R.	**117**	EL0444C0006N	Ormos Lefkadas
38	EL0415R000210217N	KARPENISIOTIS R. 1	**78**	EL0415R001301068N	AMFILOCHIAS R.	**118**	EL0444C0007H	Stena Lefkadas
39	EL0415R000210218N	KARPENISIOTIS R. 2	**79**	EL0415RL00200002H	TECHNITI LIMNI KREMASTON	**119**	EL0444R000101095N	KAROUCHAS P.
40	EL0415R000212021N	TAVROPOS P. 1	**80**	EL0415RL00200003H	TECHNITI LIMNI KASTRAKIOU	**120**	EL0444T0004N	Limnothalassa Stenon (Lefkadas)

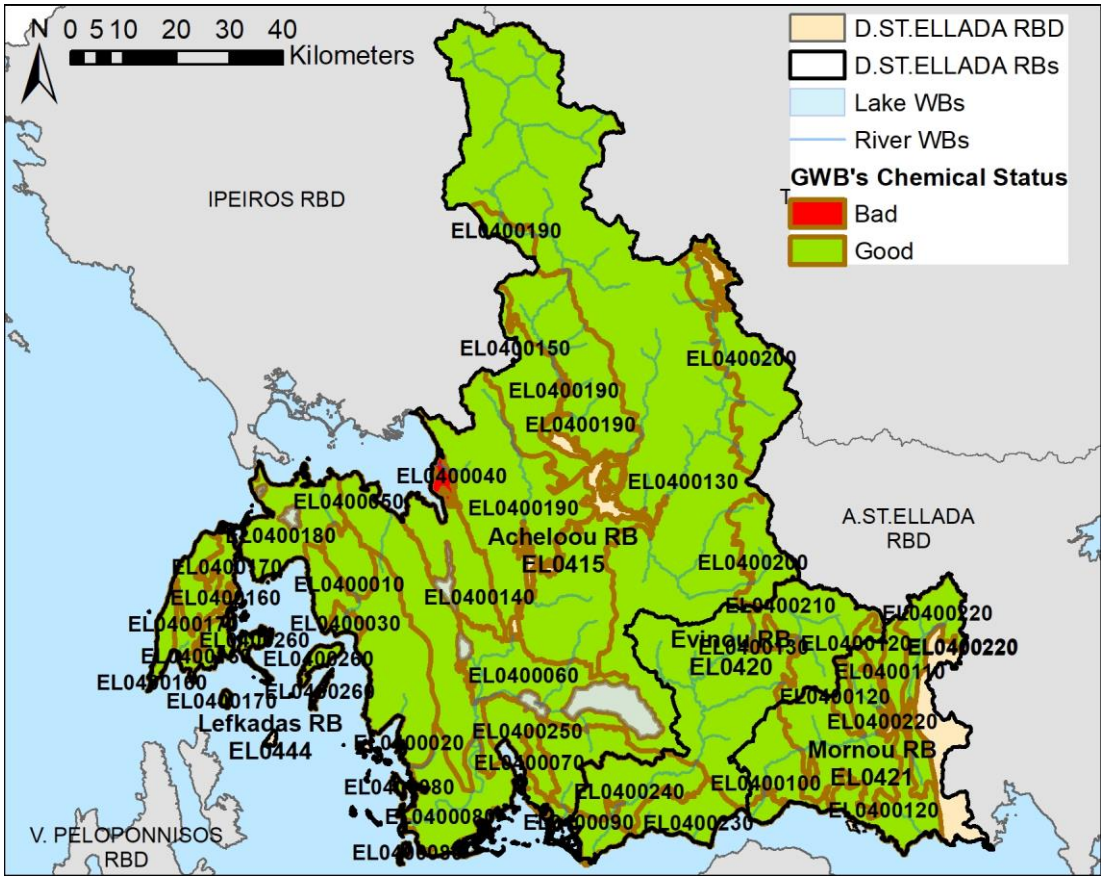
6.2 GWB STATUS

Table 6-5. Status of GWB and evolution from the 1st RBMP

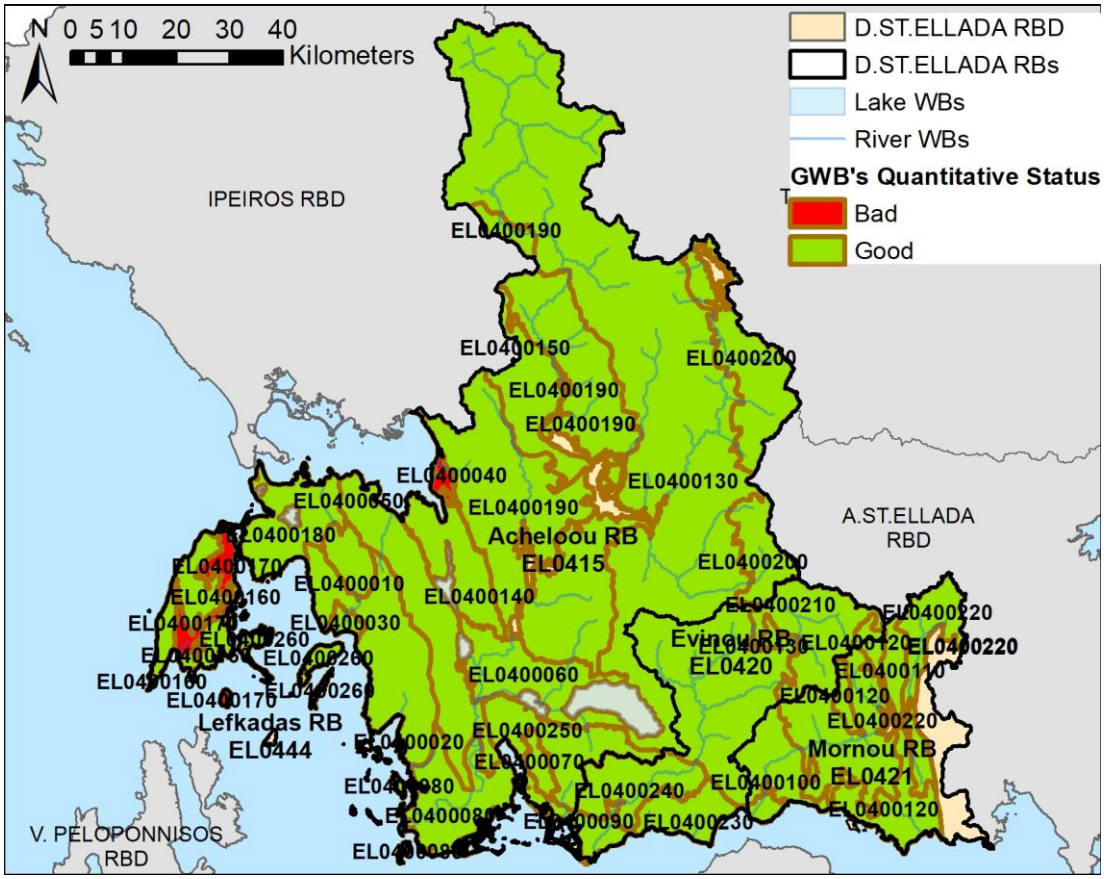
WB Code	WB Name	1st RBMP		1st Update of RBMP	
		Chemical status	Quantitative status	Chemical status	Quantitative status
Acheloos RB (EL0415)					
EL0400010	Systima Monastirakiou	Good	Good	Good	Good
EL0400020	Systima Akarnanikon oreon	Good	Good	Good	Good
EL0400030	Systima Kandilas	Good	Good	Good	Good
EL0400040	Systima Anoixiatikou - Loutrou Amfilochias	Bad	Bad	Bad	Bad
EL0400050	Systima Katounas-lesiniou	Good	Good	Good	Good
EL0400060	Systima Agriniou	Good	Good	Good	Good
EL0400070	Systima Arakynthou	Good	Good	Good	Good
EL0400080	Systima Delta Acheloou-oiniadon	Good	Good	Good	Good
EL0400130	Systima Olonou-pindou	Good	Good	Good	Good
EL0400140	Systima Amfilochias	Good	Good	Good	Good
EL0400150	Systima Valtou Empesou	Good	Good	Good	Good
EL0400180	Systima Vonitsas – Voulkaria	Good	Good	Good	Good
EL0400190	Systima ydroforion lekanis Acheloou	Good	Good	Good	Good
EL0400200	Systima ydroforion anatolikou tmimatos lekanis Acheloou	Good	Good	Good	Good
EL0400250	Systima ydroforion kato rou Acheloou	Good	Good	Good	Good
Mornou RB (EL0421)					
EL0400100	Systima Mornou	Good	Good	Good	Good
EL0400110	Systima Vardousion	Good	Good	Good	Good
EL0400120	Systima ydroforion Erateinis - Tolofona	Good	Good	Good	Good
EL0400220	Systima ydroforion lekanis ano rou Mornou	Good	Good	Good	Good
Evinou RB EL0420)					
EL0400090	Systima Mesolongiou-evinou	Good	Good	Good	Good
EL0400210	Systima ydroforion ano rou lekanis Evinou	Good	Good	Good	Good
EL0400230	Systima ydroforion Antirriou	Good	Good	Good	Good
EL0400240	Systima ydroforion kato rou lekanis Evinou	Good	Good	Good	Good
Lefkadas RB (EL0444)					
EL0400160	Systima Lefkadas	Good	Good	Good	Good

WB Code	WB Name	1st RBMP		1st Update of RBMP	
		Chemical status	Quantitative status	Chemical status	Quantitative status
EL0400170	Systima Vasilikis – Nydriou - Lefkadas	Good	Bad	Good	Bad
EL0400260	Systima Meganisiou - Kastou - Kalamou	Good	Good	Good	Good

Map 9. Chemical status of GWB in RBD EL04



Map 10. Quantitative status of GWB in RBD EL04



7 ECONOMIC ANALYSIS

7.1 WATER SERVICES FINANCIAL COST

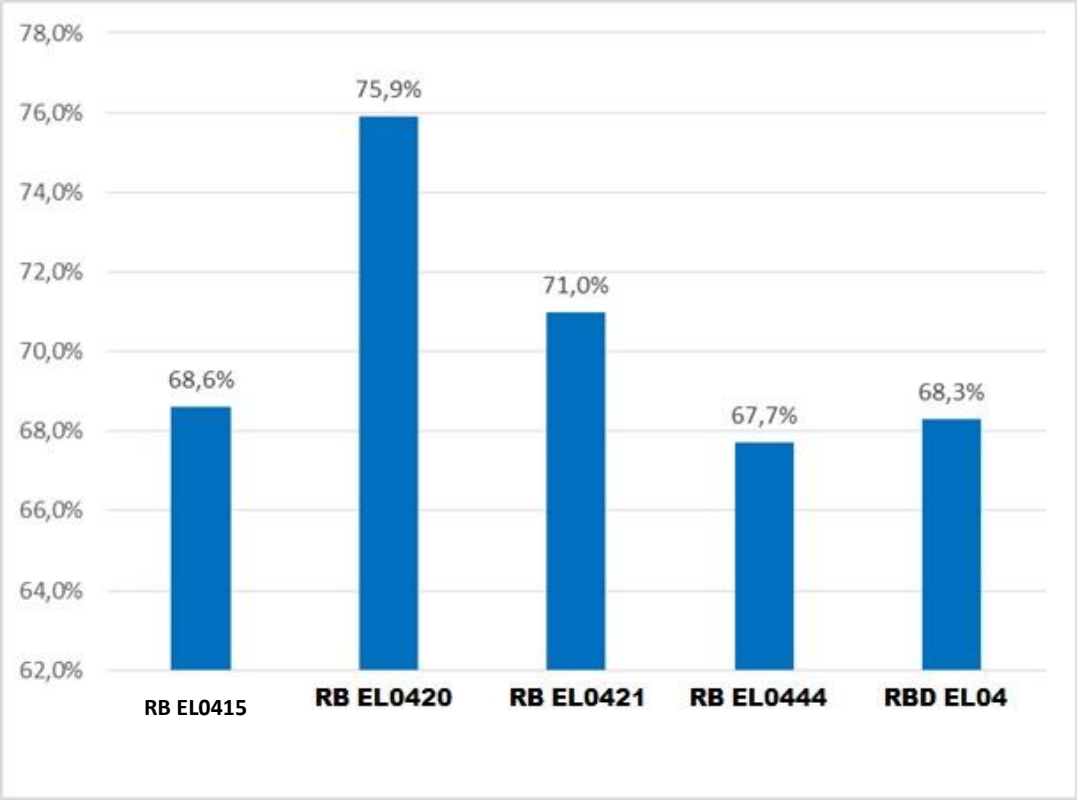
7.1.1 Drinking water supply, sewage collection and wastewater treatment

The total financial cost of drinking water supply, sewage collection and wastewater treatment in Western Sterea Ellada RBD (EL04) is 32,8 M €. Cost recovery is 68,3% (revenues 22,4 M € - 32,8 M € expenses).

Table 7-1. Financial Cost Recovery for Water Supply

RB	Total financial cost (€)	Average financial unity cost (€/m³)	Total Revenues (€)	Average unit revenues (€/m³)	Financial Cost Recovery
RB ACHELOOS (EL0415)[1]	27.128.285	1,2811	18.611.224	0,8789	68,6%
RB EYINOS (EL0420)	4.799.300	1,2558	3.642.042	0,9530	75,9%
RB MORNOS (EL0421)	2.642.922	1,2385	1.875.665	0,8790	71,0%
RB LEYKADAS (EL0444)	3.283.999	1,2350	2.223.430	0,8362	67,7%
Total RBD (EL04)	**32.800.395**	**1,2309**	**22.402.874**	**0,8407**	**68,3%**

Figure 7-1. Financial Cost Recovery for Water Supply



7.1.2 Irrigation

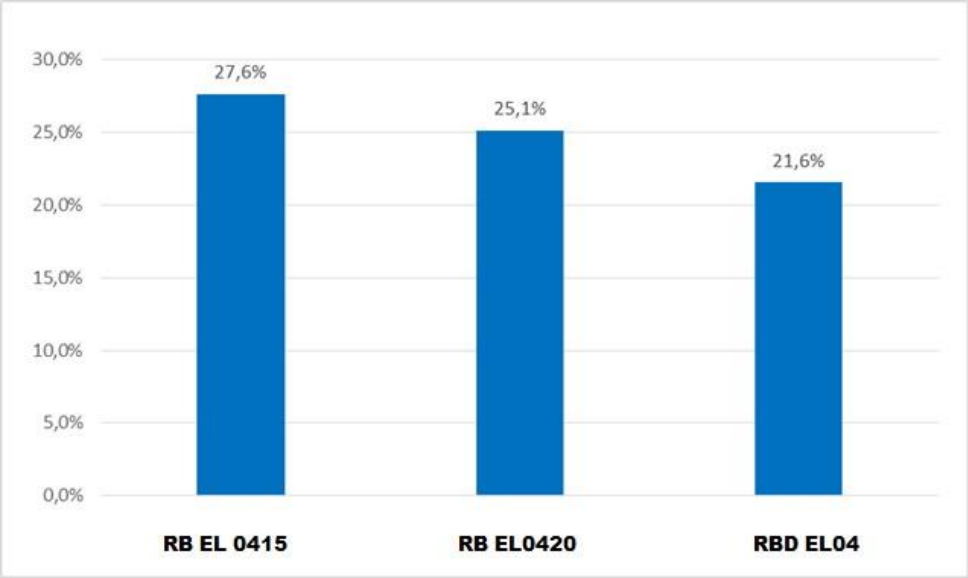
The total financial cost for Irrigation services in Western Sterea Ellada RBD (EL04) is 157 M €. Cost recovery is 21,6 % (revenues 4,1 M € - 15,7 M € expenses).

1 In the estimation of the values per RB, in the RB of Acheloos (EL0415), the values of the MEWSS Karditsa are also taken into account, which although it spatially located in the Pinios RB (EL0816) of the RBD of Thessaly (EL08), supplies water from RB Acheloos

Table 7-2. Financial Cost Recovery for Irrigation services

RB	Total financial cost (€)	Average financial unity cost (€/m3)	Total Revenues (€)	Average unit revenues (€/m3)	Financial Cost Recovery
RB ACHELOOY (EL0415)[2]	16.485.468	0,0514	4.556.593	0,0142	27,6%
RB EYINOY (EL0420)	1.757.974	0,05248	441.923	0,01319	25,1%
RB MORNOY (EL0421)					
RB LEYKADAS (EL0444)[3]					
Total EL04	**15.674.999**	**0,05407**	**4.136.546**	**0,01167**	**21,6%**

Figure 7-2. Financial Cost Recovery for Irrigation services



7.2 ENVIRONMENTAL COST AND RESOURCE COST

7.2.1 Environmental Cost

The annual Environmental Cost in the RBD is 2,2 M €. and it concerns 100% Acheloos RB (EL00415). The Average Environmental Cost in the RBD is 0,0045 €/m^3.

Table 7-3. Annual Environmental Cost

RB	Annual Environmental Cost (€)	Average Environmental Cost (€/m^3)
Acheloou (EL0415)	2.166.428,40	0,0012
Lefkadas (EL0444)	8.572	0,0015
Mornou (EL0421)	25.000	0,0022
Total RBD (EL04)	2.200.000,40	0,0046

2 In the estimation of the values per RB, LOLR TAVROPOU and MOSHATOU-MESENIKOLA-MORFOVOUNIOU were also taken into consideration in LEP Acheloos (EL0415) which, even though they are spatially located in the Pineios RB (EL0816) of the RBD of Thessaly (EL08), are supplied with water from the RB of Acheloos (EL0415).
3 In Lefkada RB (EL0444), organized collective networks (LOLR, GOLR) do not operate in order to supply water for agricultural use. Only private drillings or small collective networks are procured from RB, that covers the 100% of the capital cost, thus no financial costs and revenue for RB Lefkada (EL0444) are calculated.

The Table below shows the Environmental cost per water use per RB.

Table 7-4. Environmental Costs per Water Uses in the RBs of the Western Sterea Ellada RBD (EL04)

Environmental cost	Households	Agriculture	livestock breeding	Industry	Total
RB ACHELOOS (EL0415)					
Total cost for all years of PoM implementation (€) (2018-2021, 4 years)	18.329,36	1.946.496,68	165.295,98	68,16	2.166.428,40
Annual cost per service (€)	4.582,34	486.624,17	41.324	9.076,60	541.607,10
Percentage (%)	0,846%	89,848%	7,63%	1,676%	100%
Average Cost (€/m³)	**0,00017**	**0,0011**	**0,0067**	**0,00567**	**0,0012**
RB MORNOS (EL0421)					
Total cost for all years of PoM implementation (€) (2018-2021, 4 years)	-	-	24.739,58	260,42	25.000
Annual cost per service (€)	-	-	6.184,90	65,10	6.250
Percentage (%)	0%	0%	98,96%	1,04%	100%
Average Cost (€/m³)	**-**	**-**	**0,0033**	**0,00326**	**0,0005**
RB LEFKADOS (EL0444)					
Total cost for all years of PoM implementation (€) (2018-2021, 4 years)	8.572	-	-	-	8.572
Annual cost per service (€)	2.143	-	-	-	2.143
Percentage (%)	100%	0%	0%	0%	100%
Average Cost (€/m³)	**0,0006**	**-**	**-**	**-**	**0,0006**

At RB of Acheloos, 89,848% of the total environmental costs are for agriculture and 0,846% for household use, which includes drinking water supply and sewerage. At RB Mornos, 98,96% of the environmental cost is related to livestock breeding, while the remaining 1,04% is for industry. Finally, in RB Lefkada the 100% of environmental cost is for domestic use.

7.2.2 Resource cost

The annual Resource Cost in the RBD is 50 M €. and it concerns 100% Lefkadas RB (EL0444). The Average Resource Cost in the RBD is 0,004 €/m³.

Table 7-5. Annual Resource Cost

RB	Annual Resource Cost (€)	Average Resource Cost (€/m³)
Lefkadas (EL0444)	50.000	0,004
Total (EL04)	50.000	0,004

The Table below shows the Resource Cost per water use.

Table 7-6. Distribution of the Resource Cost per Service

Resource cost	Households	Agriculture	livestock breeding	Industry	Total
RB LEFKADOS (EL0444)					
Total cost for all years of PoM implementation (€) (2018-2021, 4 years)	50.000	-	-	-	50.000

Resource cost	Households	Agriculture	livestock breeding	Industry	Total
Annual cost per service (€)	12.500	-	-	-	12.500
Percentage (%)	100%	-	-	-	100%
Average Cost (€/m^3)	0,004	-	-	-	0,004

It is noted that at RB of Lefkadas, 100% of resources cost is attributed to household use.

8 ENVIRONMENTAL OBJECTIVES - EXEMPTIONS

The environmental objectives set for the 120 SWB of the RBD by 2021 are presented in the following table:

Table 8-1. SWB Environmental objectives by 2021

Environmental Objective	Number of SWB
Maintain good / high ecological status/potential	92
Maintain good chemical status	116
Achieve good ecological status	0
Achieve good chemical status	0
Identify ecological status/potential	4
Determine the chemical status	4
Exemption Article 4.4 (Deadline extension)	24
Exemption Article 4.5 (Less strict environmental objectives)	0
Exemption Article 4.6 (Temporary deterioration)	0

The environmental objectives set for the 26 GWB of the RBD by 2021 are presented in the following table:

Table 8-2. GWB Environmental objectives by 2021

Environmental Objective	Number of GWB
Maintain good quantitative status	24
Maintain good chemical status	25
Achieve good quantitative status	0
Achieve good chemical status	0
Exemption Article 4.4 (Deadline extension)	2
Exemption Article 4.5 (Less strict environmental objectives)	0
Exemption Article 4.6 (Temporary deterioration)	0
Exemption Article 4.7 (New modifications)	0

9 PROGRAMME OF MEASURES

The Programme of Measures is part of the Management Plan and is the "mechanism" for achieving the environmental objectives set. 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 deterioration of their water status in order to balance between abstraction and renewal.
- 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 Directive are the minimum requirements to be met and include:

• Measures for the implementation of EU and national legislation on water protection (**Group I**).

• Other Basic Key Measures (**Group II**). These basic measures are related to the basic principles of EU and national legislation on water management and relate to the horizontal implementation of actions in groups, usually, water bodies, with a view to achieving or maintaining good status in water.

The **Supplementary Measures** are the measures established and implemented in addition to the Basic Measures, in order to achieve the objectives set in accordance with Article 4 of Directive 2000/60 / EC. Member States may adopt further supplementary measures with a view to additional protection or improvement of the waters covered by the Directive.

9.1 PROGRESS OF IMPLEMENTATION OF THE 1ST RBMP PoM

The PoM of the 1st RBMP included 39 Basic Measures (13 Group I and 38 Group II).

Table 9-1. Number of Basic Measures of 1st RBMP per category of Actions

Actions concerning measures	Number of measures
Administrative acts	23
Constructions	2
Studies	5
Measures relating to administrative acts but requiring specific studies or surveys	8
Measures relating to Services / advisory actions	1
Total	**39**

Table 9-2. Progress of the implementation of the Basic Measures of the Program of Measures of the 1st RBMP

Category of Measures	Total number of measures	Number of measures already implemented	Number of measures in progress / under construction	Number of measures not started
Measures deemed appropriate for the purposes of Article 9 (cost recovery)	1		1	
Measures to promote an efficient and sustainable water use in order to avoid compromising the achievement of the objectives specified in Article 4	8		7	1
Measures to meet the requirements of Article 7 (drinking water)	5	2	3	

Category of Measures	Total number of measures	Number of measures already implemented	Number of measures in progress / under construction	Number of measures not started
Measures for the controls over the abstraction of surface water and groundwater	7	4	3	
Measures for the controls of artificial recharge of GWB	2		2	
Measures for point source discharges	9		7	2
Measures for diffuse sources liable to cause pollution	2		1	1
Measures for any other significant adverse impacts on the status of water	2		1	1
Special Measures for the priority substances and other substances	1			1
Measures for the prevention of accidental pollution incidents / extreme whether events	2			2
Total	**39**	**6**	**25**	**8**

In addition to the above basic measures, the program of measures of the 1st RBMP included 39 supplementary measures, of which 11 are horizontal supplementary, covering 9categories of measures of Directive 2000/60/EC.

Table 9-3. Progress of the implementation of the Supplementary Measures of the Program of Measures of the 1st RBMP

Category of Measures	Total number of measures	Number of measures already implemented	Number of measures in progress / under construction	Number of measures not started
Administrative / Legislative instruments	2	1	1	
Economic or fiscal measures	2			2
Negotiated environmental agreements	3		3	
Emission controls	5	3	2	
Research, development and demonstration projects	4			4
Abstraction controls	4		4	
Construction projects	6		2	4
Educational measures	2		2	
Recreation and restoration of wetlands areas	1			1
Infrastructure rehabilitation projects	4			4
Demand management measures	1		1	
Total	**39**	**14**	**16**	**9**

9.2 PRORGAMME OF BASIC AND SUPPLEMENTARY MEASURES

Measure Implementation Timeline

In relation to the referring to the Measure Implementation Timeline, these are distinguished as:

- Short-term, which can be immediately applied.
- Mid-term, for which a preparation period is required for their implementation. This period estimated up to 2 years.
- Long-term, for which the preparation and/or construction period of measures exceeds the period of 2 years.

With regards to the mid-term and long-term implementation measures, the competent bodies responsible for the implementation should include in their immediate schedule all these acts needed for the maturation of the actions of measures, with the scope of including them in funding programmes. For the implementation progress of the programme, Water Directorates and the SSW should inform the competent bodies involved to design a wholistic time schedule for the action implementation, within their administrative boundaries of competence.

Bodies for measure implementation

In relation to the bodies for the implementation of measures, the following clarifications are made:

- For every measure its implementation body is mentioned. All the bodies responsible for supervising the programme implementation are defined by law, and these are the SSW and the Water Directorates of the Decentralized Administrations.
- The SSW coordinates and supervises the implementation of measures which are executed by Ministries and/or bodies of the Central Government. The Water Directorate coordinates and supervises the implementation of measures that are executed by regional services and/or bodies.
- The selection of the implementation bodies was made based on their competence, as it came up from the current institutional framework and the public administration structure.
- Reference on the implementation bodies is made on the basis of the senior administrative level of each body. In cases where lower administrative levels are referred to (e.g. Directorate or Department), this reference should only be indicative. The implementation body is the only one responsible for the inner distribution of competences for the implementation of measures based on the services provided. Additionally, the body should define the means and human resources needed for the implementation of its obligations.
- It is clarified that for the measures and actions the competent Water Directorate of the Decentralized Administration is referred to as implementation body, in cases where it would be incapable of implementing any phase or stage or even the measure as a whole, for any reason, this could be implemented in coordination with the SSW or with other competent services of the Decentralized Administration and the Administrative Regions.
- Regarding the implementation of the current Measure Programme, the spatial competence of the Regions and Decentralized Administrations, excluding the Water Directorates, is taking place within their administrative boundaries.
- In cases where more that one body is referred to, the first one is the implementation body of the measure and the following are supplementary.
- The National Water Committee, according to the No.706/2010 Decision (GG 1383/B/2010 and GG 1572/B/2010 - correction of Annex II) and the approval of the various River Basin Management Plans, defines the competent Decentralized Administrations per River Basin for each River Basin District of the country.

- According to the No. 160817/20.12.2016 Decision of MEE (AA: 7ΔΠΘ4653Π8-8ΓΡ), the members of the Regional Task Team for each RBD were defined, which is responsible for the coordination of the measure implementation in the RBD level.
- The measures could be also implemented by additional bodies, provided that this is predicted by the current institutional framework.

New projects and activities

It is clarified that in cases where during the current Programme of Basic and Supplementary Measures, prohibitions or restrictions or certain requirements for "new" projects or activities are predicted, these do not refer to projects or activities or extension/modifications which, during the time the 1st Revision of the RBMP was in force, are either in progress or under construction or they belong to more than one of the following cases:

1. An approval of environmental terms has been granted or a positive advise by the competent Water Directorate of the Decentralized Administration has been given, during the Environmental licensing process.
2. A permit application has been submitted, in relation to the execution of water utilization projects or to water usage, and has not been rejected from the request body.
3. They have not been included in funding programmes.
4. The execution permit of the projects or activities has been expired, but their execution has not been commenced and renewal is requested, while their technical characteristics have not been changed.
5. An administrative act for the project implementation has been occur, which provides the capability for the permit process of the project to advance.

In cases where projects fall into case 5 above, the Water Directorate could set additional specific terms/measures for the project or activity installation, with the scope of protecting the related WB's and according to the 1st Update predictions.

In case of serious reservations and doubts by the Water Directorate of the Decentralized Administration with regards to the inclusion or not in a certain project/activity in one of the above cases, the SSW should be consulted.

It is clarified that the current projects mentioned in the RBMP are not related to the current ones or the current water usages mentioned in the JMD 146896/2014 (completed water abstraction works or usages before 27-10-2014).

9.2.1 Actions implementing EU Directives (Group I Basic Measures)

The planned actions for the implementation of EU Directives and National legislation for the protection of WB are presented in the following table.

Table 9-4. Actions for the implementation of EU 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,

DIRECTIVE	PLANNED ACTIONS	IMPLEMENTING BODIES
	• Updating the Greek Bathing Water Profiles Registry	Directorate of Water of the Decentralized Administration
Habitats Directive (92/43/EEC) Birds Directive (2009/147/ EC)	• Setting /Approval Management Plans for protected areas of Natura 2000 network relating with water management issues	Ministry of Environment and Energy, Protected Areas Management Bodies
	• 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)	• Monitoring of the implementation of the Directive	Ministry of Health
Environmental Impact Assessment Directives (2011/92/EC, 2014/52/EC)	Amendment of the Ministerial Decision 170225/2014 – (Specifications for the contents of environmental permitting dossiers for projects and activities of category A) 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.	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)	• Implementation of New Action Plans. The drafting of New Action Plans in all the vulnerable zones of the country has been entrusted by the Ministry of Rural Development and Food to the Agricultural University of Athens and is under preparation.	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

DIRECTIVE	PLANNED ACTIONS	IMPLEMENTING BODIES
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
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

9.2.2 Basic Measures of other categories (Group II Basic Measures)

Table 9-5. Basic measures of other categories

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M04B0201 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
M04B0202 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
M04B0203 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

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M04B0204 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)
M04B0301 Preparation / Update of the Water Supply Masterplan	Measures to promote an efficient and sustainable water use (Art. 4)	Amendment / Specialization of measure WD04B080	MEWSS / Municipals /Water suppliers/ Decentralized Administration (Water Directorate)
M04B0302 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 / Specialization of the measure WD04B110	Municipals / MEWSS / Drinking water providers / Region / Decentralized Administration (Water Directorate)
M04B0303 Increase 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 WD04B060	Ministry of Rural Development and Food, Regions
M04B0304 Investments for saving water in agriculture	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure WD04B060	Individuals / Irrigation water providers / Ministry of Rural Development and Food / Regions
M04B0305 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 WD04B160	Decentralized Administration (Water Directorate), Regional directorate of Rural Economy and Veterinary Medicine
M04B0306 Strengthening loss reduction actions on collective irrigation networks	Measures to promote an efficient and sustainable water use (Art. 4)	Modification / Specialization of the measure WD04B060	GOLR/LOLR/ Collective Irrigation Networks, Region
M04B0307 Preparation of manual of technical specifications for application of water reuse methods	Measures to promote an efficient and sustainable water use (Art. 4)	Specialization of the measure WD04B070	Ministry of Environment & Energy (Special Secretariat for Water)
M04B0308 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)
M04B0401 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 measure WD04B090	Decentralized Administration (Water Directorate) and Drinking water providers (MEWSS, Municipals etc.)

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M04B0402 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 / Specialization of the measure WD04B130	Decentralized Administration (Water Directorate)
M04B0403 Surface water projects for water supply protection	Measures to meet the requirements of Article 7 (drinking water)	Modification / Specialization of the measure WD04B115	Municipals / MEWSS / Water providers / Decentralized Administration (Water Directorate)
M04B0404 Implementation of Water Safety Plans	Measures to meet the requirements of Article 7 (drinking water)	Modification / Specialization of the measure WD04B020	MEWSS, Municipals, Drinking water providers, Decentralized Administration (Water Directorate)
M04B0501 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) area of GWBs with a Bad quantitative status (b) the protection zone II of the abstraction projects serving the water supply networks that operated by Municipals, Municipal links, MEWSS, Inter-MEWSS and drinking water companies , c) zones of collective irrigation networks d) coastal GWB with extensive or local sanitation problem, regardless of their origin	Measures to control surface and groundwater abstractions	Modification / Specialization of the measure WD04B200	Decentralized Administration (Water Directorate)
M04B0502 Annual electronic recording of measurements of surface and groundwater abstractions	Measures to control surface and groundwater abstractions	Modification / Specialization of the measure WD04B140 and WD04B150	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate), Regions
M04B0601 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 measure WD04B210	Region, Municipals, Decentralized Administration (Water Directorate), Region
M04B0602 Establishment of a National Register of Waste Disposal Sites (Joint Ministerial Decision 145116/2011 (Government Gazette 354B)	Measures to control the artificial recharge of groundwater aquifers	Continuation of measure WD04B350	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate)
M04B0701 Strengthening environmental inspections and controls	Measures for point source pollution	NEW MEASURE	Region
M04B0702 Modernization of national legislation on waste and industrial waste management	Measures for point source pollution	Continuation of measure WD04B280	Ministry of Environment & Energy (Special Secretariat for Water), Ministry of health

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M04B0703 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 WD04S090	Landfill Operators, National Monitoring Network coordinated by the Water Directorate
M04B0704 Conditions for the licensing of new / extension of existing aquaculture units	Measures for point source pollution	NEW MEASURE	Ministry of Environment & Energy, Decentralized Administration, Region
M04B0705 Preparation of rules for cesspit protection	Measures for point and diffuse source of pollution	Modification / Specialization of the measure WD04S070	Decentralized Administration (Water Directorate)
M04B0801 Bilogical agriculture	Measures for diffuse source pollution	Modification / Specialization of the measure WD04B310.	Ministry of Rural Development and Food (Directorate of Quality Systems, Organic Production and Geographical Indications)
M04B0802 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	Continuation of measure WD04B320	Ministry of Environment & Energy (Environmental Certification Directorate), Ministry of Rural Development and Food
M04B0803 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
M04B0901 Establishment of an institutional framework for the definition of the conditions for the protection of recreational inland waters in Article 6 of Directive 2000/60 / EK - Temporary regulation of new projects in inland water bodies which are included as recreational waters in the Register of Protected Areas under Article 6 of Directive 2000/60 / EC	Measures to confront the negative effects on water status	Continuation of measure WD04B330	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate)
M04B0902 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)
M04B0903 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	Modification / Specialization of the measure WD04B170	Ministry of Environment & Energy (Special Secretariat for Water)
M04B0904 Special Measures to Achieve Good Ecological dynamic in Heavily Modified Water Body/ 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
M04B0905 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 WD04B340	Region, Decentralized Administration (Water Directorate)

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP	IMPLEMENTING BODIES
M04B0906 Monitoring, recording and rehabilitation of coastal erosion	Measures to confront the negative effects on water status	NEW MEASURE	Ministry of Infrastructure, Transport and Networks, Decentralized Administration (Water Directorate), Amvrakikos Management Body
M04B1101 Compilation of pollution sources register (emissions, discharges and leaks)	Measures for Priority Substances and other pollutants.	Modification / Specialization of the measure WD04B360	Ministry of Environment & Energy (Special Secretariat for Water), Amvrakikos Management Body
M04B1102 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 FSX parameters in relation to the quality objectives set out in the Management Plans	Measures for Priority Substances and other pollutants.	Continuation of measure WD04B240	Decentralized Administration (Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water)

9.2.3 Supplementary measures

For achieving the goals of the RBMP, the implication of the basic measures is essential to be supported by supplementary measures.

Methodologically, supplementary measures were suggested:

a) For the conservation of the status of the SWB's and the GWB's, along with increasing the knowledge and awareness related to the rational water usage of targeted users. In this case, the supplementary measures are horizontally implied and the WB's to be impacted are not exclusively defined.

b) For WB's estimated that, despite the measure programme implication, won't reach their "good status" goal by 2021, and more specifically:

- For WB's that, according to measurements of their qualitative and quantitative parameters or to the new grouping methodological approach, have a "lower than good" status.
- For WB's that, while they have an unknown or good status, there are certain indications through the analysis of the pressures, that they are in danger of not achieving their environmental goals.

Measurements of (b) case are taken into consideration for the calculation of the environmental coast and/or the resource cost, according to the predictions of the JMD 135275 of the National Water Committee (GG 1751/B/22-05-2017).

The table that follows records the WB's of the RBD for which the adoption of specific supplementary measures is required.

Table 9-6. Supplementary measures

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M04Σ0201 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 WB	Decentralized Administration (Water Directorate)	650.000
M04Σ0202 Prohibition of sand extraction from river WBs of Acheloos downstreams of the Artificial lake of Stratos until a special study is conducted per River Basin regarding the designation of areas appropriate for sand extraction.	Administrative measures	The measure is related to the WD04S010 measure of the first RBMP	EL0415R000200003H (ACHELOOS P.2), EL0415R000200011H (ACHELOOS P.5),	Decentralized Administration	
M04Σ0203 Redelimitation of coastal WBs to the maritime area between the coasts Aitoloakarnanias, Lefkadas and Echinadon nison	Administrative measures	New measure	"Dyt. Esoteriko archipelagos Ioniou (Echinades) kai Ormos Vasilikis"(EL0444C0004N) "Anat. Esoteriko archipelagos Ioniou (Echinades)"(EL0415C0003N)	Ministry of Environment & Energy / Decentralized Administrations	0
M04Σ0204 Completion of the procedure of the Joint Ministerial Decision 146896/2014 for the water abstraction points registered in the National Abstraction Point Register GWB EL0400170 SYSTIMA VASILIKIS-NYDRIOY-LEYKADAS	Administrative measures	New measure	EL0400170 (Systima Vasilikis-nydriou-lefkadas)	Decentralized Administration (Water Directorate), Regions (Environmental directorate)	0
M04Σ0401 Initiatives on making an environmental agreement between the Management Authority of the protected areas of Mesologgi lagoon-Acheloos estuary and the agricultural sector in order to reduce the negative effects of farming on the wetland habitats.	Environmental agreements after negotiations	The measure is related to the WD04S040 measure of the first RBMP	EL0415R000101001N (AGRILIAS R.), EL0415R000200003H (ACHELOOS P.2), EL0415T0002N (Limnothalassa Mesolongiou (Kentriki, Kleisova))	Management Body of Messolonghi Lagoon	20.000
M04Σ0402 Initiatives on making an environmental agreement between the Management Authority of the protected area of the National Park of Mesologgi lagoons and the Authorities of fishermen and aquaculture in order to limit any possible negative effects of the extensive and intensive aquaculture on the status of the transitional and coastal water bodies and ecosystems.	Environmental agreements after negotiations	The measure is related to the WD04S050 measure of the first RBMP	EL0415R000101001N (AGRILIAS R.), EL0415R000200003H (ACHELOOS P.2), EL0415T0002N (Limnothalassa Mesolongiou (Kentriki, Kleisova))	Management Body of Messolonghi Lagoon	20.000

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M04Σ0501 Inspections at the estuaries of rainwater pipelines and other point sources of pollution that result in surface water bodies	Emission control	New measure	All WB	Municipals / MEWSS / Region / Decentralized Administration (Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water	120.000
M04Σ0502 Implementation of investment in agriculture and livestock holdings, aiming on improving environmental performance.	Emission control	New measure	All WB	Ministry of Rural Development and Food / Regions	189.500
M04Σ0503 Inspections for compliance with the limits of disposal by industrial processing and livestock farms in a catchment area of the WBD at least twice a year	Emission control	New measure	For SWB classified as "failing to achieve good" ecological or chemical status	Region, Decentralized Administration (Water Directorate)	200.000
M04Σ0701 Projects for the improvement of the hydraulic connection between some parts of the Mesologgi-Etoliko lagoons and Acheloos estuary system, which faces problems of insufficient fresh or saltwater supply.	Recreation and restoration of wetlands	The measure is related to the WD04S120 measure of the first RBMP	EL0415T0002N (Limnothalassa Mesolongiou (Kentriki, Kleisova))	Management Body of Messolonghi Lagoon	20.000.000
M04Σ0702 Assessment of a study for the examination of the possibility of re-opening the tunnel outfall of Lysimachia in limnothalassa Aitolikou	Recreation and restoration of wetlands	New measure		Decentralized Administration, Regions, Protected area Management Body	50.000,00
M04Σ0801 Systematic monitoring of quality state in Licensed abstractions wells in ground water bodies with high natural background level (chlorides)	Abstractions Control	The measure is related to the WD04S150 measure of the first RBMP	EL0400020 (Systima Akarnanikon oreon), EL0400080 (Systima Delta Acheloou-oiniadon), EL0400130 (Systima Olonou-pindou), EL0400140 (Systima Amfilochias), EL0400160 (Systima Lefkadas), EL0400170 (Systima Vasilikis – Nydriou - Lefkadas), EL0400260 (Systima Meganisiou - Kastou - Kalamou)	Decentralized Administration (Water Directorate) / Regions	20.000

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M04Σ0802 Installing operating valve in artesian wells	Abstractions Control	The measure is related to the WD04S140 measure of the first RBMP	All WB	Principal of the abstraction project, Decentralized Administration (Water Directorate)	0
M04Σ0803 Reduction or replacement of groundwater with pumping's abstractions from a SWB or other GWB or technical project (Ponds, dams, desalination)	Abstractions Control	New measure	EL0400170 (Systima Vasilikis – Nydriou - Lefkadas)	Decentralized Administration / Region / Municipal	50.000
M04Σ0804 Prohibiting the construction of new groundwater abstraction projects (drilling, wells, etc.) for new water uses and the extension of existing water use licenses to the GWB Systima Arakynthou (EL0400070).	Abstractions Control	New measure	GWB Arakynthos (EL0400070)	Decentralized Administration (Water Directorate)	0
M04Σ0805 Restrictions and conditions for the construction of new water abstraction projects in EL0400170 Systima Vasilikis-nydriou-lefkadas and EL0400160 Systima Lefkadas	Abstractions Control	New measure	Systima Lefkadas (EL0400160) Systima Vasilikis-nydriou-lefkadas (EL0400170)	Decentralized Administration (Water Directorate)	0
M04Σ0806 Control of licensed water abstraction in bad quantitative status GWB	Abstractions Control	New measure	EL0400170 (Systima Vasilikis-nydriou-lefkadas)	Regions (Environmental directorate), Decentralized Administration (Water Directorate)	0
M04Σ1001 Preparation of reuse of wastewater treatment studies for all existing tertiary treatment waste water treatment plants	Efficiency and reuse measures, promotion of water-efficient technologies in industry and water-saving irrigation techniques	Modification / Specialization of the measure WD08B030	All WB	Project owner, Decentralized Administration (Water Directorate) / Rural Development Directorates	40.000 (for each waste water treatment plant)
M04Σ1002 Recording water losses in water abstractions and exits of the water supply tanks	Efficiency and reuse measures, promotion of water-efficient technologies in industry and water-saving irrigation techniques	New measure	EL0400170 Systima Vasilikis-nydriou-lefkadas	Municipal drinking water service, Decentralized Administration (Water Directorate)	0

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M04Σ1301 Rehabilitation of the operation of the connecting ditch between Trichonida Lake and Lisimachi Lake	Projects of Infrastructure Rehabilitation	The measure is related to the WD04S260 measure of the first RBMP	EL0415L000000005H Limni Lysimachia	Region	150.000
M04Σ1501 Professtional training of farmers for the protection of water bodies	Educational measures	New measure	All WB	Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, Region	96.645
M04Σ1502 Informing and raising public awareness of water issues	Educational measures	New measure	All WB	Ministry of Environment & Energy (Special Secretariat for Water), Regions, Municipals, MEWSS, Decentralized Administration (Water Directorate)	50.000
M04Σ1503 Strengthening environmental program actions in Primary Education	Educational measures	New measure	All WB	Ministry of Environment & Energy (Special Secretariat for Water) and Ministry of Education, Research and Religious Affairs , Decentralized Administration (Water Directorate), Regions	50.000
M04Σ1601 Pilot measures to apply precision agriculture to reduce water consumption	Research, development & demonstration programmes	New measure	All WB	Special Management Service of the Rural Development Program of Ministry of Rural Development and Food, Regions	166.760
M04Σ1602 Consultancy services for agriculture exploitation management	Research, development & demonstration programmes	New measure	All WB	Decentralized Administrations of the Ministry of Rural Development and Food	257.720

CODE & NAME OF MEASURE	CATEGORY	CONECTION WITH THE 1st RBMP.	AFFECTED WB	IMPLEMENTING BODIES	IMPLENTATION COST (€)
M04Σ1603 Design and implementation 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	EL0415R000200011H (ACHELOOS P.5), EL0420R000200073H (EYINOS P.3), EL0421R000200085H (MORNOS P.2)	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorate)	250.000
M04Σ1604 Implementation of Special Control Programme for active substances which are contained in agrochemicals and which have been banned.	Research, development & demonstration programmes	The measure is related to the WD04S230 measure of the first RBMP	EL0415C0009N (Notios Amvrakikos kolpos), EL0415R000201002H (ACHELOOS P.1), EL0415T0002N (Limnothalassa Mesolongiou (Kentriki, Kleisova))	Decentralized Administration	90.000
M04Σ1605 Organizing and carrying out exploratory monitoring of its qualitative and quantitative status of the GWB EL0400170 Systima Vasilikis-nydriou-lefkadas	Research, development & demonstration programmes	New measure	EL0400170 (Systima Vasilikis – Nydriou - Lefkadas)	Municipal drinking water service, Decentralized Administration (Ionion Water Directorate), Ministry of Environment & Energy (Special Secretariat for Water)	25.000
M04Σ1606 Monitoring of the anxicity observed in the Amvrakikos Bay and the time evolution of this stratification	Research, development & demonstration programmes	New measure	EL0413C0009N (Notios Amvrakikos kolpos)	Amvrakikos Wetlands Management Body	100.000
M04Σ1607 Density increase of the monitoring network of GWBs.	Research, development & demonstration programmes	New measure	EL0400170 (Systima Vasilikis-nydriou-lefkadas)	Ministry of Environment & Energy (Special Secretariat for Water), Decentralized Administration (Water Directorates),	50.000

10 NEXT STEPS

The objective of the 1st Update of the River Basin Management Plan is to prevent further deterioration, to protect and improve the status of inland surface, transitional, coastal and groundwater, as well as directly dependent terrestrial ecosystems and wetlands. In order to achieve this goal, the implementation of the Programme of Basic and Supplementary Measures is necessary.

The PoM is designed in such a way that the priority of each intervention is clearly defined according to its cost, its effectiveness, the importance of the WB being implemented and the necessary time of preparation.

All elements of the PoM are important, but some planning and prioritization is needed in order to monitor the progress of implementation of the PoM and identify where corrective interventions are required when deviations from targets are identified.

With the responsibility of the Water Directorate of the Decentralized Administration an **Action Plan for the implementation of the 1st Update of the RBMP** of the RBD is being prepared.

To this end, the Regional Working Group for the Implementation of the PoM of the RBMP of the RBD of the Country, which was established during the implementation of the 1st RBMP, is required to prepare the above Action Plan .

11 WESTERN STEREA ELLADA (EL04) RBD STATISTICAL DATA

The following Tables present aggregated statistics data ffor the Western Sterea Ellada (EL04)

Table 11-1. Categories of WB per RB of Western Sterea Ellada (EL04)

WB Categories	RB Acheloos (EL0415)	RB Evinos (EL0420)	RB Mornos (EL0421)	RB Lefkadas (EL0444)	Total RBD
River WB	68	16	10	1	95
Lake WB	10	1	1		12
Transitional WB	3	-	-	1	4
Coastal WB	4	-	1	4	9
TOTAL OF SWB	**85**	**17**	**12**	**6**	**120**
Groundwater WB	**15**	**3**	**5**	**3**	**26**
TOTAL WB	**100**	**18**	**19**	**9**	**146**
Heavily modified water bodies (HMWB) and artificial Water bodies (AWB)	13	2	2	1	18
WB Connection with protected areas	63	10	8	6	87

Table 11-2. Typology of SWB per RB of Western Sterea Ellada (EL04)

TYPOLOGY OF SWB	RB Acheloos (EL0415)	RB Evinos (EL0420)	RB Mornos (EL0421)	RB Lefkadas (EL0444)	Total RBD
River WB	**68**	**16**	**10**	**1**	**95**
Type R-M1	31	8	6		45
Type R-M2	22	4	3		29
Type R-M3	7	2			9
Type R-M4	3	2		1	6
Type R-M5	5		1		6
Reservoirs	**4**	**1**	**1**		**6**
Type L-M5/7	2	1	1		4
Type L-M8	1				1
Type GR-SR	1				1
Lake WB	**6**				**6**
Type GR-DNL	2				2
Type GR-SNL	2				2
Type GR-VSNL	1				1
Type GR-SP1	1				1
Transitional WB					**4**
Type TW 1	2			1	3
Type TW 2	1				1
Coastal WB	**4**		**1**	**4**	**9**
Type IIIE	4		1	4	9

Table 11-3. Assessment (classification) results of SWBs status per RB in RBD of Wester Sterea Ellada (EL04)

STATUS/POTENTIAL			RB Acheloos (EL0415)				RB Evinos (EL0420)				RB Mornos (EL0421)			
			Number	% of Number	Length (km)	% of Length	Number	% of Number	Length (km)	% of Length	Number	% of Number	Length (km)	% of Length
RIVER WB														
TOTAL	ECOLOGICAL	High	3	4,4%	36,7	5,1%	12	6,25%	36,8	20,2%		0,00%		0,00%
		Good	49	72,1%	494,9	69,4%	13	81,25%	113,1	62,1%	8	80,00%	64,6	62,3%
		Moderate	10	14,7%	101,1	14,2%	1	6,25%	5,6	3%	2	20,00%	39	37,6%
		Poor	4	5,9%	52,1	7,3%				0,0%				
		Bad												
		Unknown	2	2,9%	28,3	4,0%	1	6,25%	26,5	14,6%				
	CHEMICAL	Good	66	97,1%	683,5	95,8%	15	93,75%	145,2	79,8%	10	100,00%	103,6	100,00%
		Failing to achieve Good												
		Unknown	2	2,9%	29,6	4,2%	1	6,25%	36,8	20,2%				

(Continuation of the Table)

STATUS/POTENTIAL			RB Lefkadas (EL0444)				Western Sterea Ellada (EL04)			
			Number	% of Number	Length (km)	% of Length	Number	% of Number	Length (km)	% of Length
RIVER WB										
TOTAL	ECOLOGICAL	High					4	4,21%	73,5	7,34%
		Good	1	100%	4,1	100%	71	74,74%	675,6	67,45%
		Moderate					13	13,68%	145,7	14,55%
		Poor					4	4,21%	52,1	5,20%
		Bad								
		Unknown					3	3,16%	54,8	5,47%
	CHEMICAL	Good					92	96,84%	935,3	93,37%
		Failing to achieve Good								
		Unknown					3	3,16%	66,4	6,63%

STATUS/POTENTIAL			RB Acheloos (EL0415)				RB Evinos (EL0420)				RB Mornos (EL0421)				Western Sterea Ellada (EL04)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
RESERVOIRS																		
TOTAL	ECOLOGICAL	Good and higher	4	100,0%	130,0	100,0%	1	100,0%	2,89	100,0%	1	100,0%	14,8	100,0%	6	100,0%	147,7	100,0%
		Moderate																
		Poor																
		Bad																
		Unknown																
	CHEMICAL	Good	4	100,0%	130,0	100,0%	1	100,0%	2,89	100,0%	1	100,0%	14,8	100,0%	6	100,0%	147,7	100,0%
		Failing to achieve Good																
		Unknown																

(Continuation of the Table)

STATUS/POTENTIAL			RB Acheloos (EL0415)				Western Sterea Ellada (EL04)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
LAKE WB										
TOTAL	ECOLOGICAL	High								
		Good	2	33,3%	111,0	76,8%	2	33,3%	111,0	76,8%
		Moderate	3	50,0%	24,4	16,9%	3	50,0%	24,4	16,9%
		Poor								
		Bad	1	16,7%	9,1	6,3%	1	16,7%	9,1	6,3%
		Unknown								
	CHEMICAL	Good	6	100,0%	144,6	100,0%	6	100,0%	144,6	100,0%
		Failing to achieve Good								
		Unknown								

(Continuation of the Table)

STATUS/POTENTIAL			RB Acheloos (EL0415)				RB Lefkadas (EL0444)				Western Sterea Ellada (EL04)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
TRANSITIONAL WB														
TOTAL	ECOLOGICAL	High												
		Good					1	100,0%	8,6	100,0%	1	25,0%	8,6	3,2%
		Moderate	1	33,3%	130,65	50,6%					1	25,0%	130,7	49,0%
		Poor	1	33,3%	17,19	6,7%					1	25,0%	17,2	6,4%
		Bad												
		Unknown	1	33,3%	110,39	42,7%					1	25,0%	110,4	41,4%
	CHEMICAL	Good	2	66,67%	147,84	57,25%	1	100,0%	8,61	100,0%	3	75,00%	156,45	58,63%
		Failing to achieve Good												
		Unknown	1	33,3%	110,39	42,7%					1	25,0%	110,39	41,4%

(Continuation of the Table)

STATUS/POTENTIAL			RB Acheloos (EL0415)				RB Mornos (EL0421)				RB Lefkadas (EL0444)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
COASTAL WB														
TOTAL	ECOLOGICAL	High												
		Good	3	75,0%	616,2	69,5%	1	100,0%	330,0	100,0%	4	100,0%	1000,2	100,0%
		Moderate												
		Poor	1	25,0%	270,5	30,5%								
		Bad												
		Unknown												
	CHEMICAL	Good	4	100,0%	886,8	100,0%	1	100,0%	330,0	100,0%	4	100,0%	1000,2	100,0%
		Failing to achieve Good												
		Unknown												

STATUS/POTENTIAL			Western Sterea Ellada (EL04)			
			Number	% of Number	Area (km²)	% of Area
COASTAL WB						
TOTAL	ECOLOGICAL	High				
		Good	8	88,9%	1946,4	87,8%
		Moderate				
		Poor	1	11,1%	270,5	12,2%
		Bad				
		Unknown				
	CHEMICAL	Good	9	100,0%	2217,0	100,0%
		Failing to achieve Good				
		Unknown				

STATUS/POTENTIAL			RB Acheloos (EL0415)				RB Evinos (EL0420)				RB Mornos (EL0421)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
GROUNDWATER BODIES														
TOTAL	CHEMICAL	Good	14	93,33%	8504,77	99,71%	4	100,00%	724.04	100,00%	4	100,00%	908.91	100,00%
		Bad	1	6,67%	24,77	0,29%								
		Unknown												
	QUANTITATIVE	Good	14	93,33%	8504,77	99,71%	4	100,00%	724.04	100,00%	4	100,00%	908.91	100,00%
		Bad	1	6,67%	24,77	0,29%								
		Unknown												

(Continuation of the Table)

STATUS/POTENTIAL			RB Lefkadas (EL0444)				Western Sterea Ellada (EL04)			
			Number	% of Number	Area (km²)	% of Area	Number	% of Number	Area (km²)	% of Area
GROUNDWATER BODIES										
TOTAL	CHEMICAL	Good	3	100,00%	355,48	100,00%	25	96,15%	10493,2	99,76%
		Bad					1	3,85%	24,77	0,24%
		Unknown								
	QUANTITATIVE	Good	2	66,7%	146,78	41,00%	25	96,15%	10493,2	99,76%
		Bad	1	33,3%	208,7	59,00%	1	3,85%	24,77	0,24%
		Unknown								