



RIVER BASIN MANAGEMENT PLAN - SUMMARY

Management Plan for the River Basins of Western Peloponnese River Basin District



SPECIAL
SECRETARIAT
FOR WATER

APRIL 2013

**MANAGEMENT PLANS OF WESTERN PELOPONNESE RIVER BASIN DISTRICT
(RBD 01)**

IN LINE WITH THE SPECIFICATIONS OF DIRECTIVE 2000/60/EC, UNDER LAW
3199/2003 AND PRESIDENTIAL DECREE 51/2007

MANAGEMENT PLAN

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1. INTRODUCTION

Historically, the management of natural resources – especially of water resources - was mostly determined by all social activities and growth interventions rather than determining them. In modern societies the management of water resources has acquired particular significance since the sustainability of resources is no longer taken for granted but in some cases it is the main objective.. This fact, included in the general degradation of the environment and at the same time reinforced by the impending climate change, enlarges the scope and the content of the water resources management by rendering it a determining factor of development policies. The scope of the water resources management is not only limited to the rational and fair satisfaction of the users’ needs but also determines to a great extent these needs and the manner and degree of their satisfaction. The main national institutional framework of harmonization with Directive 2000/60 is Law 3199/9-12-2003 (Government Gazette A’ 280/09.12.2003) on the “protection and water management – harmonization with Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000” as amended and in force and Presidential Decree 51/2007 (GG A’54/08.03.2007) “Determination of measures and procedures for the integrated water protection and management in compliance with the provisions of Directive 2000/60/EC” establishing a framework for the Community action in the field of water policy” of the European Parliament and of the Council of 23 October 2000, in pursuance of the provisions of Article 15(1), Law 3199/2003.

The compilation of the management plans in the RBD (River Basin District) of Western Peloponnese was undertaken –under the terms of the relevant contract- by a team of collaborating design companies and design consultants consisting of the following:

- “HYDROEXIGIANTIKI LIMITED PARTNERSHIP” L.S. LAZARIDIS & PARTNERS LIMITED PARTNERSHIP
- LAZARIDIS & ASSOCIATES ATEM
- TEM (DESIGN CONSULTANCY) S.A.
- HPC-PASECO, SURVEYS AND STUDIES FOR THE PROTECTION, MANAGEMENT OF THE ENVIRONMENT & ENERGY SINGLE MEMBER LIMITED LIABILITY COMPANY
- LIONIS MICHALIS son of HARALAMBOS
- DRAKOPOULOU EFSTATHIA daughter of LEONIDAS
- VAKAKIS & PARTNERS RURAL DEVELOPMENT CONSULTANTS S.A.
- EFI KARATHANASI & PARTNERS “HORODINAMIKI PERIVALLON ANAPTIKSI LIMITED PARTNERSHIP”
- ALEXANDROS KOTZABOPOULOS son of GEORGE
- ANAGNOPOULOS NIKOLAOS son of VASILIOS
- TERRA NOVA ENVIRONMENTAL DESIGN CONSULTANCY LTD LIABILITY COMPANY

In accordance with article 5 of Law 4117/5-2-2013, the compiled Management Plan was approved by the National Water Committee following the recommendation of the Special Secretariat for Water of the Ministry of Environment, Energy and Climate Change and was published in the Government Gazette (GG 1004/B/24-04-2013).

2. Contents of the Management Plan

This document is a summary of the River Basin Management Plan (RBMP) of Western Peloponnese (GR01) and the following detailed documentation texts are attached:

Annex A consists of the following Supporting Documents:

1. Determination and recording of the competent authorities and determination of their areas of responsibility (Deliverable 1, phase A)
2. Identification and typology of surface water bodies, initial and further characterization of groundwater bodies (Deliverable 5, phase A)
3. Type-specific reference conditions for the types of surface water bodies (Deliverable 6, phase A)
4. Final designation of heavily modified and artificial water bodies (Deliverable 7, phase A)
5. Assessment and classification of the qualitative (ecological and chemical) status of surface water bodies (Deliverable 9, phase A)
6. Assessment and classification of the qualitative (chemical) and quantitative status of groundwater bodies (Deliverable 10, phase A)
7. Updated monitoring programmes of the status of surface and groundwater bodies (Deliverable 1, phase B)

Annex B consists of the following Supporting Documents:

1. Analysis of the anthropogenic pressures and their impacts on surface and groundwater bodies (Deliverable 8, phase A)
2. Catalogue of scheduled and new projects/ activities/ modifications with the socio-economic benefits served (Deliverable 12, phase A)

Annex C consists of the following Supporting Document:

1. Registry of Protected Areas (Deliverable 2, phase A)

Annex D consists of the following Supporting Document:

1. Determination of environmental objectives, including “exemptions” from objectives achievement (Deliverable 11, phase A)

Annex E consists of the following Supporting Documents:

1. Draft programme of key and supplementary measures for the protection and recovery of water bodies (Deliverable 13, phase A)
2. Evaluation of the proposed measures including cost-effectiveness analysis and finalization of the programs of key and supplementary measures (Deliverable 2, phase B)

Annex F consists of the following Supporting Documents:

1. Economic analysis of the water uses and determination of the current cost recovery degree for the different water services (Deliverable 3, phase A)
2. Preliminary assessment of alternative proposals for flexible water tariff policy (Deliverable 4, phase A)

Annex G consists of the following Supporting Document:

1. Report with the evaluation of the consultation (Phase C)

Annex H consists of the following Supporting Documents:

1. Implementation report of Directive 2006/118/EC “on the protection of groundwater against pollution and deterioration” and JMD 39626/2208/E103/2009 (Deliverable 14, phase A)
2. Draught and Water Scarcity Management Plan based on preventive planning principles (Deliverable 4, phase B)
3. Strategic Environmental Impact Assessment (Deliverable 5, phase B)

Annex I includes the additional actions for the River Basin District (RBD) except for the Plan’s Program of Measures.

Annex J includes 36 maps.

3. CONSULTATION PROCESS

Water Framework Directive 2000/60/EC (WFD), article 14, provides for public participation during the process of preparing the River Basin Management Plans.

Specifically, the directive stipulates that Member States shall encourage the active involvement of all interested parties in the implementation of this Directive. Member States shall ensure that, for each river basin district, they publish and make available for comments to the public, including users:

- the timetable and work program for the plan preparation, including the consultation;
- a summary of the important issues identified in each Water Basin;
- the draft management plans.

The consultation process was organized in two phases:

Phase A, which lasted until 31 January 2012, included the uploading of the following documents on the web page <http://wfd.ypeka.gr>:

- Report on the consultation measures to be taken;
- Catalogue of water-related agencies;
- Overview of the significant water management issues and their accompanying documents;
- Questionnaire about the consultation procedure;
- Questionnaire about the overview of the significant water management issues.

Phase B which lasted until 21 November 2012, included the uploading of the following documents on the web page <http://wfd.opengov.gr/>:

- The draft Management Plan of the Western Peloponnese River Basin District, including the programme of measures;
- The strategic environmental impact assessment (SEIA);
- The Plan addressing drought & water scarcity;
- Catalogue of water-related agencies;
- Questionnaire about the program of measures of the Management Plan.

Apart from uploading the Management Plan's documents and filling in their questionnaires, the organization of one-day conferences for the River Basin District of Western Peloponnese is also provided for. During phase A, a one-day conference was organized for the overview of significant management issues for the RBD of Western Peloponnese (Kalamata, 19/01/2012). During phase B, 2 one-day conferences were organized for the RBD of Western Peloponnese for the Preliminary Program of Key and Supplementary Measures. The one-day conferences were held on 3/7/2012 in Pirgos and on 11/7/2012 in Tripoli.

4 DESCRIPTION OF THE RIVER BASIN DISTRICT

4.1 Administrative and Natural Characteristics

The River Basin District of Western Peloponnese (RBD 01) is one out of the fourteen river basin districts into which the Greek territory was divided pursuant to Law 1739/1987 (GG 201/A/20-11-1987). The total area of the District is 7,235 km². As regards the natural – geomorphological boundaries of the District, they are as follows: to the north, the mountains of Erimanthos and Aroania; to the east the mountains of Artemisio, Menalos, and Taigetos; to the south the Gulf of Messinia; and to the west the Ionian Sea and the Gulf of Kiparissia. Alfios River Basin (GR29) and Pamisos – Nedontas – Neda River Basin (GR32) form the said Water District of Western Peloponnese (WD 01), pursuant to Decision no 706/2010 (GG 1383/B/2-9-10) of the National Water Committee.

4.2 Population Data

From an administrative perspective, the RBD includes in whole or in part, the Regional Units of Arkadia, Iliia, Ahaia, Messinia, and Lakonia. The total actual population in Alfios River Basin, according to the census data of the Hellenic Statistical Authority (ELSTAT) as of year 2001, amounts to 132,488 inhabitants. The general trend of the population change for the area is estimated at an approximate 0.65% reduction, in the period 1991 – 2001. The total actual population in Pamisos – Nedontas – Neda River Basin, according to the census data of the Hellenic Statistical Authority (ELSTAT) as of year 2001, amounts to 187,129 inhabitants. The general trend of the population change for the area is estimated at approximately 5.95% increase, in the period 1991 – 2001.

4.3 Water Uses

Throughout the entire River Basin District the total annual needs in water for all activities and uses amount to ~234.5mil.m³. In agriculture (irrigated lands), which is the key user of water, a percentage of ~77% (~180mil.m³) of the total needs of water is consumed, in industry ~7.0% (~16.4mil.m³), in irrigation ~14.9% (~35mil.m³) and in stock farming ~1.2% (~2.8mil.m³).

4.4 Land Uses

In Alfios river basin throughout a total area of 3,810km², the following main categories of land uses are distinguished: Forests and forested areas, 50%; Agricultural land, 25%, Pastures, 20%; Urban and other uses, 5%. In Pamisos – Nedontas – Neda river basin throughout a total area of 3,425km², the following main categories of land uses are distinguished: Forests and forested areas, 37%; Agricultural land, 44%; Pastures, 16%; Urban and other uses, 3%.

5 COMPETENT AUTHORITIES

The information related to the corresponding competent authorities of the State Decentralized Administration and the Region is provided below in the form of tables.

Table 5-1. Competent Authority of State Decentralized Administration for Alfios River Basin (GR29)

Official name	Decentralized Administration of the Peloponnese, Western Greece and Ionian Sea/ General Directorate of Planning and Environmental Policy / River Basin Division of the Peloponnese
Acronym	-
Legislation establishing and determining competencies	<ul style="list-style-type: none"> • Law 3199/2003 (GG 280/A/9-12-03) • J.M.D. Οικ. 47630/2005 (GG 1688/B/1-12-05) • Law 3852/2010 (GG 87/A/7-6-10) • P.D. 139 (GG 232/A/27-12-10)
Legal regime	Permanent unit subject to a decentralized administration unit of the state
Postal address	37, Menalou & Sekeri streets, PC 22100, Tripoli, Greece
Website	www.apd-depin.gov.gr
Point(s) of contact (telephone, e-mail)	2710 234458 ggdxpp@apd-depin.gov.gr

Table 5-2. Competent Authority of Local Government for Alfios River Basin (GR29)

Official name	Region of the Peloponnese / General Directorate of Growth Planning, Environment and Infrastructures/ Division of Environment and Planning
Acronym	-
Legislation establishing and determining competencies	<ul style="list-style-type: none"> • Law 3199/2003 (GG 280/A/9-12-03) • Law 3852/2010 (GG 87/A/7-6-10) • P.D. 131 (GG 224/A/27-12-10)
Legal regime	Permanent unit subject to a self-governed Public Law Body
Postal address	29, 28 th October street, PC 22100, Tripoli, Greece
Website	www.ppel.gov.gr
Point(s) of contact (telephone, e-mail)	2713 610101, naarkper@otenet.gr

Table 5-3. Competent Authority of State Decentralized Administration for Pamisos – Nedontas – Neda River Basin (GR32)

Official name	Decentralized Administration of the Peloponnese, Western Greece and Ionian Sea/ General Directorate of Planning and Environmental Policy / River Basin Division of the Peloponnese
Acronym	-
Legislation establishing and determining competencies	<ul style="list-style-type: none"> • Law 3199/2003 (GG 280/A/9-12-03) • J.M.D. Οικ. 47630/2005 (GG 1688/B/1-12-05) • Law 3852/2010 (GG 87/A/7-6-10) • P.D. 139 (GG 232/A/27-12-10)
Legal regime	Permanent unit subject to a decentralized administration unit of the state
Postal address	37, Menalou & Sekeri streets, PC 22100, Tripoli, Greece

RIVER BASIN DISTRICT OF WESTERN PELOPONNESE (RBD01)
MANAGEMENT PLAN

Official name	Decentralized Administration of the Peloponnese, Western Greece and Ionian Sea/ General Directorate of Planning and Environmental Policy / River Basin Division of the Peloponnese
Website	www.apd-depin.gov.gr
Point(s) of contact (telephone, e-mail)	2710 234458 gdxpp@apd-depin.gov.gr

Table 5-4. Competent Authority of Local Government for Pamisos – Nedontas – Neda River Basin (GR32)

Official name	Region of the Peloponnese / General Directorate of Growth Planning, Environment and Infrastructures/ Division of Environment and Planning
Acronym	-
Legislation establishing and determining competencies	<ul style="list-style-type: none"> • Law 3199/2003 (GG 280/A/9-12-03) • Law 3852/2010 (GG 87/A/7-6-10) • P.D. 131 (GG 224/A/27-12-10)
Legal regime	Permanent unit subject to a self-governed Public Law Body
Postal address	29, 28 th October street, PC 22100, Tripoli, Greece
Website	www.ppel.gov.gr
Point(s) of contact (telephone, e-mail)	2713 610101, naarkper@otenet.gr

6 IDENTIFICATION OF WATER BODIES

In RBD01, 128 surface water bodies and 26 groundwater bodies were identified in total. Out of the surface water bodies, 110 are rivers, 11 are coastal waters, 2 are lakes and 5 are transitional water bodies. Two lakes have been characterized as Artificial Water Bodies (AWB) whilst 15 rivers and 2 lakes have been characterized as Heavily Modified Water Bodies (HMWB).

River Water Bodies

In the River Basin District of Western Peloponnese (RBD 01), 110 rivers are identified of a total length of 886.5 km with 6 types of river WB (sL0, sH0, sL1, sH1, mL0, mL1).

Lake WB

In the River Basin District of Western Peloponnese (RBD 01), 2 L-M8-type lakes exist covering a total area of 3.53 km². One is Ladonas Artificial Lake in Alfios River Basin (GR29) and the other Filiatrino Artificial Lake in Pamisos – Nedontas – Neda River Basin (GR32).

Coastal WB

In the River Basin District of Western Peloponnese (WD 01), 11 type-C1 coastal WBs are identified in total, with a total coast length of 498.2 km.

Transitional WB

In the River Basin District of Western Peloponnese (WD 01), 5 transitional TW-1 (lagoons) and TW-2 (river estuaries) WBs are identified, covering an area of 3.7 km², .

Groundwater Bodies

In the River Basin District of Western Peloponnese (WD 01) 26 groundwater bodies are identified covering an area of 3900.6 km². Out of these, an initial characterization has been carried out for 20 groundwater bodies and further characterization for 6 GBs. Out of the 26 GBs, 25 are directly related to surface waters or terrestrial ecosystems.

Table 6.1. Total number of Water Bodies per water category in the RBD of Western Peloponnese

Type of WB	Number	Length/ area (km/ km ²)	Maximum length/ Max. area (km/ km ²)	Minimum length/ Min. area (km/ km ²)
Rivers	110	1775.518	890.0	0.2
Lakes	2	3.52	3.02	0.50
Coastal	11	498.2	131.8	0.2
Transitional	5	3.76	1.51	0.10
Groundwater	26	6805.9	982.3	17.9
Total	154			

7 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.

7.1 Point Pressures

Wastewater Treatment Plants (WWTP)

In Alfios River Basin there are 6 agglomerations of –priority C and 1 agglomeration of priority B. At present, Wastewater Treatment Plants (WWTP) have been constructed and operate in all agglomerations of priority B and C. The main urban centers served by the WWTP in Alfios River Basin are the city of Pirgos, Megalopoli, Zacharo, Ancient Olympia, Katakolo and Kleitoria. In Pamisos – Nedontas – Neda Basin there are 6 priority C and 1 priority B agglomerations. At present, the WWTP have been constructed and operate in priority B agglomeration (Kalamata) and in 3 priority C agglomerations (Filiatra, Methoni, and Pilos). The WWTP in Kiparissia, Meligala and Nestor are under construction and the WWTP in Aetos is in the tendering stage. The WWTP of Petalidi in the Municipality of Messini has been included in a funding program. Upon the construction and completion of these projects, the corresponding communities and some adjacent touristically developed areas will be served. There is no WWTP in Gargalianoi (priority C agglomeration) even though it is included in the areas whereas such facilities are required pursuant to Directive 91/271.

Industry

In total, 498 industrial plants have been identified in the river basin district. In Alfios River Basin, 117 industrial plants have been recorded, 56 out of which have been characterized as significant. The key activities relate to oil production (45% of the plants), and the production of dairy products (16%). The number of chemical industries is also significant including all fuel and lubricants production plants. Out of the 381 industries that have been recorded in Pamisos – Nedontas – Neda River Basin, 188 have been assessed as significant. Most of them relate to oil production (72% of the plants) and production of jams and mashed fruits.

Livestock farming

In the RBD, 104 livestock farm units were identified. Out of these, 16 livestock farms are located in Alfios River Basin (three large) whilst 88 in Pamisos – Nedontas – Neda River Basin (seven significant).

Losses from Uncontrolled Waste Dumping Sites and Landfill Sites

In Alfios River Basin (GR29) 12 Uncontrolled Waste Dumping Sites operate constituting a significant factor of pressure. In the regional unit of Arkadia 5 Uncontrolled Waste Dumping

Sites were recorded in total; in the regional unit of Ahaia 1 Uncontrolled Waste Dumping Site was identified whilst in the regional unit of Ilia 6. There are 14 Uncontrolled Waste Dumping Sites in the basin which are to be rehabilitated. In Pamisos – Nedontas – Neda River Basin (GR32), the number of Uncontrolled Waste Dumping Sites is 17. In the regional unit of Messinia there are 17 sites and one in Lakonia. In the basin there are 9 Uncontrolled Waste Dumping Sites which are to be rehabilitated.

Mines, quarries

17 quarries and 17 mines have been recorded in Alfios River Basin. In Pamisos – Nedontas – Neda River Basin, 17 quarries and 2 mines have been recorded.

Aquaculture – Fish farming

In Alfios River Basin there are fish farming units in Aroanios river and in Lagadiano stream whilst in Pamisos – Nedontas – Neda River Basin fish farming facilities are identified in the coastal Water Body of the bay of Methoni, in the Yalova lagoon and in Agios Floros stream in the area of Agios Floros springs.

Thermal power plants

In Alfios River Basin, 6 thermal power plants (4 owned by PPC S.A.) were identified whilst in Pamisos – Nedontas – Neda River Basin two thermal power plants.

Sand extraction

In Alfios River Basin, sand extraction has been carried out in Alfios, Erimanthos, Aroanios rivers and in Lestenitsa stream. In Pamisos – Nedontas – Neda River Basin, large quantities of sand have been extracted from time to time along the downstream section of Neda river and in the middle and down flow of Kalo Nero stream (Arkadikos). In addition, during the period 1986 – 87, after the earthquake in Kalamata, significant quantities of sand have been extracted from Miloi stream.

7.2 Diffuse Pressures

Agricultural activities

As regards the cultivation lands in Alfios River Basin, there are at present around 590,000 stremmas in total of cultivated land whilst in Pamisos – Nedontas – Neda River Basin there are approximately 1,114,000 stremmas of cultivated land.

Urban wastewater not collected in WWTPs

Urban wastewater that is diffused in groundwater and surface water bodies derives from population of any kind (of permanent or seasonal nature as well as tourists) that do not have

access to WWTP. This category encompasses urban wastewater treated by WWTP and used for the irrigation of cultivation lands.

Free range Livestock

Free range farming refers to the raising of cattle, poultry, sheep and goats of free range. Free range farming, given the dispersion and constant movement of animals to pastures is treated as a diffuse source of pollution. For the identification of the number of animals, data from the Bulletins of Annual Agricultural Statistical Research of Municipalities and Communities of ELSTAT as of year 2007 are used.

Natural pollution

Apart from anthropogenic pressures, diffuse pollution is also generated by atmospheric depositions and natural uses of land, i.e. forests and pastures. The pollutants from the diffuse natural pollution and other categories of diffuse pollution are diffused in the subsoil.

7.3 Total review of all pressures

From the individual pollution sources of the point, diffuse and other anthropogenic pressures analyzed in the previous paragraphs, the total final annual and summer quantities of pollutant loads of BOD, N and P that end up in the surface water bodies of the area under study are derived. The pollutants that end up in the groundwater bodies are traced by a network of monitoring stations of IGME (Greek Institute of Geology and Mineral Exploration) and their impact is assessed by measurement data.

In Alfios River Basin the total annual surface loads arising from the sum of the individual diffuse, point and other anthropogenic pressures are 8,000 tons/year BOD, 1,220 tons/year N and 130 tons/year P. For the summer period, the produced pollutant loads are 2,685 tons/year BOD, 406 tons/year N and 44 tons/year P respectively. In Pamisos – Nedontas – Neda River Basin the total annual surface pollutant loads arising from the sum of the individual diffuse pressures are 9,097 tons/year BOD, 1,362 tons/year N and 226 tons/year P. For the summer period, the produced pollutant loads are 3,058 tons/year BOD, 448 tons/year N and 76 tons/year P respectively.

7.4 Total water withdrawal

In Alfios River Basin (GR29) the most significant surface sources of withdrawn water for irrigation in the Basin is Ladonas artificial lake with 35 mil.m³ of water; the Flokas dam with 40 mil.m³ of water; and surface water withdrawal from Alfios river with 0.75 mil.m³ of water; and from Aroanios river with 1.5 mil.m³ of water. Surface water withdrawal is realized from Erimanthos river with 12.5 mil.m³ of water, transferred to Piros – Verga – Pinios River Basin (GR28), for the water supply of the city of Pírgos. The other needs are covered by the groundwater bodies by means of wells and springs and the water quantity amounts to 114 mil.m³ annually.

In Pamisos – Nedontas – Neda River Basin (GR32) the most important surface sources of withdrawn water for irrigation in the specific Basin is Pamisos dam with 9.2 mil.m³ of withdrawn water, and Ari diversion dam with 1.5 mil.m³ of withdrawn water to cover the needs of Pamisos GOEV Organization. Small surface water withdrawal is identified in the rivers of Giannouzagas and Xirias. The water withdrawn from Xirias and Giannouzagas rivers feeds Pilos reservoir which has a capacity of 460,000m³, serving the irrigation needs of 270 stremmas of golf area and 250 stremmas of greenery within the boundaries of POTA reservoir in Pilos. For the same purpose water is also withdrawn from Sellas river. The maximum possible withdrawal of water from the river will be 408,940 m³ per year. Out of this quantity, 32,500 m³ of water will be covered directly from water-withdrawal works and 376,440 m³ for feeding the reservoir of Korifasi with a capacity of ~240,000 m³ and 240,000 m³ for covering the irrigation needs of Romanos POTA reservoir. Surface water withdrawal for the purpose of water supply is not made in the specific Basin. The other needs are covered by the groundwater bodies by means of wells and springs and the water quantity amounts to 110 mil.m³ annually.

8 STATUS OF WATER BODIES

8.1 Surface Water Bodies

The status of surface WBs has been assessed and classified pursuant to article 2 of Annex V of Directive 2000/60/EC, with the aim to achieve the good ecological and chemical status for all surface bodies and the good status of the groundwater until 2015.

Half (44.5%) of all river Water Bodies (WB) are classified as of high or good status. The status of 10.9% of the river WB is assessed as moderate whilst 7 WB are classified as of a poor or bad status. 38% approximately of the river WB is of an unknown status mostly due to the poor existing monitoring network. In RBD 01 there are two lakes whose quality status is unknown. As regards the transitional WB, 60% is of unknown status whilst 1 transitional WB is classified as of a high or good and moderate status respectively. All coastal WB in the RBD of Western Peloponnese are of a high or good status. In the RBD of Western Peloponnese, the status of approximately 37% of the WB is unknown. In particular, in Pamisos – Nedontas – Neda River Basin the percentage of the surface WB of an unknown status is higher (52%) compared to the respective percentage of Alfios River Basin (22%). In the entire RBD of Western Peloponnese only 7 WB were classified as of a poor or bad status. These are the river WB belonging to Pamisos – Nedontas – Neda River Basin forming only 5.5% of the total WB of RBD 01.

Table 8-1. Status of river water bodies in River Basin 29

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status/ Potential
1	GR0129R000201001N	ALFIOS R.	-	Bad	Moderate
2	GR0129R000202002N	Lestenitsas Stream	-	Unknown	Unknown
3	GR0129R000202003N	Lestenitsas Stream	-	Unknown	Unknown
4	GR0129R000202104N	Lestenitsas Stream	-	Unknown	Good
5	GR0129R000202005N	Alisios Stream	-	Unknown	Good
6	GR0129R000202006N	Alisios Stream	-	Unknown	Good
7	GR0129R000203007N	ALFIOS R.	-	Unknown	Moderate
8	GR0129R000204008N	Selinous R.	-	Unknown	Unknown
9	GR0129R000204009N	Selinous R.	-	Unknown	Unknown
10	GR0129R000205010N	ALFIOS R.	-	Unknown	Moderate
11	GR0129R000206011N	ERIMANTHOS R.	-	Unknown	Good
12	GR0129R000206112N	Sireo Stream	-	Unknown	Good
13	GR0129R000206113N	Sireo Stream	-	Unknown	Good
14	GR0129R000206114N	Sireo Stream	-	Unknown	Good
15	GR0129R000206015N	ERIMANTHOS R.	-	Unknown	Good
16	GR0129R000206216N	AROANIOS R. (LIVARTZINO)	-	Unknown	Good
17	GR0129R000206217N	AROANIOS R. (LIVARTZINO)	-	Unknown	Good
18	GR0129R000206018N	ERIMANTHOS R.	-	Unknown	Good

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No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status/ Potential
19	GR0129R000206019N	ERIMANTHOS R.	-	■ Unknown	■ Good
20	GR0129R000207020N	ALFIOS R.	-	■ Bad	■ Unknown
21	GR0129R000208021N	LADON R.	-	■ Unknown	■ Good
22	GR0129R000208022N	LADON R.	-	■ Unknown	■ Good
23	GR0129R000208123N	Lagadiano Stream	-	■ Unknown	■ Good
24	GR0129R000208124N	Lagadiano Stream	-	■ Unknown	■ Good
25	GR0129R000208025N	LADON R.	-	■ Unknown	■ Good
26	GR0129R000208026N	LADON R.	-	■ Unknown	■ High
27	GR0129R000208227N	Paos R.	-	■ Unknown	■ Good
28	GR0129R000208028N	LADON R.	-	■ Unknown	■ Moderate
29	GR0129R000208329N	Tragos Stream	-	■ Unknown	■ Good
30	GR0129R000208330N	Tragos Stream (Milaodas)	-	■ Unknown	■ Good
31	GR0129R000208331N	Tragos Stream	-	■ Bad	■ Good
32	GR0129R000208032N	Aroanios R.	-	■ Unknown	■ Good
33	GR0129R000208433N	Aroanios R.	-	■ Good	■ Good
34	GR0129R000208034N	Xerorema Stream	-	■ Unknown	■ Good
35	GR0129R000208035N	Xerorema Stream	-	■ Unknown	■ Good
36	GR0129R000209036N	ALFIOS R.	-	■ Unknown	■ Unknown
37	GR0129R000210037N	Roggozitiko Stream	-	■ Unknown	■ Good
38	GR0129R000211038N	ALFIOS R.	-	■ Unknown	■ Good
39	GR0129R000212039N	Dipotamo	-	■ Unknown	■ Good
40	GR0129R000213040N	ALFIOS R.	-	■ Unknown	■ Good
41	GR0129R000214041N	LOUSIOS R.	-	■ Unknown	■ Good
42	GR0129R000214042N	LOUSIOS R.	-	■ Unknown	■ Good
43	GR0129R000215043N	ALFIOS R.	-	■ Unknown	■ Unknown
44	GR0129R000215044H	ALFIOS R.	HMWB	■ Unknown	■ Unknown
45	GR0129R000216045N	Elisson R.	-	■ Bad	■ Unknown
46	GR0129R000216046N	Elisson R.	-	■ Unknown	■ Good
47	GR0129R000216047N	Elisson R.	-	■ Unknown	■ Good
48	GR0129R000216048N	Elisson R.	-	■ Unknown	■ Good
49	GR0129R000216049N	Elisson R.	-	■ Unknown	■ Good
50	GR0129R000217050H	ALFIOS R.	HMWB	■ Unknown	■ Unknown
51	GR0129R000217051A	Diversion of Alfios	AWB	■ Unknown	■ Unknown
52	GR0129R000218052N	Xerilas Stream	-	■ Unknown	■ Good
53	GR0129R000219053A	Diversion of Alfios	AWB	■ Unknown	■ Unknown
54	GR0129R000219054N	ALFIOS R.	-	■ Unknown	■ Moderate
55	GR0129R000220055N	Kountifarina Stream	-	■ Unknown	■ Good
56	GR0129R000221056N	ALFIOS R.	-	■ Unknown	■ Good
57	GR0129R000221057N	ALFIOS R.	-	■ Unknown	■ Good
58	GR0129R000221058N	ALFIOS R.	-	■ Unknown	■ Good
59	GR0129R000221059N	ALFIOS R.	-	■ Unknown	■ Good

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Table 8-2. Status of river water bodies in River Basin 32

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status/ Potential
1	GR0132R000300001N	VELIKA Sream	-	Good	Poor
2	GR0132R000300002N	VELIKA Sream	-	Good	Good
3	GR0132R000500003N	KLISOUREIKO Sream	-	Good	Poor
4	GR0132R000500004N	MINAYOTIKO Sream	-	Unknown	Unknown
5	GR0132R000500005N	MINAYOTIKO Sream	-	Unknown	Unknown
6	GR0132R000700006N	GIANNOUZAGAS Sream	-	Unknown	Unknown
7	GR0132R000700007N	GIANNOUZAGAS Sream	-	Unknown	Unknown
8	GR0132R000901008N	SELAS Sream	-	Unknown	Unknown
9	GR0132R000902009N	ALAFINOREMA Sream	-	Unknown	Unknown
10	GR0132R000903010N	KAMPIROVA Sream	-	Unknown	Unknown
11	GR0132R000900011N	LAGOUVARDOS Sream	-	Unknown	Unknown
12	GR0132R000900012N	FILIATRINO Sream	-	Unknown	Unknown
13	GR0132R000900013H	FILIATRINO Sream	HMWB	Unknown	Unknown
14	GR0132R000900014N	FILIATRINO Sream	-	Unknown	Unknown
15	GR0132R000900015N	FILIATRINO Sream	-	Unknown	Unknown
16	GR0132R001100016N	KALO NERO Sream	-	Good	Poor
17	GR0132R001100017N	KALO NERO Sream	-	Good	Poor
18	GR0132R001100018N	KALO NERO Sream	-	Unknown	Unknown
19	GR0132R001100019N	KALO NERO Sream	-	Good	Moderate
20	GR0132R001500020N	NEDA R.	-	Bad	Moderate
21	GR0132R001500021N	NEDA R.	-	Good	Moderate
22	GR0132R001500022N	NEDA R.	-	Good	Good
23	GR0132R000201023H	PAMISOS R.	HMWB	Bad	Poor
24	GR0132R000201024H	PAMISOS R.	HMWB	Good	Poor
25	GR0132R000201025N	PAMISOS R.	-	Unknown	Unknown
26	GR0132R000202026H	AGIOS FLOROS Sream	HMWB	Unknown	Unknown
27	GR0132R000202027H	AGIOS FLOROS Sream	HMWB	Good	Good
28	GR0132R000203028N	MAVROZOU MENA Sream	-	Unknown	Unknown
29	GR0132R000203029N	MAVROZOU MENA Sream	-	Unknown	Unknown
30	GR0132R000204030H	MEGALO POTAMI Sream	HMWB	Good	Moderate
31	GR0132R000204131H	TZAMIS Sream	HMWB	Bad	Poor
32	GR0132R000204132N	TZAMIS Sream	-	Unknown	Unknown
33	GR0132R000204033H	MEGALO POTAMI Sream	HMWB	Unknown	Unknown
34	GR0132R000204034N	MEGALO POTAMI Sream	-	Unknown	Unknown
35	GR0132R000205035N	HOUHLOTOS Sream	-	Unknown	Good
36	GR0132R000206036N	MALTHIS Sream	-	Unknown	Good
37	GR0132R000207037N	KLISOUREIKO 2 Sream	-	Unknown	Unknown
38	GR0132R000201038H	ARIS R.	HMWB	Unknown	Unknown

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No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status/ Potential
39	GR0132R000202039H	TZIROREMA Sream	HMWB	■ Unknown	■ Unknown
40	GR0132R000202040N	TZIROREMA Sream	-	■ Unknown	■ Unknown
41	GR0132R000202041N	TZIROREMA Sream	-	■ Unknown	■ Unknown
42	GR0132R000203042H	ARIS R.	HMWB	■ Good	■ Moderate
43	GR0132R000203043H	ARIS R.	HMWB	■ Good	■ Moderate
44	GR0132R000203044N	ARIS R.	-	■ Good	■ Moderate
45	GR0132R001700045H	NEDON R.	HMWB	■ Unknown	■ Unknown
46	GR0132R001700046N	NEDON R.	-	■ Unknown	■ Unknown
47	GR0132R001700047N	NEDON R.	-	■ Unknown	■ Unknown
48	GR0132R001700048N	NEDON R.	-	■ Unknown	■ Good
49	GR0132R002100049N	MILOI Sream	-	■ Unknown	■ Unknown
50	GR0132R002100050N	MILOI Sream	-	■ Unknown	■ Unknown
51	GR0132R002100051N	MILOI Sream	-	■ Unknown	■ Good

Table 8-3. Status of lake water bodies in River Basin 29

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Potential
1	GR0129L000000001H	Ladon Art. Lake	HMWB	■ Unknown	■ Unknown

Table 8-4. Status of lake water bodies in River Basin 32

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status/ Potential
1	GR0132L000000001H	FILIATRINO ART. LAKE	HMWB	■ Unknown	■ Unknown

Table 8-5. Status of coastal water bodies in River Basin 29

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status
1	GR0129C0001N	Katakolo Cape	-	■ Unknown	■ High
2	GR0129C0002N	Gulf of Kiparissia	-	■ Unknown	■ Good

Table 8-6. Status of coastal water bodies in River Basin 32

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status
1	GR0129C0001N	Katakolo Cape	-	■ Unknown	■ High
2	GR0129C0002N	Gulf of Kiparissia	-	■ Unknown	■ Good
3	GR0132C0003N	GREEK COASTS OF MESSINIA IN THE IONIAN SEA	-	■ Unknown	■ High
4	GR0132C0004N	NAVARINO BAY (PILOS)	-	■ Unknown	■ Good
5	GR0132C0005N	METHONI CHANNEL	-	■ Unknown	■ High
6	GR0132C0006N	METHONI BAY	-	■ Unknown	■ High
7	GR0132C0007N	AKRITAS CAPE	-	■ Unknown	■ High

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No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status
8	GR0132C0008N	KALAMATA GULF	-	■ Unknown	■ Good
9	GR0132C0009N	TENARO – MESSINIAKOS GULF	-	■ Unknown	■ High
10	GR0132C0010N	METHONI WEST COAST	-	■ Unknown	■ High
11	GR0132C0011N	TENAROS ISLET	-	■ Unknown	■ High

Table 8-7. Status of transitional water bodies in River Basin 29

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status
1	GR0129T0002N	Kaifas Lagoon	-	■ Unknown	■ Good
2	GR0129T0001N	Alfios estuaries	-	■ Unknown	■ Unknown

Table 8-8. Status of transitional water bodies in River Basin 32

No	Code	Name	AWB/ HMWB	Chemical Status	Ecological Status
1	GR0132T0001N	ESTUARY OF NEDAS R.	-	■ Unknown	■ Unknown
2	GR0132T0002N	ESTUARY OF PAMISOS R.	-	■ Unknown	■ Unknown
3	GR0132T0003N	YALOVA LAGOON	-	■ Unknown	■ Moderate

Table 8-9. Summarized status of surface water bodies (WB) in RBD 01

Type	Number of WBs	High/good		Moderate		Poor /bad		Unknown	
		Number	%	Number	%	Number	%	Number	%
Rivers	110	49	44.5%	12	10.9%	7	6.4%	42	38.2%
Lakes	2	-	-	-	-	-	-	2	100.0%
Transitional	5	1	20%	1	20%	-	-	3	60.0%
Coastal	11	11	100%	0	0%	-	-	0	0.0%
Total	128	61	47.7%	13	10.2%	7	5.5%	47	36.6%

8.2 Heavily modified and artificial water bodies

The to-date human activity has altered the initial characteristics of some water bodies. These changes, regardless of the extent of the alteration they have caused and the reasons for which they occurred, make these water bodies particular in a sense. Such bodies are addressed in a different manner by Directive 2000/60/EC and are called **Heavily Modified Water Bodies** (HMWB). Similarly, artificial water bodies are created where in the past they did not exist. These bodies are called **Artificial Water Bodies** (AWB).

In all the cases of heavily modified and artificial water bodies that were examined, their conversion into natural water bodies was deemed impossible or disadvantageous in terms of cost. Therefore, out of the 128 in total surface water bodies that have been identified in the framework of this study for the River Basin District of Western Peloponnese (RBD 01), 17 are finally characterized as heavily modified WBs and 2 as artificial water bodies.

Table 8-10. Summarized picture of the heavily modified and artificial water bodies in the River Basin District of Western Peloponnese (RBD 01)

Type	Number of WBs	HMWBs (number, %)	AWBs (number, %)
Rivers	110	15 (14%)	2 (2%)
Lakes	2	2 (100%)	-
Coastal	11	-	-
Transitional	5	-	-
Total	128	17 (13%)	2 (2%)

8.3 Groundwater Bodies (GB)

The following tables present the identified chemical and quantitative status of each groundwater body and the existing pollution trends or level drop due to over-abstraction. These tables also cite the water bodies that present increased values of natural substratum, and the new increased values of the Highest Acceptable Values of the natural substratum.

Table 8-11. Table of quantitative – chemical status of groundwater bodies – Alfios River Basin (GR29)

GB's Code	GB's Name	Quantitative status	Chemical Status	Trend of level drop	Trend of pollution increase	Local exceedances of trace elements	New increased Highest Acceptable Value due to increased values of the natural substratum
GR0100010	Body of Alfios	■ Good	■ Good	No	-	Mn, Fe, As, Al, Ni, Pb	
GR0100020	Body of South Erimanthos	■ Good	■ Good	No	No	-	
GR0100030	Body of Ladon	■ Good	■ Good	No	No	-	
GR0100040	Body of Lagkadia	■ Good	■ Good	No	No	-	
GR0100050	Body of Methidrio-Piana	■ Good	■ Good	No	No	-	
GR0100060	Body of Elissonas	■ Good	■ Good	No	No	-	
GR0100070	Body of Megalopoli	■ Good	■ Good	No	No	-	
GR0100220	Body of Karitena-Stemnitsa	■ Good	■ Good	No	No		
GR0100230	Body of Lousios-Paloumba	■ Good	■ Good	No	No	-	
GR0100240	Body of Minthi	■ Good	■ Good	No	No	-	
GR0100250	Body of Zacharo	■ Good	■ Good	No	-	Mn, Fe, Al	
GR0100260	Body of Kaiafas	■ Good	■ Good	No	No	-	Increased values of chlorides due to thermal-

GB's Code	GB's Name	Quantitative status	Chemical Status	Trend of level drop	Trend of pollution increase	Local exceedances of trace elements	New increased Highest Acceptable Value due to increased values of the natural substratum
							mineral waters

Table 8-12. Table of quantitative – chemical status of groundwater bodies - Pamisos – Nedontas – Neda River Basin (GR32)

GB's Code	GB's Name	Quantitative status	Chemical Status	Trend of level drop	Trend of pollution increase	Local exceedances of trace elements	New increased Highest Acceptable Value due to increased values of the natural substratum
GR0100080	Body of Agios Floros - Pidima	■ Good	■ Good	No	No	Fe	
GR0100090	Body of West Taigetos	■ Good	■ Good	No	-		Cl=3000 mg/l
GR0100100	Body of Pamisos	■ Bad	■ Bad (Cl: 17 - 326, SO4: 10 - 682, NO3: 3 - 350 mg/l)	Yes	Local (Cl, SO4, NO3)	Pb	
GR0100110	Body of Koroni	■ Good	■ Good	No	No	Fe	
GR0100120	Body of Methoni	■ Good	■ Good	No	No	Fe	
GR0100130	Body of Kinigos	■ Good	■ Good	No	No		Increased values of chlorides
GR0100140	Body of Romanos-Chora	■ Good	■ Good	Yes	Local	Fe	
GR0100150	Body of Gargalianoi	■ Good	■ Good	No	No		Increased values of chlorides
GR0100160	Body of Chora	■ Good	■ Good	No	No	-	
GR0100170	Body of Filiatra-Kiparissia	■ Bad	■ Bad (Cl: 16 - 375, SO4: 12 - 213, NO3: 4 - 150 mg/l)	Yes	-	Fe	
GR0100180	Body of Kalo Nero-Neda	■ Good	■ Good	No	No	Fe	
GR0100190	Body of Kiparissia - Ithomi	■ Good	■ Good	No	No	-	
GR0100200	Body of Ano Messinia	■ Good	■ Good	No	No	-	

GB's Code	GB's Name	Quantitative status	Chemical Status	Trend of level drop	Trend of pollution increase	Local exceedances of trace elements	New increased Highest Acceptable Value due to increased values of the natural substratum
GR0100210	Body of Diavolitsi – Nea Figalia	■ Good	■ Good	No	No	-	

8.4 Registry of Protected Areas

In accordance with Directive 2000/60/EC for the establishment of a framework of community action in the water policy sector, the member states shall ensure the establishment of a registry or registries 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.

The table below presents the number of Protected Areas classified per type.

Table 8-13. Number of areas per type of protected area, River Basin & RBD

Type of Protected Area	RB 29	RB 32	TOTAL
Water bodies designated for water withdrawal	2	3	5
Economically significant aquatic species	1	5	6
Recreational waters	7	43	50
Sensitive areas	-	-	-
Easily-affected areas	-	-	-
Protected Natural Areas	9	11	20
Total	19	62	81

8.5 Monitoring Network

In accordance with the requirement of Article 8 of Directive 2000/60/EC, Article 8 of Law 3199/2003 (GG 280/A/9-12-03) and Article 11 of Presidential Decree 51/2007 (GG 54/A/8-3-07), the Joint Ministerial Decision, No οκ. 140384 (GG 2017/B/9-9-11), which established the National Monitoring Network of surface and groundwater bodies, was issued.

Surface Water Bodies

In Alfios River Basin (GR29), the established network consists of 23 monitoring sites in rivers; 13 for surveillance and 10 for operational monitoring. In Pamisos – Nedontas – Neda River Basin (GR32), the network consists of 13 monitoring sites in rivers; 5 for surveillance and 8 for operational monitoring. As regards lake Water Bodies in Alfios River Basin (GR29), the

network consists of one surveillance monitoring site in the artificial lake of Ladon. The monitoring network for coastal waters in Alfios River Basin consists of one surveillance monitoring site in the gulf of Kiparissia. In Pamisos – Nedontas – Neda River Basin (GR32), the network consists of 3 surveillance monitoring sites in coastal waters. The network in Alfios River Basin for transitional WB consists of one operational monitoring site in Kaiafas lagoon. In Pamisos – Nedontas – Neda River Basin (GR32), there is one operational monitoring site in Yalova lagoon.

In the framework of preparing the Management Plan, the update of the JMD network was proposed. In RBD 01 surveillance monitoring is proposed for 18% of the river WBs, whilst for River Basins 29 & 32 at percentages of 17% & 19% respectively. 100% of the lakes and 45% of the coastal WBs in RBD 01 are included in the surveillance monitoring program contrary to the transitional WBs. In RBD 01 operational monitoring is proposed for 23% of the river WBs, whilst in Basins 29 & 32 the operational monitoring is proposed at percentages of 17% & 19% respectively. All transitional WBs are included in the operational monitoring program. The percentage of RBD proposed to be encompassed in the operational monitoring program is higher in Basin 32 (30%) compared to Basin 29 (19%). The exploratory monitoring pertains to 3 river WBs in Basin 29 and 1 river WB in Basin 32. The following table presents the total number of monitoring sites per WB type, per Basin and in the entire RBD 01 as well as the percentage of WBs included in the finally configured monitoring network in the RBD of W. Peloponnese.

Table 8-14. Total summarized information of the surface Water Bodies monitoring network

TOTAL NETWORK	RIVER BASIN 29		RIVER BASIN 32		RBD 01	
	Number of WBs	% of WBs	Number of WBs	% of WBs	Number of WBs	% of WBs
Rivers	22	37%	23	45%	45	41%
Lakes	1	100%	1	100%	2	100%
Transitional	2	100%	3	100%	5	100%
Coastal	1	50%	5	56%	6	55%
Total	26	41%	32	50%	58	45%

Groundwater Bodies

In Alfios River Basin the established monitoring network consists of 29 monitoring sites; 14 for surveillance and 14 for operational monitoring. In Pamisos – Nedontas – Neda River Basin, the network consists of 57 monitoring sites; 13 for surveillance and 44 for operational monitoring. In the framework of preparing the Management Plan, the update of the JMD monitoring network cited was proposed.

Table 8-15 presents the total number of monitoring sites per River Basin and the percentage of surveillance and operational monitoring per River Basin.

Table 8-15. Summarized data of the surveillance monitoring network

GROUNDWATER BODIES	RIVER BASIN 29		RIVER BASIN 32		RBD 01	
	Number of sites	% of sites	Number of sites	% of sites	Number of sites	% of sites
Surveillance	25	62.5%	11	17.2%	36	34.6%
Operational	15	37.5%	53	82.8%	68	65.4%
TOTAL	40	100%	64	100%	104	100%

9 ECONOMIC ANALYSIS OF WATER USES

The Directive separates the services from water uses by defining the water services as the total of the processes intervening between natural water resources and the uses. On the basis of this definition, water services are any acts which change the main characteristics of the naturally available water and the water disposed after each use. It is noted that on the basis of the Directive's definition, water uses encompass all water services as well as any activities having a significant impact on its status. This definition covers almost the entire spectrum of human activities, i.e. agriculture, households, industries, navigation, protection from floods, power generation.

The water services for which a cost estimate is made are:

- Water supply / sewage Refined or clean potable water,
- Irrigation, Non-refined water

The cost recovery levels per provider of water services and per use (Supply of water and Irrigation) were estimated. On a first level, the financial cost recovery level is estimated and then the total cost encompassing the environmental cost and the natural resource cost.

Water Supply

At a River Basin District Level, the total revenues for the DEYAs (Municipal and Sewage Company) amount to €12.3 m., without the special duty of 80%, and to €14.6 m. if included. For Municipalities the revenues from the supply of water were estimated at €5.0 m. The total revenues from the supply of water in River Basin District 01 were estimated at €19.6 m. The average revenues per m³ of water for the entire Water Supply were estimated to €0.6/m³, whilst for the DEYA is €0.8/m³ and for Municipalities €0.3/m³.

The revenues for the DEYAs (Municipal and Sewage Company) in River Basin 29 amount to €3.3 m., without the special duty of 80% and to €3.8 m. if included. To the contrary, in said Municipal Corporation for Water Supply and Sewage of RB 29, the revenues were estimated at €2.3 m. In other words, the total revenues from the supply of water in RB 29 were estimated at €6.1 m. The average revenues per m³ of water for the entire Water Supply were estimated at €0.5/m³, whilst for the DEYA is €0.65/m³ and for Municipalities €0.3/m³.

The revenues for the DEYAs (Municipal Corporations for Water Supply and Sewage) in RB 32 amount to €9 m., without the special duty of 80% and to €10.8 m. if included. To the contrary, in said Municipal Corporation for Water Supply and Sewage of RB 32, the revenues were estimated at €2.7 m. In other words, the total revenues from the supply of water in RB 32 were estimated at €13.5 m. The average revenues per m³ of water for the entire Water Supply was estimated at €0.6/m³, whilst for the DEYA is €0.8/m³ and for Municipalities €0.3/m³.

For RBD 01, the total financial cost recovery amounts to 51.3%, whilst total recovery to 49.8%. The respective figures for the DEYA are 72.7% and 70.8%, whilst for the Municipalities 27.7% and 26.8%. In general terms, the financial cost recovery in RBD01 with

respect to the entire supply of water is at moderate levels and in particular it is deemed satisfactory for the DEYA and low for the Municipalities.

Irrigation

In the entire RB01 the revenues from Organized Irrigation are €3.88 m. (i.e. the average revenue per m³ is €0.06) out of which, €3.36 m. correspond to RB 29 and €0.52 m. to RB 32.

The financial and total cost recovery in Organized Irrigation in RB 29 amounts to 56.7%. From the detailed information no substantial differentiation is observed among the various providers, with the exception of some borderline values. The financial cost recovery in Organized Irrigation in RB 32 amounts to 28.1% whilst the total cost recovery to 27%. From the detailed information no substantial differentiation is observed among the various providers, with the exception of some borderline values. As regards the Non-Organized Irrigation, a Cost of Natural Resources of € 1.2 m. is observed. Thus, in relation to the entire irrigation, the total recovery is limited to 16.6%.

10 ENVIRONMENTAL OBJECTIVES – EXEMPTIONS

10.1 Identification of exemptions

The determination of objectives pursuant to the Directive entails the usage of the different options cited in Article 4. Through the process of specifying the objectives, not only is the status of all surface and groundwater bodies identified but also the achievement timeline of the objective of the Directive. Exemptions form an integral part of the environmental objectives laid down in Article 4. The relevant terms and the procedures are described in paragraphs 4.3, 4.4, 4.5, 4.6 and 4.7 of Directive 2000/60/EC. Exemptions vary from small scale provisional exemptions to long-term deviations from the objective of "good status until 2015" and have the following forms:

- Deadline extension: extension of the deadline for achieving the good status until 2021 or 2027 the latest (2nd and 3rd revision of the Management Plans) or whenever the natural conditions allow after 2027 (article 4.4).
- Determination of less strict environmental objectives under certain conditions, i.e. if it has been proved that the water bodies have been influenced to such extent by human activity that the achievement of environmental objectives is impossible or disproportionately cost-consuming (paragraph 4.3 and 4.5).
- Temporary deterioration in status arising from natural causes or force majeure or extraordinary conditions that could not have been foreseen when all conditions precedent under Article 4 are applicable (paragraph 4.6).
- New modifications of the natural characteristics of a body of surface water or modifications of the level of groundwater as a result of a new sustainable human activity (including the modification from - high to good status) (paragraph 4.7).

Table 10-1. Surface Water Bodies to be exempted in RBD 01

No	RB	Code	WB	Type of WB*	Existing status	Year of achieving the good status/ type of exemption	Applied measures	Exemption justification
1	29	GR0129R000201001N	Alfios (estuaries)	R	■ Moderate	2021 (Article 4.4)	ΟΣ_ΥΔ01_9, ΟΣ_ΥΔ01_10, 2.05, 7.03, 7.02	Intense hydromorphological alterations. Non-observance of the ecological flow, significant pressures from diffuse and point pollution sources. A longer period is required for the ecological recovery of the surface WB. A longer period is required for the implementation of the required technical works.
2	29	GR0129R000203007N	Alfios (downstream)	R	■ Moderate	2021 (Article 4.4)	ΟΣ_ΥΔ01_9, ΟΣ_ΥΔ01_10, 2.05, 7.03, 7.02, 9.02, 11.03, 13.02, 13.03	Intense hydromorphological alterations. Over-withdrawal, significant pressures from diffuse and point pollution sources. A longer period is required for the ecological recovery of the surface WB. A longer period is required for the implementation of the required technical works.
3	32	GR0132R000201023H	PAMISOS R. (HMWB)	R	■ Poor	2021 (Article 4.4)	ΟΣ_ΥΔ01_9, ΟΣ_ΥΔ01_10, 7.03, 8.01, 9.02	Industries in the specific river basin and many of them upstream, 1 Uncontrolled waste dumping site, large settlements e.g. the city of Messini, cultivating land and organized collective irrigation networks. Streaming – hydromorphological alterations. Pressures from upstream: industries, mining activities, settlements, large area of cultivation land, organized collective irrigation networks, irrigation withdrawal, hydromorphological alterations. The changes in the hydromorphological characteristics of the HMWB

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No	RB	Code	WB	Type of WB*	Existing status	Year of achieving the good status/ type of exemption	Applied measures	Exemption justification
								necessary for achieving a good ecological status would have significant negative impact on the area's protection from floods and on the satisfaction of the irrigation needs (Article 4.3). The good ecological status is set as an environmental objective of the WB. However, it is not reasonably possible to achieve all required improvements of the WB's status since a longer period is required for the implementation of the required technical works (Article 4.4).
4	32	GR0132R000201024H	PAMISOS R. (HMWB)	R	■ Poor	2021 (Article 4.4)	ΟΣ_ΥΔ01_9, ΟΣ_ΥΔ01_10, 7.03, 8.01, 9.02, 8.02,11.01	Industries in the specific basin and many of them upstream, 1 Uncontrolled waste dumping site, large settlements e.g. the city of Messini, cultivating land and organized collective irrigation networks. Streaming – hydromorphological alterations. Pressures from upstream: industries, mining activities, settlements, large area of cultivation land, organized collective irrigation networks, irrigation withdrawal, hydromorphological alterations. The changes in the hydromorphological characteristics of the HMWB necessary for achieving a good ecological status would have significant negative impact on the area's protection from floods and on the satisfaction of the irrigation needs. The good ecological status is set as an environmental objective of the WB. However, it is not reasonably possible to achieve all required improvements of the WB's status since a longer period

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No	RB	Code	WB	Type of WB*	Existing status	Year of achieving the good status/ type of exemption	Applied measures	Exemption justification
								is required for the implementation of the required technical works.
5	32	GR0132R000201038H	ARIS R. (HMWB)	R	■ Unknown	2021 <i>(Article 4.4)</i>	ΟΣ_ΥΔ01_9, ΟΣ_ΥΔ01_10, 8.01, 8.01, 9.02	Significant number of industrial plants, mining activity, diffuse pressures from agriculture, hydromorphological alterations. Upstream: water withdrawal from Ari dam, settlements, livestock farming activity. The changes in the hydromorphological characteristics of the HMWB necessary for achieving a good ecological status would have significant negative impact on the area's protection from floods and on the satisfaction of the irrigation needs. The good ecological status is set as an environmental objective of the WB. However, it is not reasonably possible to achieve all required improvements of the WB's status since a longer period is required for the implementation of the required technical works.

*R: Rivers, C: Coastal, T: Transitional, L: Lakes

Table 10-2. Groundwater Bodies to be exempted in RBD 01

No	RB	Code	WB	Existing status	Year of achieving the good status/ type of exemption	Applied measures	Exemption Justification
1	32	GR0100100	BODY OF PAMISOS	■ Bad	After 2027, (Article 4.4)	8.03, 8.07, ΟΣ_ΥΔ01_6, ΟΣ_ΥΔ01_4, ΟΣ_ΥΔ01_7	Over-withdrawal, salination. Pressures from diffuse sources of pollution. However, it is not reasonably possible to achieve all required improvements of the WB's status since a longer period is required for the implementation of the required technical works.
2	32	GR0100170	BODY OF FILIATRA - KIPARISSIA	■ Bad	After 2027, (Article 4.4)	8.03, 8.07, ΟΣ_ΥΔ01_6, ΟΣ_ΥΔ01_7	Over-withdrawal, salination. Pressures from diffuse sources of pollution. However, it is not reasonably possible to achieve all required improvements of the WB's status since a longer period is required for the implementation of the required technical works.

Table 10-3 Number and % of River Water Bodies per type of exemption in RBD01

Exemption	% percentage of WBs total surface that consists exemption	Justification	% percentage of WBs of each justification	Comments
Article 4.4	3.6%	Technical infeasibility	100%	

Table 10-4 Number and % of Groundwater Bodies (GB) per type of exemption in RBD01

Exception	% percentage of WBs total surface that consists exemption	Justification	% percentage of WBs of each justification	Comments
Article 4.4	5.7%	Technical infeasibility	100%	

10.2 Scheduled and new projects – activities – modifications

The main scheduled new projects and their potential impact on the achievement of the environmental objectives of the Water Bodies are shown in the following tables per RB.

Table 10-5. Table of new projects and activities in Alfios River Basin

No	Project/ Activity	Summary description	Influenced WB
1	Elissonas Dam (Kombona location)	The reservoir to be developed upon implementation of the project will have multiple uses, among which power generation as well as satisfaction of the water needs of the Municipality of Megalopoli. The project will significantly contribute to the reduction of water abstraction made by PPC through wells for the cooling of the power plants. The reservoir's construction will reinforce the water supply of the Munic. of Megalopoli on the one hand, and, on the other, it will reduce to a great extent water abstraction (12 mil.m ³ annually) from the wells of PPC used for the cooling of the operation units of Megalopoli Power Plant.	The river water body of Elissonas river with code GR0129R000216046N as well as the WBs of Megalopoli (GR0100070) and Karitena-Stemnitsa (GR0100220).

No	Project/ Activity	Summary description	Influenced WB
2	Water supply of the M. of Pirgos and Ancient Olympia from Erimanthos river	One of the most significant projects in the entire Peloponnese has been recently completed. It is the project of water supply of 70,000 residents of Pirgos and Ancient Olympia (water supply of the cities of Pirgos and Ancient Olympia and 28 regional units) from water abstraction from Erimanthos river, around 5.5 km upstream the river's confluence with Alfios. The capacity of the refinery amounts to 2,150 m ³ /hour. This project will be extended to cover the water supply needs of the municipalities of Volax, Zacharo, and Skillountas.	The river water body of Erimanthos river with code GR0129R000206011N which is in good status. The annual water abstraction in the full development of the project will amount to approximately 15 mil.m ³ .

Table 10-6. Summarized table of important scheduled projects in Pamisos – Nedontas – Neda River Basin

No	Project/ Activity	Summary description	Influenced WB
1	Filiatrino Dam	The project's environmental terms have been approved by the Joint Ministerial Decision EYPE ουκ/105907/17-7-2006. The dam's construction commenced in 2011 and its completion is expected in 2013. The dam is constructed by the narrowing of Filiatrino stream situated east of Filiatra town, at a distance of approximately 5km. The crest level of the dam is at 215.2m above the sea level and the spillways' crest level is at 212m. The artificial lake created with the dam's construction will cover an area of 0.5km ² and will have a total capacity of 7.8 mil.m ³ , whilst the downstream section of the dam whose flow will be regulated is around 5km long. The reservoir will serve the irrigation needs of a total area of approximately 50,000 stremmas.	The construction of the dam creates the surface HMWB of the artificial lake of Filiatrino with code GR0132L000000001H . The river water body of Filiatrino stream downstream the dam, code GR0132R000900013H , is influenced, as well as the groundwater body of Filiatra, Kiparissia (GR0100170).
2	External water supply network from Agios Pavlos springs	The total physical object of the project includes the construction of a new pump station at Agios Pavlos springs and the construction of a 1,400 m-long discharge pipe that would stream the water to the location "Manesi Hill", to a new head tank. Moreover, an external PE pipe network will be constructed, of total length of 44 km, in	The water abstraction pertains to the groundwater body of Kiparissia-Ithomi (GR0100190), from which water is already abstracted for water supply. The said WB is in good quantitative and chemical status.

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No	Project/ Activity	Summary description	Influenced WB
3	<p>Project enhancing the water supply of the Association of Water Supply of Kalamata-Messini</p>	<p>view of satisfying the needs of settlements Polylofo, Madena, Mavromati, Spitali, Myrtopotamia, Lefkohora, Avramiou, Drakoneri, Analipsi, Messini, Karteroli, Moshohori, Piperitsa, Triodos, Spitali, Pilalistra and Lykotrafo, of the Municipal Unit of Messini. Section 1 of Phase A' of the project includes the construction of a 3,500m –long network from Agios Pavlos springs to the head tank.</p> <p>The project pertains to the construction of water abstraction and transfer works from Agios Floros springs. The proposed works are combined with the existing water supply works of the Association. Upon completion of the project water of good quality and sufficient quantity will be ensured to serve the extended areas of Kalamata, Messini, and Western Mani in a significant timeline.</p>	<p>The water abstraction pertains to the groundwater body of Agios Floros – Pidima (GR0100080), from which water is already abstracted for water supply and irrigation. The said GB is in good quantitative and chemical status and has potential for further abstraction.</p>

11 PROGRAM OF MEASURES

The Program of Measures forms a part of the River Basin Management Plan. It forms the “mechanism” of achievement of the environmental objectives set out in the Management Plan. Their division into basic and supplementary measures forms two levels of interventions: a) at a first level (basic measures) those actions stipulated by the Community legislation on environmental protection are organized, as well as the key actions laid down in Directive 2000/60/EC. The first level ensures the essential requirements for the protection of the water bodies by preventing their deterioration; b) at a second level (supplementary measures) the additional actions necessary for those water bodies whose environmental objections may not be achieved by 2015 are identified.

The program of Basic measures forms a tool for the protection of all water resources. In particular, the proposed measures are applicable to all water bodies and not only to those WBs under protection, pursuant to the WFD. In this manner, protection of the total water resources is ensured (e.g. small streams that do not meet the criteria of Directive 2000/60/EC for being characterized as WBs).

Apart from the main Community Directives the implementation of 38 other basic measures is proposed in the RBD of Western Peloponnese. In addition, in RBD 01 the implementation of 23 different supplementary measures in 34 different WBs is proposed. These measures are often implemented in more than one WBs. In this case they are in fact different measures since they pertain to a different WB with different characteristics and a differentiation in their implementation cost is often observed. Therefore, in RBD 01, 75 supplementary measures are proposed for implementation and are assessed.

With respect to the supplementary measures a cost – efficiency analysis has been carried out in line with the Directive’s requirements. The implementation cost of the supplementary measures amounts to € 60 million.

Besides the Program of Measures, in the framework of preparing the Management Plans, some other actions are proposed that may be implemented in addition to supplementary measures. They pertain to various environmental actions that resulted from the consultation. They do not form the object of the management plan but they are recorded in order to facilitate the coordination of competent services and towards the direction of the general policy of environmental protection.

Table 11-1. Program of Basic Directive Measures in RBD 01

Code	DIRECTIVE
BM01	Bathing Waters (Directives 76/160/EEC, 2006/7/EC)
BM02	Protection of wild birds (Directive 79/409/EC) and Natura 2000 areas (Directives 92/43/EC -2009/147/EC)
BM03	Drinking Water (Directives 80/778/EC, 98/83/EC)
BM04	Environmental Impact of Projects / Activities (Directives 85/337/EC , 97/11/EC, 2003/35/EK, 2009/31/EC)
BM06	Prevention - Pollution Control (Directives 96/61/EC, 2008/1/EC , 2010/75/EU)
BM07	Protection from Nitrate (Directive 91/676/EC)
BM08	Pesticides (Instructions 91/414/EC, 1107/2009, 2009/128/EC)
BM09	Control of major-accident hazards involving dangerous substances - SEVESO (Instructions 96/82/EC, 2003/105/EC)
BM10	Sludge treatment plants (Directive 86/278/EC)
BM11	Urban Waste water Treatment (Directive 91/271/EC)
OM01	Directive on priority substances (2008/105/EC), as incorporated by GG1909/8-12-2010
OM02	Directive to protect groundwater (2006/118/EC) as incorporated by JMD 39626/2208/E130/2009 (GG B' 2075) and the requirements of Article 14 of PD 51/2007
OM03	Directive 2006/11/EC on pollution caused by certain dangerous substances

Table 11-2. Program of others Basic Measures in RBD 01

CODE	Name of Measure
OM04-1	Customization of pricing policy in a flexible and efficient way in order to serve as primary target the environmental sustainability and avoid water wastage.
OM05-1	Implementation of Water Safety Plans in Large Municipal Water and Sewage Companies (DEYA). RBD 01 : DEYA KALAMATA , DRINK WATER ASSOCIATION OF ILIAS M.PYRGOS M. AN.OLYMPIA & REGION OF WESTERN GREECE
OM05-2	Introduction of institutional framework and program of measures for water conservation in households.
OM05-3	Works for the rehabilitation / enhancement of existing water supply networks.
OM05-4	Actions to enhance the operation of water supply networks of large agglomerations of the RBD. Leakage control.
OM05-5	Reorganization / rationalization of the institutional framework for the operation of management authorities of collective irrigation systems.
OM05-6	Actions to enhance the operation of water supply networks of large agglomerations of the RBD. Leakage control.
OM06-1	Compilation / Update of the water supply Masterplans from Municipal Water and Sewage Companies (DEYA).
OM06-2	Protection of abstraction works for drinking water from surface water bodies.
OM06-3	Detailed delineation of protection zones for groundwater abstraction points (springs, wells) for drinking water abstractions > 1.000.000m ³ per year.
OM06-4	Designation of protection zones of works for the abstraction of drinking water.
OM06-5	Prohibition of new works for the exploitation of groundwater bodies (wells , wells , etc) for new water uses and the expansion of existing water use permits : <ul style="list-style-type: none"> • In areas with GWB in bad quantitative status • Within areas of collective irrigation systems • Within the protection zones (I and II) of works for the abstraction of drinking water.
OM06-6	Protection of GWBs included in the register of protected areas as drinking water areas and instruction of institutional framework for their protection.
OM06-7	Investigation of conditions for implementing artificial recharge in groundwater bodies, as a mean of quantitative enhancement and qualitative protection of GWBs.
OM07-1	Installation of monitoring systems to record groundwater bodies abstractions.
OM07-2	Recording of surface water abstractions for water supply, irrigation and other uses by big consumers (abstractions over 10m ³ /day).
OM07-3	Update of the Decision F16/6631/1989 which specifies the minimum and maximum limits of necessary quantities of irrigation water.
OM07-4	Creation of a homogenous registry of licensed abstractions through the process of licensing water uses.
OM07-5	Establishment of criteria to determine limits of total abstractions for each water body.
OM07-6	Review of the regulatory framework for licensing water uses and execution of water resources exploitation works.
OM08-1	Creation of a homogenous registry of disposal area for wastewater, either through irrigation or through artificial recharge (GG354/B/08.03.2011).
OM08-2	Compilation of technical specifications manual for the implementation of different reuse methods.
OM09-1	Promotion of planning central treatment units of agricultural and animal wastes
OM09-2	Set up of a registry of pollution sources (emissions, discharges and leaks).
OM09-3	Defining terms and conditions for connection of industries to sewerage networks / reception of industrial wastes in WWTP.

CODE	Name of Measure
OM09-4	Instruction / designation of limits for emissions at basin level for priority substances and other pollutants of KYA 51354/2641/E103/2010 as well as for physicochemist parameters in relation to quality objectives specified in river basin management plans.
OM09-5	Specification of criteria for licensing new / expansion of existing aquaculture units.
OM09-6	Specification of the process to control and designate zones for aquacultures in inland waters
OM09-7	Modernization of national legislation on the management of urban and industrial waste waters.
OM09-8	Development of a regulatory framework / guidelines for monitoring water quality in aquaculture units.
OM09-9	Instruction of an institutional framework for the licensing of tanks that transport sewage.
OM10-1	Stepwise, selective conversion of conventional to organic farming.
OM10-2	Modernization of the institutional framework for sludge management from waste water treatment plants with emphasis on expanding the scope of its applications and review the quality characteristics of the applied sludge.
OM10-3	Development of specialized tools for the rational use of fertilizers and water.
OM11-1	Training institutional framework determining the terms of protection of inland recreational waters Article 6 of Directive 2000/60/EC - Temporary setting for new projects in inland water bodies included as recreational waters in the Register of protected areas required under Article 6 of Directive 2000/60 / EC.
OM11-2	Determination of selected areas for taking materials for the needs of construction projects.
OM14-1	Design and implementation of centralized reporting and management system of pollution from accidents / natural causes.
OM14-2	Strengthening the synergy of the river basin management plans with the plans to cope with large scale technological accidents (SATAME) for facilities included in the IPPC and SEVESO Directives.

Table 11-3. Horizontal Supplementary Measures for Groundwater Bodies

Measure Category	Measure Code	Title	Description	Groundwater Body for implementation of the measure	Competent Authority
Pollutant emission control	OΣ_ΥΔ01_1	Protection rules for sinkholes	<p>Establishment of protection zones around existing active and inactive sinkholes, in aim to control polluting pressures. Specific care must be taken for activities that lead at direct disposal of wastewater into sinkholes.</p> <p>The sinkholes drain closed basins and the measures for the protection and improvement of the quality of water drained may include:</p> <ol style="list-style-type: none"> 1. Incentives to promote organic farming. 2. Motivation for promotion of tertiary wastewater treatment where applied. 3. Inspections to existing facilities in aim to enforce the compliance with the environmental terms. <p>This measure addresses the pollution of karstic groundwater bodies which apart from the dissolution of pollutants have no other self-cleaning mechanism.</p>	-	MEECC (SSW) / MRDF / DECENTRALIZED ADMINISTRATION
Pollutant emission control	OΣ_ΥΔ01_2	Special protection measures in areas of GB where thermal-mineral and medicinal waters are found	The special protection measures of the thermal-mineral and medicinal waters are combined and adjusted with the existing and established protection framework. First of all, the prohibitions of the controlled protection zone II where groundwater is abstracted for supply purposes are applied.	<p>Body of West Taigetos (GR0100090)</p> <p>Body of Gargalianoi (GR0100150)</p> <p>Body of Kaiafas (GR0100260)</p> <p>Body of Lousios-Paloumba (GR0100230)</p> <p>Body of Alfios (GR0100010)</p>	MEECC (SSW) / MINISTRY OF TOURISM

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Measure Category	Measure Code	Title	Description	Groundwater Body for implementation of the measure	Competent Authority
Pollutant emission control	ΟΣ_ΥΔ01_3	Program of investigatory monitoring of the qualitative status in groundwater and surface bodies in the areas of the existing landfill	The investigation of the qualitative status of surface and groundwater in the perimeter of the landfill site. The program will be drawn up by the Directorate for Water of the Decentralized Administration and will be implemented either by the Region or landfill Operators.	Body of West Taigetos (GR0100090)	DECENTRALIZED ADMINISTRATION / REGION / HYTA OPERATORS
Abstraction control	ΟΣ_ΥΔ01_4	Installation of a functional valve in artesian wells	Installation of a valve or pipe for pressure balancing or any other recommended manner to control the outflow of artesian wells, when not in use, since most times they discharge –throughout the year- the groundwater under pressure causing problems of quantitative sufficiency during the irrigating – supply period.	Body of Pamisos-western section (GR0100100) Body of Alfios (GR0100010)	REGION / DECENTRALIZED ADMINISTRATION
Abstraction control	ΟΣ_ΥΔ01_5	Control of the qualitative status of licensed water-abstraction projects in water bodies with high values in the natural substratum (chlorides, sulfates)	Annual control of the qualitative status of groundwater in the GBs presenting increased values in the concentrations of some elements (e.g. chlorides, sulfates) attributed to the natural substratum. The annual control of the qualitative status of groundwater is made in order to ascertain the possible extension of the zone characterized by high concentrations due to natural substratum as well as the possible increase or decrease of concentrations of the element causing it. The Directorates for Water by means of assessing the information arising from the annual quality controls will be able to take the necessary measures depending on the potential deterioration or improvement of the status.	Body of West Taigetos (GR0100090) Body of Kinigos (GR0100130) Body of Gargalianoi (GR0100150)	REGION / DECENTRALIZED ADMINISTRATION

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Measure Category	Measure Code	Title	Description	Groundwater Body for implementation of the measure	Competent Authority
Pollutant emission control	ΟΣ_ΥΔ01_6	Definition of principle restriction zones for drilling new wells for new water uses and extensions of existing uses in coastal groundwater bodies where phenomena of seawater intrusion are observed	<p>In the coastal WB identified in a bad qualitative status due to salinization or presenting local salinization resulting from anthropogenic pressures (over-extraction) limitation measures are taken for the construction of new groundwater-abstraction works (wells, wells) as well as for the extension of the licenses of existing uses.</p> <p>Until the precise definition of principle precision zones on the basis of the special hydrogeological studies that shall be drawn up, it is proposed to establish the following coastal zones where the drilling of new wells for new water uses is prohibited and where the licenses for existing uses will be extended:</p> <ul style="list-style-type: none"> - For karstic systems: 300m, - For granules of free piezometric surface: 200m, - For granules sub-pressure: 100m, <p>In special cases (eg for drinking water use, aquaculture and desalination facilities) permission for drilling a new borehole can be issued after submission of a hydrogeological report or study and the favorable opinion from the competent Water Directorate. The above mentioned restrictions refer to the exploited groundwater body, and not on the spatial location of the new project of water use.</p> <p>These restrictions are intended to limit the expansion of seawater intrusion in coastal groundwater bodies. In case of coastal karstic groundwater bodies with extensive natural salination, through regulatory decisions, the restriction zones may be extended further with the responsibility of the competent Water Directorates. The precise boundaries of the zones with restrictions for water abstraction projects will be defined by specific hydrogeological study.</p> <p>From the above mentioned restrictions, specific circumstances with priority abstraction for drinking water use and other special cases such as drilling for aquaculture, pumping water for desalination facilities etc, are excluded. In such cases, permission is accomplished after the submission of a documented hydrogeological study which will be examined and approved by the relevant Water Directorates. The specifications for the aforementioned hydrogeological studies will be determined by the competent authorities under the coordination of the Special Water Secretariat.</p>	<p>Body of West Taigetos (GR0100090)</p> <p>Body of Kinigos (GR0100130)</p> <p>Body of Gargalianoi (GR0100150)</p> <p>Body of Koroni (GR0100110)</p> <p>Body of Romanos-Chora (GR0100140)</p> <p>Body of Filiatra-Kiparissia (GR0100170)</p> <p>Body of Kalo Nero-Neda (GR0100180)</p> <p>Body of Zacharo (GR0100250)</p> <p>Body of Alfios (GR0100010)</p>	MEECC (SSW) / DECENTRALIZED ADMINISTRATION

Measure Category	Measure Code	Title	Description	Groundwater Body for implementation of the measure	Competent Authority
Pollutant emission control	ΟΣ_ΥΔ01_7	Definition and delimitation of areas of groundwater bodies that have poor quality due to seawater intrusion or exhibit local seawater intrusion	For the coastal groundwater bodies that have poor quality status owed to seawater intrusion or exhibit local seawater intrusion, special hydrogeological surveys are to be drafted for the precise definition of restriction limits for the drilling of new boreholes and the extension of the seawater intrusion, so measures will be taken for the gradual restoration not only through prohibitions but also through reduction or even elimination of water abstractions for the existing water uses prioritizing the invention of new ways to meet the needs for irrigation. The specifications for the above mentioned hydrogeological surveys are to be determined from competent authorities under the coordination of the Special Secretariat of Water.	Body of West Taigetos (GR0100090) Body of Kinigos (GR0100130) Body of Gargalianoi (GR0100150) Body of Koroni (GR0100110) Body of Romanos-Chora (GR0100140) Body of Filiatra-Kiparissia (GR0100170) Body of Kalo Nero-Neda (GR0100180) Body of Zacharo (GR0100250) Body of Alfios (GR0100010)	DECENTRALIZED ADMINISTRATIONS (DIRECTORATE FOR WATER) / REGION

Table 11-4. Horizontal Supplementary Measures for Surface Water Bodies

Category of Measure	Code of Measure	Title	Description	Competent Authority
Educational measures	OΣ_YΔ01_8	Information and awareness of the public on water issues	Constant public information is proposed as well as placing emphasis on the rational management of resources and the constant information of water users and of the public on the current conditions of the water balance on the island of Lefkada and the necessity of measures that are each time set into force on said island.	MEECC (SSW) / MRDF / DECENTRALIZED ADMINISTRATION
Educational measures	OΣ_YΔ01_9	Organization of information meetings on new technologies, modern irrigation techniques, environmental protection issues, fertility of land, etc	The Regional Agricultural and Animal Health Services should organize two information meetings every inviting as speakers, agronomists, veterinarians, professors of agricultural sciences, biologists, technical staff from agricultural supplies and machinery trading companies, soil specialists, etc. This measure aims at raising the awareness of producers and encouraging them to adopt best practices that will facilitate them in their work, improving productivity and performance of agricultural exploitations, and underlining at the same time the need of protecting the environment and conserving the fertility of rural lands and the sustainable use of natural resources.	MRDF / REGION

Category of Measure	Code of Measure	Title	Description	Competent Authority
Recreation and restoration of wetlands areas	ΟΣ_ΥΔ01_10	Preparation of a study at a river basin level for the impact of dams on the free movement of anadromous and catadromous fish fauna species and for the identification of the best treatment methods and practices	<p>The study shall use the literature about fish fauna, the data resulting from the monitoring program to be applied until the end of the managing period, and it shall also include any data resulting from any possibly necessary supplementary sampling and site observations in order to define the list of the fish fauna species, their ecology and movements.</p> <p>It is considered a significant measure because it is directly associated with the Biological Quality Elements (BQE) of the fish fauna, which -pursuant to the WFD- are an assessment tool of the ecological status of river water bodies and do not currently participate in the classification of WBs, due to insufficient scientific and technical maturity.</p> <p>The measure aims at investigating the impact of the discontinuity of the river WB on the populations of anadromous and catadromous fish fauna species, the contribution to the development of an assessment indicator of the ecological status of the bodies of river waters having as BQE the fish fauna and the identification of general and special measures addressing any impact.</p>	MEECC (SSW) / DAMS OPERATORS / REGION

Category of Measure	Code of Measure	Title	Description	Competent Authority
Economic or fiscal measures	OΣ_YΔ01_11	Reform accounting systems of water providers	<p>Configuration and application of a uniform calculation method and recording the cost of water supply by water providers, to strengthen the credibility of its estimation. Based on the available data it is indicated that (a) The way of reporting and recording cost categories is highly nonuniform and (b) there is no systematic recording costs and revenue per service (water supply and sewage with / without WWTP). Finally, the environmental and resource costs should be aggregated, with suitable methodologies. Prerequisite for this is the computerization of water supply. The configuration and application of a uniform method of recording the cost of water concerns the providers of irrigation water, in the context of which the calculation of environmental costs and the costs of the resources with suitable methodologies is essential - even to the ones served by private pumping stations. Prerequisite for the application is the elementary computerization of the providers.</p> <p>An annual publication of the total cost of water supply and the degree of recovery to raise awareness of the public is recommended. The disclosure is to be made in a simplified manner and provide the opportunity to the users to compare the costs.</p>	MEECC (SSW)

Table 11-5. Supplementary Measures

Table of assessment of supplementary measure in Alfios River Basin

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0129R000201001N	Alfios (estuaries)	R	Moderate	Administrative Measures	2.05	Prohibition of sand-extraction <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible	This is an administrative measure aiming at protecting both the WB under examination, and the downstream transitional and coastal body of water. The WB is of moderate ecological status, whereas the pressure it suffers is of high intensity. Sand extraction causes severe hydromorphological changes in the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0129R000201001N	Alfios (estuaries)	R	Moderate	Recreation and restoration of wetlands areas	7.03	Enhancement of monitoring facilities for biotic and abiotic parameters of river estuary, in view of identifying the ecological flow at the river estuary based on biotic and abiotic indicators of the transitional WB <i>Competent Authority: Region</i>	Exemption	Medium-term	Medium	30,000 €	0 €	30,000 €	Negligible	Negligible	Negligible	The estuary of the river WB is a significant wetland ecosystem, the protection of which requires knowledge of all biotic and abiotic parameters enabling the comprehension of their function. -A study is recommended, the scope of which would be the observation of abiotic and biotic parameters of the transitional body and the utilization of previous monitoring programs implemented in the area. The identification of ecological flow consists in defining minimum flow, which would ensure the smooth function of the ecosystem as this is expressed by biotic and abiotic parameters.
GR0129R000201001N	Alfios (estuaries)	R	Moderate	Recreation and restoration of wetlands areas	7.02	Investigation of feasibility of rehabilitation of drained lakes <i>Competent Authority: Region</i>	Exemption	Medium-term	Medium	20,000 €	0 €	20,000 €	Moderate	Moderate	Negligible	A study is recommended in view of developing know-how and tools for the management of wetland bodies, as well as in view of developing a total filling-in plan for the drained lake Mouria, which would provide at the same time potential of development of ecotourism in the region. Before its drainage, the lake expanded over 6,500 stremmas and yielded significant fishing production.
GR0129R000203007N	Alfios (downstream)	R	Moderate	Administrative Measures	2.05	Prohibition of sand-extraction <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible	This is an administrative measure aiming at protecting both the WB under examination, and the downstream bodies of water. The WB is of moderate ecological status, whereas the pressure it suffers is of high intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0129R000203007N	Alfios (downstream)	R	Moderate	Demand management measures	9.02	Replacement of block and spray irrigation methods by drip irrigation method <i>Competent Authority: MRDF</i>	Exemption	Long-term	Large	4,650,000 €	0 €	4,650,000 €	Moderate	Moderate	Negligible	RURAL DEVELOPMENT PROGRAM OF GREECE 2007-2013 Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. In particular, the specific project concerns improvement and modernization of the existing project and the total cost amounts to € 4,650,000.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0129R000203007N	Alfios (downstream)	R	Moderate	Structural construction works	11.03	Inspection of keeping the ecological flow downstream the water abstraction location of dam as per article 16(3e) of the Special Framework of Planning and Sustainable Development for Renewable Energy Sources (SFPSD-RES) <i>Competent Authority: Decentralized Administration (Directorate for Water)</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Negligible	Negligible	The irrigation diversion Floka dam is constructed at the WB, and through such dam significant water quantities are abstracted during summer (~10% of summer discharge) for the irrigation of the area (approximately 65,000 stremmas). Moreover, a Small Hydropower Plant is operated by "YDROIL S.A." at "Floka" location. The preservation of ecological flow ensures undisturbed function of the river ecosystem. As per SFPSD-RES, the minimum required ecological water flow remaining at the natural bed of the water stream, directly downstream the water abstraction project of the Small Hydropower Plant, must be considered to be the largest of the rates given below, unless a requirement of its increase is substantiated and justified by the requirements of the downstream ecosystem (existence of important ecosystem): - 30% of average flow during summer months June-July-August or - 50% of average flow of September or - 30 lt/sec in any case.
GR0129R000203007N	Alfios (downstream)	R	Moderate	Existing infrastructure rehabilitation works	13.02	Projects for loss reduction from dams <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	1,771,500 €	0 €	1,771,500 €	Negligible	Negligible	Negligible	'TRADE-SERVICES' PROGRAM OF W. GREECE-3RD CSF The scope of the Study is the rehabilitation of damages at Floka dam and the construction of protective structures. In summary, the works to be executed are: <ul style="list-style-type: none"> • drafting of the implementation design and of the diversion structures design, construction of the required diversion projects and removal thereof upon completion of works • implementation of wells downstream to the dam • rehabilitation of the (damaged) floor downstream to the dam with paving blocks (sized 0.85x0.85x0.70) at a length of 10.0m and across the width of the dam • works downstream to the spillway basin for the foundation of the above mentioned floor and of the graded structure (excavation, positioning of pavement blocks and natural stone blocks, embankment, geogrid, filling-in of eventual cavitations with concrete, etc.) • construction of concrete graded fall structure (height 7.20.), directly downstream to the above mentioned floor of the dam spillway. The fall structure will consist of seven (7) grades the total length of which is approximately 18.00m. • formulation, at the bottom of the graded structure, of a 24.0 m-long and 0.50 m-deep power destruction basin and paving of basin with blocks sized 0.85x0.85x0.70 • construction of concrete support walls (4.0-6.5 m-high) along the banks of the bed at the works area. • lining of banks with 0.30m-thick concrete. • positioning of the final grade (sized 0.5x1.0) constructed across the dam at the "threshold" of the spillway basin. • regulation of part of the river bed downstream to the dam at a length of approximately 300 m.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0129R000203007N	Alfios (downstream)	R	Moderate	Existing infrastructure rehabilitation works	13.03	Replacement of open collective networks with closed networks under pressure of the irrigation project of Land Improvement Local Organization <i>Competent Authority: MRDF</i>	Exemption	Medium-term	Large	5,750,000 €	0 €	5,750,000 €	Negligible	Negligible	Negligible	RURAL DEVELOPMENT PROGRAM OF GREECE 2007-2013 - Axis 1 The project concerns underground placement of flow networks (trench drains) of Local Organization of Land Improvement of Gastouni, Amaliada, A' Pargos, Pelopio and Epitalio of RE of Ileia. More specifically, the scope of the study is the construction of irrigation and other networks at a total estimated area of 30,000 stremmas, within the catchment areas of Pinios and Alfeios and within the limits of the above Land Improvement Local Organization, for the utilization of water from Pinios and Floka dams. The total cost of the project amounts to € 11.5 million and is equally distributed between the WB under examination and the WB of the Artificial Lake of Pinios, which belongs to River Basin District 02.
GR0129R000205010N	Alfios (downstream with Erimanthos river confluence)	R	Moderate	Administrative Measures	2.05	Prohibition of new sand-extraction or of licenses extension except in the cases of flood prevention by the Region's Civil Protection <i>Competent Authority: Region</i>		Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible	This is an administrative measure aiming at protecting both the WB under examination, and the downstream bodies of water. The WB is of moderate ecological status, whereas the pressure it suffers is of high intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0129R000208028N	Ladon R. (downstream with Tragos confluence)	R	Moderate	Pollutant emission control	5.04	Inspections on the observance of disposal limits to the WB from adjacent processing plants (3 times annually) <i>Competent Authority: Region</i>		Short-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible	The status at the WB under examination is moderate, whereas pressures from significant processing plants (cheese factories, etc.) are of high intensity. Stricter inspections of such plants as regards disposal limits may prevent exceeding incidents, resulting in improvement of the status of the WB.
GR0129R000208330N	Tragos STREAM (Milaodas)	R	Good	Pollutant emission control	5.04	Inspections on the observance of disposal limits to the WB from adjacent processing plants (4 times annually) <i>Competent Authority: Region</i>		Short-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible	Processing plants operate adjacent to the WB, causing significant pressure to the WB. The inspection of disposal limits is essential for the smooth function of the ecosystem. In particular it is suggested to intensify inspections on the observation of waste disposal conditions by the cheese factory of N. Tsatoulis at the LD of Panagitsa, Municipality of Levidi, where the Special Environment Inspectors Service has established violations.
GR0129R000208330N	Tragos STREAM (Milaodas)	R	Good	Other relevant measures	18.14	Identification of necessary water quantities streamed from the cut-off drain of Kandila irrigation channel (RBD 03) to Tragos WB under examination, in view of ensuring that part of the water from Kandila basin will be drained to the sinkholes of Vlaherna discharged to sources Singi and Kefalari of LD Dara <i>Competent Authority: Region</i>		Short-term	Large	50,000 €	0 €	50,000	Negligible	Negligible	Negligible	The WB under examination receives discharge from RBD 03, through sources and sinkholes as well as through the irrigation plant of Kandila swamp. Currently, it is observed that all water is sometimes discharged to the WB through the cut-off drain, thus resulting in such water not being discharged to the natural sinkholes of Vlaherna and eventually in the de-activation of sources of Singi and Kefalari at the LD Dara. Intermittent function of sources is seriously detrimental to the water supply system of LD Dara.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments	
GR0129T0002N	Kaifas Lagoon		■ Good	Structural construction works	11.12	Upgrade of WTF from secondary to tertiary treatment <i>Competent Authority: Region</i>		Long-term	Large	4,500,000 €	0 €	4,500,000 €	Negligible	Negligible	Negligible		The WB forms a significant ecosystem and is of good ecological status. However it suffers significant pressure. The estuary is the point of discharge of Zaharo WWTP, which is in operation but presents obvious operability problems. The intensity of pressure from urban waste to the WB is moderate. It is suggested to upgrade the WWTP from secondary to tertiary treatment.

Table of assessment of supplementary measures in Pamisos – Nedontas – Neda River Basin

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000700006N	GIANNOUZAGAS STREAM,	R	■ Unknown	Legislative Measures	1.03		Medium-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Negligible		In view of protecting the ecosystems of the region (flora and fauna) a number of measures must be taken as regards: a) dune formations and b) coasts
GR0132R000901008N	SELAS STREAM,	R	■ Unknown	Legislative Measures	1.03		Medium-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Negligible		In view of protecting the ecosystems of the region (flora and fauna) a number of measures must be taken as regards: a) dune formations and b) coasts
GR0132R0009000013H	FILIATRINO STREAM	R	■ Unknown	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Improvement of irrigation structures, development of crop rotation, balancing of abstractions with availability of resources.
GR0132R0009000013H	FILIATRINO STREAM	R	■ Unknown	Abstraction control	8.02		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Negligible		Intensification and systematic organization of water abstraction inspections by the competent authorities for irrigation of rural lands from Filiatrino dam upon completion of the construction and operation of the project. The quantity of abstracted water should not exceed the limit set by the technical design and the EIA of the project, whereas consideration should be given to scenarios of water scarcity and drought drafted in this management study.
GR0132R0009000013H	FILIATRINO STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000900013H	FILIATRINO STREAM	R	■ Unknown	Existing infrastructure rehabilitation works	13.03		Long-term	Large	1,600,000 €	0 €	1,600,000 €	Negligible	Negligible	Negligible		The project concerns underground placement of flow networks (trench drains) of the irrigation system of Exohiko in Filiatra, used for the irrigation of 2,000 stremmas, in view of reducing losses.
GR0132R001100016N	KALO NERO STREAM	R	■ Poor	Legislative Measures	1.03		Medium-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Negligible		Adoption of legislative measures for the protection of dunes and coasts in the WB GR0132R001100016N in view of protecting the ecosystems of the region (flora and fauna) a number of measures should be taken, as regards: a) dune formations and b) coasts
GR0132R001100016N	KALO NERO STREAM	R	■ Poor	Legislative Measures	1.11		Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible		This is an economic measure aiming at protecting both the WB under examination, and the downstream bodies of water (coastal and transitional) due to the sand-extraction observed at the specific WB. The WB is of poor ecological status, whereas the pressure it suffers is assessed to be of high intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0132R001100016N	KALO NERO STREAM	R	■ Poor	Structural construction works	11.15		Long-term	Medium	7,500 €	0 €	7,500 €	Negligible	Negligible	Negligible		Application of guidelines of the SSW as regards proper waste-water management practice for settlements with <2000 PE. Indicatively but not limited to, Kalo Nero is such a settlement. Elaboration of feasibility study for the construction of a small urban wastewater treatment system, where such project is justified given the density of residences and the quantities to be treated.
GR0132R001100017N	KALO NERO STREAM	R	■ Poor	Legislative Measures	1.11		Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible		This is an economic measure aiming at protecting both the WB under examination, and the downstream bodies of water (coastal and transitional) due to the sand-extraction observed at the specific WB. The WB is of poor ecological status, whereas the pressure it suffers is assessed to be of high intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0132R001100018N	KALO NERO STREAM	R	■ Unknown	Legislative Measures	1.11		Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible		This is an economic measure aiming at protecting both the WB under examination, and the downstream bodies of water (coastal and transitional) due to the sandextraction observed at the specific WB. The WB is of unknown ecological status, whereas the pressure it suffers is assessed to be of high intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R001500020N	NEDA R.	R	Moderate	Legislative Measures	1.03		Medium-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Negligible		In view of protecting the ecosystems of the region (flora and fauna) a number of measures should be taken, as regards: a) dune formations and b) coasts
GR0132R001500020N	NEDA R.	R	Moderate	Recreation and restoration of wetlands areas	7.03		Medium-term	Medium	30,000 €	0 €	30,000 €	Negligible	Negligible	Negligible		The estuary of the river WB of Neda is a significant wetland ecosystem, the protection of which requires knowledge of all biotic and abiotic parameters enabling the comprehension of their function. A study is recommended, the scope of which would be the observation of abiotic and biotic parameters of the transitional body and the utilization of previous monitoring programs implemented in the area.
GR0132R001500020N	NEDA R.	R	Moderate	Structural construction works	11.15		Long-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible		Application of guidelines of the SSW as regards proper waste-water management practice for settlements with <2000 PE. Indicatively but not limited to, such settlements in Neda are Nea Figalia, Figalia, etc. Elaboration of feasibility study for the construction of a small urban wastewater treatment system, where such project is justified given the density of residences and the quantities to be treated.
GR0132R001500021N	NEDA R.	R	Moderate	Legislative Measures	1.11		Short-term	Medium	0 €	0 €	0 €	Negligible	Large	Negligible		This is an economic measure aiming at protecting both the WB under examination, and the downstream bodies of water (coastal and transitional) due to the sandextraction observed at the specific WB. The WB is of moderate ecological status, whereas the pressure it suffers is assessed to be of moderate intensity. Sand extraction causes severe hydromorphological alteration for the river, affecting both biotic and abiotic parameters while disturbing the regime of sediments at the coastal body.
GR0132R001500021N	NEDA R.	R	Moderate	Structural construction works	11.15		Long-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible		Application of guidelines of the SSW as regards proper waste-water management practice for settlements with <2000 PE. Indicatively but not limited to, such settlements in Neda are Nea Figalia, Figalia, etc. Elaboration of feasibility study for the construction of a small urban waste-water treatment system, where such project is justified given the density of residences and the quantities to be treated.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R001500022N	NEDA R.	R	Good	Structural construction works	11.15	Rational wastewater management by settlements with population peak <2000 PE (agglomeration of priority D) <i>Competent Authority: Region</i>	.	Long-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible	Application of guidelines of the SSW as regards proper waste-water management practice for settlements with <2000 PE. Indicatively but not limited to, such settlements in Neda are Nea Figalia, Figalia, etc. Elaboration of feasibility study for the construction of a small urban wastewater treatment system, where such project is justified given the density of residences and the quantities to be treated.
GR0132R000201023H	PAMISOS R.	R	Poor	Recreation and restoration of wetlands areas	7.03	Enhancement of monitoring infrastructure for biotic and abiotic parameters of river estuary, in view of identifying the ecological flow at the river estuary based on biotic and abiotic indicators of the transitional WB <i>Competent Authority: Region</i>	Exemption	Medium-term	Medium	30,000 €	0 €	30,000 €	Negligible	Negligible	Negligible	The estuary of the Pamisos river WB is a significant wetland ecosystem, the protection of which requires knowledge of all biotic and abiotic parameters enabling the comprehension of their function. A study is suggested,, the scope of which would be the observation of abiotic and biotic parameters of the transitional body and the utilization of previous monitoring programs implemented in the area.
GR0132R000201023H	PAMISOS R.	R	Poor	Abstraction control	8.01	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources
GR0132R000201023H	PAMISOS R.	R	Poor	Demand management measures	9.02	Replacement of block and spray irrigation methods by drip irrigation method <i>Competent Authority: Pamisos Land Improvement General Organization</i>	Exemption	Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible	Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.
GR0132R000201024H	PAMISOS R.	R	Poor	Abstraction control	8.01	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000201024H	PAMISOS R.	R	■ Poor	Abstraction control	8.02	On-site inspections at authorized/ licensed water abstractions <i>Competent Authority: Region</i>	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Negligible	Intensification and systematic organization of water abstraction inspections by the competent authorities for irrigation of rural lands from the dam of Pamisos upon completion of the construction and operation of the project. The quantity of abstracted water should not exceed the limit set by the technical design and the EIA of the project, whereas consideration should be given to scenarios of water scarcity and drought plans drafted in this management study.
GR0132R000201024H	PAMISOS R.	R	■ Poor	Demand management measures	9.02	Replacement of block and spray irrigation methods by drip irrigation method <i>Competent Authority: Pamisos Land Improvement General Organization</i>	Exemption	Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible	Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.
GR0132R000201024H	PAMISOS R.	R	■ Poor	Structural construction works	11.01	Modernization of irrigation networks (restriction of losses) <i>Competent Authority: Pamisos Land Improvement General Organization</i>	Exemption	Medium-term	Large	1,453,039 €	0 €	1,453,039 €	Negligible	Moderate	Moderate	"TRADE-SERVICES" PROGRAM NSRF Modernization of irrigation networks of Pamisos GOEV (restriction of losses). For the modernization of the irrigation networks (restriction of losses) of Pamisos Land Improvement General Organization, extending to ~32,100 stremmas, the project "Improvement of irrigation network of Agios Floros and Pamisos zones, phase A", with a budget of € 1,453,039, has been included in a financing program
GR0132R000201025N	PAMISOS R.	R	■ Unknown	Abstraction control	8.01	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources
GR0132R000201025N	PAMISOS R.	R	■ Unknown	Demand management measures	9.02	Replacement of block and spray irrigation methods by drip irrigation method <i>Competent Authority: Pamisos Land Improvement General Organization</i>		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible	Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.
GR0132R000202026H	AGIOS FLOROS Str.	R	■ Unknown	Abstraction control	8.01	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate	Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000202026H	AGIOS FLOROS STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000202026H	AGIOS FLOROS STREAM	R	■ Unknown	Existing infrastructure rehabilitation works	13.03		Long-term	Large	397,020 €	0 €	397,020 €	Negligible	Negligible	Negligible		For the underground placement of flow networks (trench drains) of the irrigation systems of Agios Floros used for irrigation of ~1000 stremmas, financing has been established for the project “Improvement of irrigation network of Agios Floros and Pamisos zones, phase B” (Agios Floros zone. Closed irrigation network works)” with a budget of € 794,040. <i>Competent Authority: MRDF</i>
GR0132R000202027H	AGIOS FLOROS STREAM	R	■ Good	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>
GR0132R000202027H	AGIOS FLOROS STREAM	R	■ Good	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000202027H	AGIOS FLOROS STREAM	R	■ Good	Existing infrastructure rehabilitation works	13.03		Long-term	Large	397,020 €	0 €	397,020 €	Negligible	Negligible	Negligible		For the underground placement of flow networks (trench drains) of the irrigation systems of Agios Floros used for irrigation of ~1000 stremmas, financing has been established for the project “Improvement of irrigation network of Agios Floros and Pamisos zones, phase B” (Agios Floros zone. Closed irrigation network works)” with a budget of € 794,040. <i>Competent Authority: MRDF</i>
GR0132R000203028N	MAVROZOUIMENA STREAM	R	■ Unknown	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000203028N	MAVROZOUMENA STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000203029N	MAVROZOUMENA STREAM	R	■ Unknown	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>
GR0132R000203029N	MAVROZOUMENA STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000204131H	TZANIS R.	R	■ Poor	Pollutant emission control	5.04		Short-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible		The status of the WB under examination is moderate whereas pressure from significant industrial and processing plants (cheese factories, timber processing, meat processing, dairy industries, wineries) is assessed to be of high intensity. More rigorous inspections of such plants as regards disposal limits may prevent exceeding incidents, resulting in improvement of the status of the WB. <i>Competent Authority: Region</i>
GR0132R000201038H	ARIS R.	R	■ Unknown	Abstraction control	8.01	Exemption	Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>
GR0132R000201038H	ARIS R.	R	■ Unknown	Demand management measures	9.02	Exemption	Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000202039H	TZIROREMA STREAM	R	■ Unknown	Pollutant emission control	5.04		Short-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible		The status of the WB under examination is unknown whereas pressure from significant industrial and processing plants (cheese factories, jams-jellies production, meat processing, dairy industries, color processing) is assessed to be of high intensity. More rigorous inspections of such plants as regards disposal limits may prevent exceeding incidents, resulting in improvement of the status of the WB.
GR0132R000202039H	TZIROREMA STREAM	R	■ Unknown	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources
GR0132R000202039H	TZIROREMA STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.
GR0132R000202040N	TZIROREMA STREAM	R	■ Unknown	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources
GR0132R000202040N	TZIROREMA STREAM	R	■ Unknown	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%.
GR0132R000203042H	ARIS R.	R	■ Moderate	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132R000203042H	ARIS R.	R	Moderate	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000203043H	ARIS R.	R	Moderate	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>
GR0132R000203043H	ARIS R.	R	Moderate	Abstraction control	8.02		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Negligible		Intensification and systematic organization of water abstraction inspections by the competent authorities for irrigation of rural lands from the dam of Ari upon completion of the construction and operation of the project. The quantity of abstracted water should not exceed the limit set by the technical design and the EIA of the project, whereas consideration should be given to scenarios of water scarcity and drought plans drafted in this management study.
GR0132R000203043H	ARIS R.	R	Moderate	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>
GR0132R000203044N	ARIS R.	R	Moderate	Abstraction control	8.01		Short-term	Medium	0 €	0 €	0 €	Negligible	Moderate	Moderate		Reduction of water abstraction for irrigation through improvement of irrigation structures, development of crop rotation, balancing of abstractions and availability of resources <i>Competent Authority: Region</i>
GR0132R000203044N	ARIS R.	R	Moderate	Demand management measures	9.02		Long-term	Large	0 €	0 €	0 €	Moderate	Large	Negligible		Such replacement may significantly reduce the current squandering of irrigation water. Quite approximately, it may be considered that 70% of land currently irrigated by block irrigation and 80% of spray irrigated land may be drip irrigated. The benefits from the replacement of block irrigation by drip irrigation, in terms of water quantity, correspond to 40%, whereas those from the replacement of spray by drip irrigation correspond to 30%. <i>Competent Authority: Pamisos Land Improvement General Organization</i>

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132L000000001H	Filiatrino Artificial Lake	L	■ Unknown	Recreation and restoration of wetlands areas	7.01		Medium-term	Small	0 €	0 €	0 €	Negligible	Negligible	Negligible		Filling of the lake reservoir is not yet completed. It is suggested to review environmental conditions of operation, upon filling of the reservoir in view of achieving good ecological potential by 2021. <i>Competent Authority: MRDF</i>
GR0132T0003N	YALOVA LAGOON	T	■ Moderate	Legislative Measures	1.03		Medium-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Negligible		In view of protecting the ecosystems of the region (flora and fauna) a number of measures should be taken, as regards: a) dune formations and b) coasts <i>Competent Authority: Decentralized Administration</i>
GR0132T0003N	YALOVA LAGOON	T	■ Moderate	Environm. agreements after negotiation	4.01		Short-term	Medium	50,000 €	0 €	50,000 €	Moderate	Negligible	Large		From the results of the above study, the following might arise: 1) Agreements “Yalova lagoon” with nearby land owners 2) Agreement with farmers on the application of extensive measures in conjunction with economic for <i>Competent Authority: MEECC</i>
GR0132T0003N	YALOVA LAGOON	T	■ Moderate	Works of research, development & presentation (of best	16.01		Medium-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible		It is suggested to elaborate a study, the scope of which would be the monitoring of abiotic and biotic parameters of the lagoon along with utilization of previous monitoring programs implemented in the area. The aim is to understand the function of the lagoon and to draft specific measures. <i>Competent Authority: Region</i>
GR0132T0003N	YALOVA LAGOON	T	■ Moderate	Works of research, development & presentation (of best	16.02		Medium-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible		A study is recommended,, the scope of which would be to monitor the flow of water to the lagoon and in particular the inflow of freshwater as well as the behavior of streams. The aim is to understand the function of the lagoon and to draft specific measures. <i>Competent Authority: Region</i>

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0132T0003N	YALOVA LAGOON	T	Moderate	Works of research, development & presentation (of best	16.03		Medium-term	Medium	10,000 €	0 €	10,000 €	Negligible	Negligible	Negligible		A study is recommended,, the subject of which would be the preservation and management of fresh-salt water balance in lagoons as well as of the annual cycle
GR0100100	Body of Pamisos	GW	Bad	Abstraction control	8.03	Exemption	Medium-term	Large	3,730,000 €	0 €	3,730,000 €	Moderate	Moderate	Negligible	Project of water supply of Messini from Ag. Pavlos springs, included in the OP "W. Greece – Peloponnese – Ionian islands 2007-2013"	The GB is in bad quantitative (western section) and qualitative status. It is suggested to investigate the feasibility of the replacement of abstraction (pumping) from the GB with surface water that will come from structures such as conservation reservoirs or dams (indicative cost of study € 30,000). In this way further deterioration of the quantitative status of the GB will be prevented. Indicatively, it is possible to investigate the possibility to replace the abstraction of groundwater by surface water through the construction of conservation reservoirs or dams in the western section. In addition, a financing program has included the project "Construction of external irrigation network for enhancement of water supply needs from Agios Pavlos springs to local communities and municipal community of Messini, of the Municipality of Messini, Phase A (Part 1 & Part 2)", of total budget of € 3,730,000.The total physical object of the project includes the construction of a new pump station at Agios Pavlos springs and the construction of a 1,400 m-long discharge pipe that would stream the water to the location "Manesi Hill", to a new head tank. Moreover, an external PE pipe network will be constructed, of total length of 44 km, in view of satisfying the needs of settlements Polylofo, Madena, Mavromati, Spitali, Myrtopotamia, Lefkohora, Avramiou, Drakoneri, Analipsi, Messini, Karteroli, Moshohori, Piperitsa, Triodos, Spitali, Pilalistra and Lykotrafo, of the Municipal Entity of Messini. Section 1 of Phase A' of the project includes the construction of a 3,500m –long network from Agios Pavlos springs to the head tank.
GR0100100	Body of Pamisos	GW	Bad	Abstraction control	8.07	Exemption	Medium-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible		The GB under examination is of bad quantitative status. For the protection of the WB and the upgrade of its status, it is suggested that total quantities of abstracted groundwater do not exceed 14 million m ³ per year (such quantity may be subject to variation following co-assessment of all data of the monitoring network).

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0100100	Body of Pamisos	GW	■ Bad	Abstraction control - Pollutant emission control	ΟΣ_ΥΔ01_6	Exemption	Short-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Moderate		<p>In coastal GWBs that are in bad qualitative status due to seawater intrusion caused by human pressures (over-pumping) restrictive measures are taken for drilling new boreholes and wells for new water uses and the expansion of existing water abstractions.</p> <p>Until the precise delineation of the restriction zones as result of specific hydrogeological studies which should be compiled, drilling of new boreholes for new water uses and extensions of abstraction of groundwater for existing water uses is restricted in the following zones: For granular free piezometric surface systems: 200m, for granular under pressure piezometric surface systems: 100m.</p> <p>In special cases (eg for drinking water use, aquaculture and desalination facilities) permission for drilling a new borehole can be issued after submission of a hydrogeological report or study and the favorable opinion from the competent Water Directorate. The above mentioned restrictions refer to the exploited groundwater body, and not on the spatial location of the new project of water use.</p> <p>These restrictions are intended to limit the expansion of seawater intrusion in coastal groundwater bodies. In case of coastal karstic groundwater bodies with extensive natural salination, through regulatory decisions, the restriction zones may be extended further with the responsibility of the competent Water Directorates because. The precise boundaries of the zones with restrictions for water abstraction projects will be defined by specific hydrogeological study.</p> <p>From the above mentioned restrictions, specific circumstances with priority abstraction for drinking water use and other special cases such as drilling for aquaculture, pumping water for desalination facilities etc, are excluded. In such cases, permission is accomplished after the submission of a documented hydrogeological study which will be examined and approved by the relevant Water Directorates. The specifications for the aforementioned hydrogeological studies will be determined by the competent authorities under the coordination of the Special Water Secretariat.</p>
GR0100100	Body of Pamisos	GW	■ Bad	Abstraction control	ΟΣ_ΥΔ01_4	Exemption	Short-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Moderate		<p>Placement of operational valve in the artesian wells.</p> <p>Competent Authority: Region / Decentralized Administration</p> <p>Placement of a valve or pipe for the pressure balancing or any other recommended manner to control the outflow of artesian wells, during the time period they are not in use, in the western section of the body where there is aquifer under pressure in the neogenes developed there.</p>

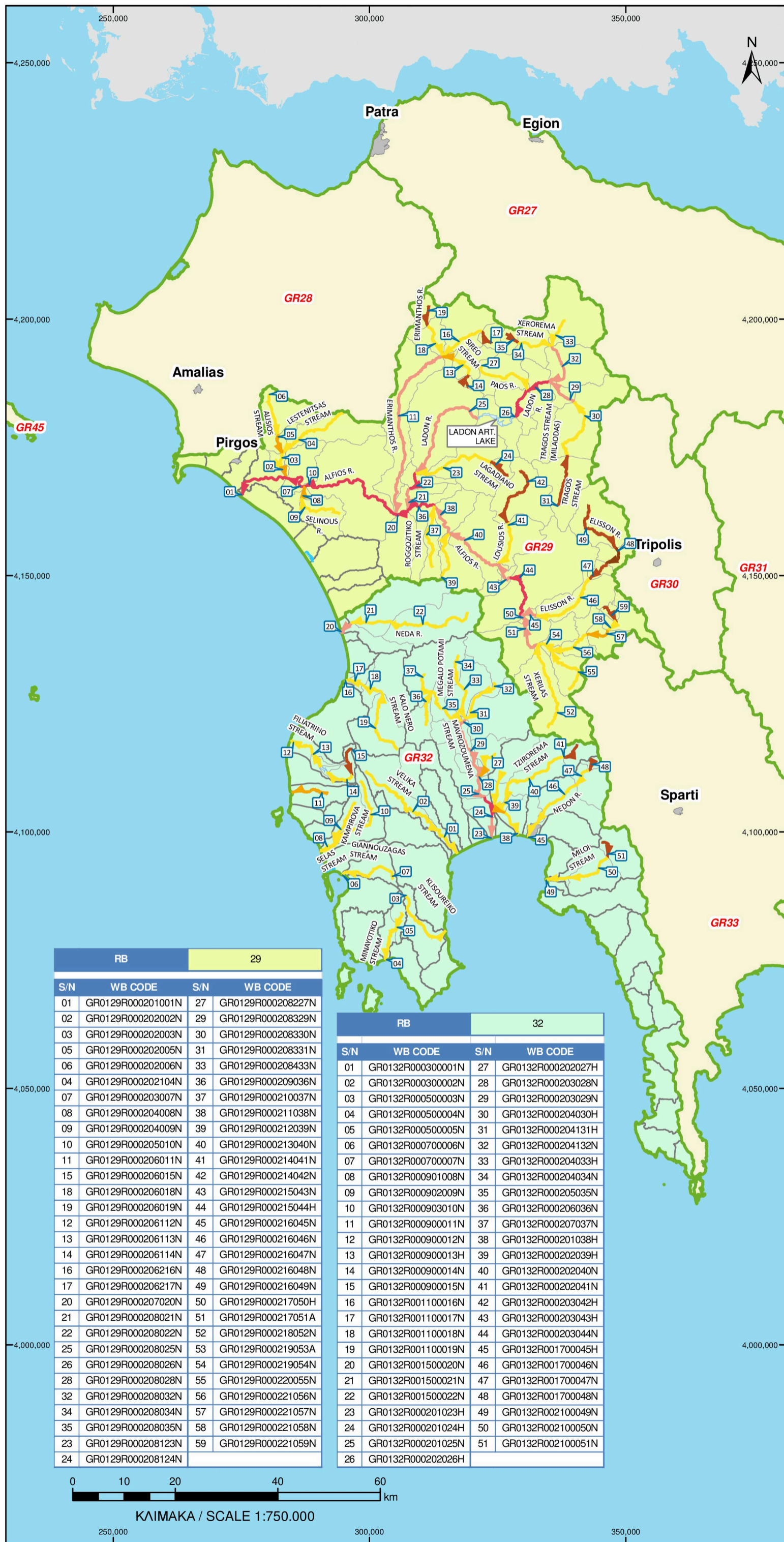
Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0100100	Body of Pamisos	GW	■ Bad	Pollutant emission control	ΟΣ_ΥΔ01_7	Exemption	Medium-term	Medium	30,000 €	0 €	30,000 €	Moderate	Moderate	Moderate		At the coastal GB that are in a bad qualitative status due to salinization or present local salinization, special hydrogeological studies shall be drawn up for the precise determination of the prohibition boundaries in executing new water abstractions and extending the salinization front, so that in this zone measures are taken for gradual rehabilitation by means not only of banning the new wells but also of reducing or even abolishing water abstraction for existing uses by placing priority on finding alternatives for the satisfaction of their irrigation needs.
GR0100140	Body of Romanos-Chora	GW	■ Good (Local trend)	Abstraction control	8.03		Medium-term	Medium	30,000 €	0 €	30,000 €	Negligible	Negligible	Negligible		The specifications for the foregoing hydrogeological studies shall be determined by the co-competent authorities under the SSW's coordination.

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0100140	Body of Romanos-Chora	GW	■ Good (Local trend)	Pollutant emission control	ΟΣ_ΥΔ01_6		Short-term	Medium	0 €	0 €	0 €	Negligible	Negligible	Negligible		<p>In coastal GWBs that are in bad qualitative status due to seawater intrusion caused by human pressures (over-pumping) restrictive measures are taken for drilling new boreholes and wells for new water uses and the expansion of existing water abstractions.</p> <p>Until the precise delineation of the restriction zones as result of specific hydrogeological studies which should be compiled, drilling of new boreholes for new water uses and extensions of abstraction of groundwater for existing water uses is restricted in the following zones: For granular free piezometric surface systems: 200m, for granular under pressure piezometric surface systems: 100m.</p> <p>In special cases (eg for drinking water use, aquaculture and desalination facilities) permission for drilling a new borehole can be issued after submission of a hydrogeological report or study and the favorable opinion from the competent Water Directorate. The above mentioned restrictions refer to the exploited groundwater body, and not on the spatial location of the new project of water use.</p> <p>These restrictions are intended to limit the expansion of seawater intrusion in coastal groundwater bodies. In case of coastal karstic groundwater bodies with extensive natural salination, through regulatory decisions, the restriction zones may be extended further with the responsibility of the competent Water Directorates because. The precise boundaries of the zones with restrictions for water abstraction projects will be defined by specific hydrogeological study.</p> <p>From the above mentioned restrictions, specific circumstances with priority abstraction for drinking water use and other special cases such as drilling for aquaculture, pumping water for desalination facilities etc, are excluded. In such cases, permission is accomplished after the submission of a documented hydrogeological study which will be examined and approved by the relevant Water Directorates. The specifications for the aforementioned hydrogeological studies will be determined by the competent authorities under the coordination of the Special Water Secretariat.</p>
GR0100140	Body of Romanos-Chora	GW	■ Good (Local trend)	Pollutant emission control	ΟΣ_ΥΔ01_7		Medium-term	Medium	30,000 €	0 €	30,000 €	Negligible	Negligible	Negligible		<p>For the coastal groundwater bodies that have poor quality status owed to seawater intrusion or exhibit local seawater intrusion, special hydrogeological surveys are to be drafted for the precise definition of restriction limits for the drilling of new boreholes and the extension of the seawater intrusion, so measures will be taken for the gradual restoration not only through prohibitions but also through reduction or even elimination of water abstractions for the existing water uses prioritizing the invention of new ways to meet the needs for irrigation.</p>

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0100170	Body of Filiatira-Kiparissia	GW	■ Bad	Abstraction control	8.03	Investigation of the possibility of replacing groundwater with surface water abstraction through construction of conservation reservoirs or dams or with another GB <i>Competent Authority: Region / Decentralized Administration (Directorate for Water)</i>	Exemption	Medium-term	Medium	35,330,000 €	0 €	35,330,000 €	Negligible	Negligible	Moderate	Filiatirino Dam encompassed in the RURAL DEVELOPMENT PROGRAM OF GREECE 2007-2013 Replacement of groundwater with surface water abstraction upon completion of construction of Filiatirino dam and exploration of feasibility of replacing ground with surface water abstracted from Lagouvardo stream through a conservation reservoir or dam. WB is of bad quantitative and qualitative status. It is suggested to investigate the possibility to replace the groundwater abstracted from the GB with surface water from projects such as conservation reservoirs or dams. In this way further deterioration of the quantitative status of the GB will be prevented. Indicatively, the following are suggested: - Replacement of groundwater pumping by surface water abstraction upon completion of construction of Filiatirino dam. (project budget: € 35,300,000) - Exploration of possibility to create a reservoir or conservation reservoir for abstraction of surface water from river WB GR0132R000900011N of Lagouvardo stream (indicative cost of study € 30,000)
GR0100170	Body of Filiatira-Kiparissia	GW	■ Bad	Abstraction control	8.07	Total groundwater abstraction should not exceed a specified quantity (such quantity may be subject to variation following co-assessment of all data of the monitoring network) <i>Competent Authority: Decentralized Administration (Directorate for Water)</i>	Exemption	Medium-term	Large	0 €	0 €	0 €	Moderate	Moderate	Negligible	The GB under examination is of bad quantitative status. For the protection of the WB and the upgrade of its status, it is suggested that total quantities of abstracted groundwater do not exceed 10 million m ³ per year (such quantity may be subject to variation following co-assessment of all data of the monitoring network).

Code	Water Body	Type of WB	Existing Status	Supplementary Measures – Competent Authority		Exemptions	Preparation Time	Efficacy of Measure	Investment Cost	Operation Cost	Total Cost	Social Impact	Financial impact	Environmental impact	Included projects	Comments
GR0100170	Body of Filiatra-Kiparissia	GW	■ Bad	Pollutant emission control	ΟΣ_ΥΔ01_6	Exemption	Short-term	Medium	0 €	0 €	0 €	Moderate	Moderate	Moderate		<p>In coastal GWBs that are in bad qualitative status due to seawater intrusion caused by human pressures (over-pumping) restrictive measures are taken for drilling new boreholes and wells for new water uses and the expansion of existing water abstractions.</p> <p>Until the precise delineation of the restriction zones as result of specific hydrogeological studies which should be compiled, drilling of new boreholes for new water uses and extensions of abstraction of groundwater for existing water uses is restricted in the following zones: For granular free piezometric surface systems: 200m, for granular under pressure piezometric surface systems: 100m.</p> <p>In special cases (eg for drinking water use, aquaculture and desalination facilities) permission for drilling a new borehole can be issued after submission of a hydrogeological report or study and the favorable opinion from the competent Water Directorate. The above mentioned restrictions refer to the exploited groundwater body, and not on the spatial location of the new project of water use.</p> <p>These restrictions are intended to limit the expansion of seawater intrusion in coastal groundwater bodies. In case of coastal karstic groundwater bodies with extensive natural salination, through regulatory decisions, the restriction zones may be extended further with the responsibility of the competent Water Directorates because. The precise boundaries of the zones with restrictions for water abstraction projects will be defined by specific hydrogeological study.</p> <p>From the above mentioned restrictions, specific circumstances with priority abstraction for drinking water use and other special cases such as drilling for aquaculture, pumping water for desalination facilities etc, are excluded. In such cases, permission is accomplished after the submission of a documented hydrogeological study which will be examined and approved by the relevant Water Directorates. The specifications for the aforementioned hydrogeological studies will be determined by the competent authorities under the coordination of the Special Water Secretariat.</p>
GR0100170	Body of Filiatra-Kiparissia	GW	■ Bad	Pollutant emission control	ΟΣ_ΥΔ01_7	Exemption	Medium-term	Medium	30,000 €	0 €	30,000 €	Moderate	Moderate	Moderate		<p>Definition and delimitation of areas of groundwater bodies that have poor quality due to seawater intrusion or exhibit local seawater intrusion</p> <p><i>Competent Authority: Decentralized Administration (Directorate for Water) / Region</i></p> <p>For the coastal groundwater bodies that have poor quality status owed to seawater intrusion or exhibit local seawater intrusion, special hydrogeological surveys are to be drafted for the precise definition of restriction limits for the drilling of new boreholes and the extension of the seawater intrusion, so measures will be taken for the gradual restoration not only through prohibitions but also through reduction or even elimination of water abstractions for the existing water uses prioritizing the invention of new ways to meet the needs for irrigation.</p>

ANNEX A MAPS OF MANAGEMENT PLAN



LEGEND

- RIVER BASINS
- RIVER SUBBASINS
- WATER BODIES SUBBASINS
- LAKE WB
- TRANSITIONAL WB

RIVER WB

- ImL0, ImL1, IsH0, IsH1
- IsL0, IsL1, SmL0, SmL1
- SsH1, SsL0, SsL1

RIVER WATER BODIES TYPES

		Small Run off (<100hm ²)	Medium Run off (100~2000hm ²)	High Run off (>2000hm ²)
Mild slope (≤1.2%) 0	Low altitude (≤700 m) «L»	sL0	mL0	gL0
	High altitude (>700m) «H»	sH0	mH0	gH0
High slope (>1.2%) 1	Low altitude (≤700 m) «L»	sL1	mL1	gL1
	High altitude (>700 m) «H»	sH1	mH1	gH1

*A Latin letter which symbolizes the biogeographical region enters in front of the code type, N for North Greece, I for the Ionian, S for the Aegean and South Greece.



HELLENIC REPUBLIC

MINISTRY OF ENVIRONMENT ENERGY & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

RIVER WATER BODIES

RBD:01	RB: 29 - 32	No.MAP: 4.1
NOVEMBER 2012		

RB		29	
S/N	WB CODE	S/N	WB CODE
01	GR0129R000201001N	27	GR0129R000208227N
02	GR0129R000202002N	29	GR0129R000208329N
03	GR0129R000202003N	30	GR0129R000208330N
05	GR0129R000202005N	31	GR0129R000208331N
06	GR0129R000202006N	33	GR0129R000208433N
04	GR0129R000202104N	36	GR0129R000209036N
07	GR0129R000203007N	37	GR0129R000210037N
08	GR0129R000204008N	38	GR0129R000211038N
09	GR0129R000204009N	39	GR0129R000212039N
10	GR0129R000205010N	40	GR0129R000213040N
11	GR0129R000206011N	41	GR0129R000214041N
15	GR0129R000206015N	42	GR0129R000214042N
18	GR0129R000206018N	43	GR0129R000215043N
19	GR0129R000206019N	44	GR0129R000215044H
12	GR0129R000206112N	45	GR0129R000216045N
13	GR0129R000206113N	46	GR0129R000216046N
14	GR0129R000206114N	47	GR0129R000216047N
16	GR0129R000206216N	48	GR0129R000216048N
17	GR0129R000206217N	49	GR0129R000216049N
20	GR0129R000207020N	50	GR0129R000217050H
21	GR0129R000208021N	51	GR0129R000217051A
22	GR0129R000208022N	52	GR0129R000218052N
25	GR0129R000208025N	53	GR0129R000219053A
26	GR0129R000208026N	54	GR0129R000219054N
28	GR0129R000208028N	55	GR0129R000220055N
32	GR0129R000208032N	56	GR0129R000221056N
34	GR0129R000208034N	57	GR0129R000221057N
35	GR0129R000208035N	58	GR0129R000221058N
23	GR0129R000208123N	59	GR0129R000221059N
24	GR0129R000208124N		

RB		32	
S/N	WB CODE	S/N	WB CODE
01	GR0132R000300001N	27	GR0132R000202027H
02	GR0132R000300002N	28	GR0132R000203028N
03	GR0132R000500003N	29	GR0132R000203029N
04	GR0132R000500004N	30	GR0132R000204030H
05	GR0132R000500005N	31	GR0132R000204131H
06	GR0132R000700006N	32	GR0132R000204132N
07	GR0132R000700007N	33	GR0132R000204033H
08	GR0132R000901008N	34	GR0132R000204034N
09	GR0132R000902009N	35	GR0132R000205035N
10	GR0132R000903010N	36	GR0132R000206036N
11	GR0132R000900011N	37	GR0132R000207037N
12	GR0132R000900012N	38	GR0132R000201038H
13	GR0132R000900013H	39	GR0132R000202039H
14	GR0132R000900014N	40	GR0132R000202040N
15	GR0132R000900015N	41	GR0132R000202041N
16	GR0132R001100016N	42	GR0132R000203042H
17	GR0132R001100017N	43	GR0132R000203043H
18	GR0132R001100018N	44	GR0132R000203044N
19	GR0132R001100019N	45	GR0132R001700045H
20	GR0132R001500020N	46	GR0132R001700046N
21	GR0132R001500021N	47	GR0132R001700047N
22	GR0132R001500022N	48	GR0132R001700048N
23	GR0132R000201023H	49	GR0132R002100049N
24	GR0132R000201024H	50	GR0132R002100050N
25	GR0132R000201025N	51	GR0132R002100051N
26	GR0132R000202026H		



ΚΑΙΜΑΚΑ / SCALE 1:750.000



LEGEND

- RIVER BASINS
- RIVER SUBBASINS
- WATER BODIES SUBBASINS
- RIVER WB
- TRANSITIONAL WB

LAKE WB

- L-M5/7W
- L-M8
- B
- Γ

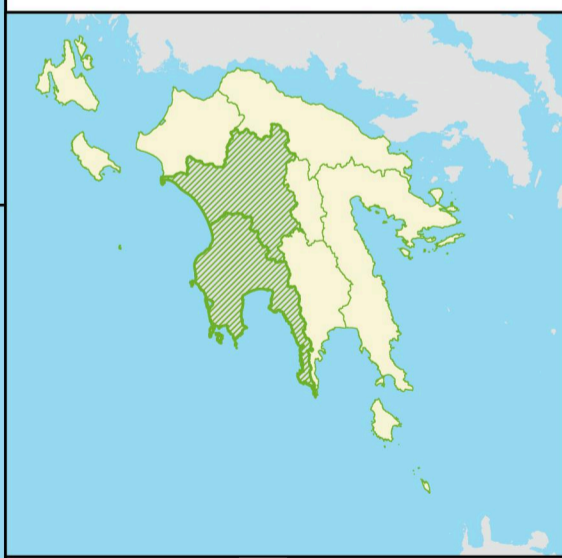
RB	29	
S/N	WB CODE	TYPE
01	GR0129L00000001H	L-M8

RB	32	
S/N	WB CODE	TYPE
01	GR0132L00000001H	L-M8

LAKE WATER BODIES TYPES

Type	Indicative characteristics
A	Low altitude, Large area, Medium depth, hot monomictic type at a semi dry area
B	Medium – high altitude, Large area, Medium depth, polymictic type at the wet area
Γ	Low altitude, Large area, Medium depth, Polymictic type at a semi dry area
Δ	Medium – high altitude, large area, Large depth, hot monomictic type at a wet area

Type	Lake Water Bodies characterization
Siliceous wet L-M5/7W	Reservoirs, deep, large, siliceous, at "wet" areas, Watersheds < 20.000km ²
Siliceous dry L-M5/7A	Reservoirs, deep, large, siliceous, at "dry" areas, watersheds < 20.000 km ²
Chalky L-M8	Reservoirs, deep, large, chalky, Watersheds < 20.000km ²



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RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

LAKE WATER BODIES



LEGEND

- RIVER BASINS
- RIVER SUBBASINS
- WATER BODIES SUBBASINS
- RIVER WB
- LAKE WB

COASTAL WB

- Deep rocky coastal waters
- Rocky shallow coastal waters
- Deep sedimentary coastal waters
- Sedimentary shallow coastal waters
- Very protected bays

TRANSITIONAL WB

- Lagoon
- River Outfall

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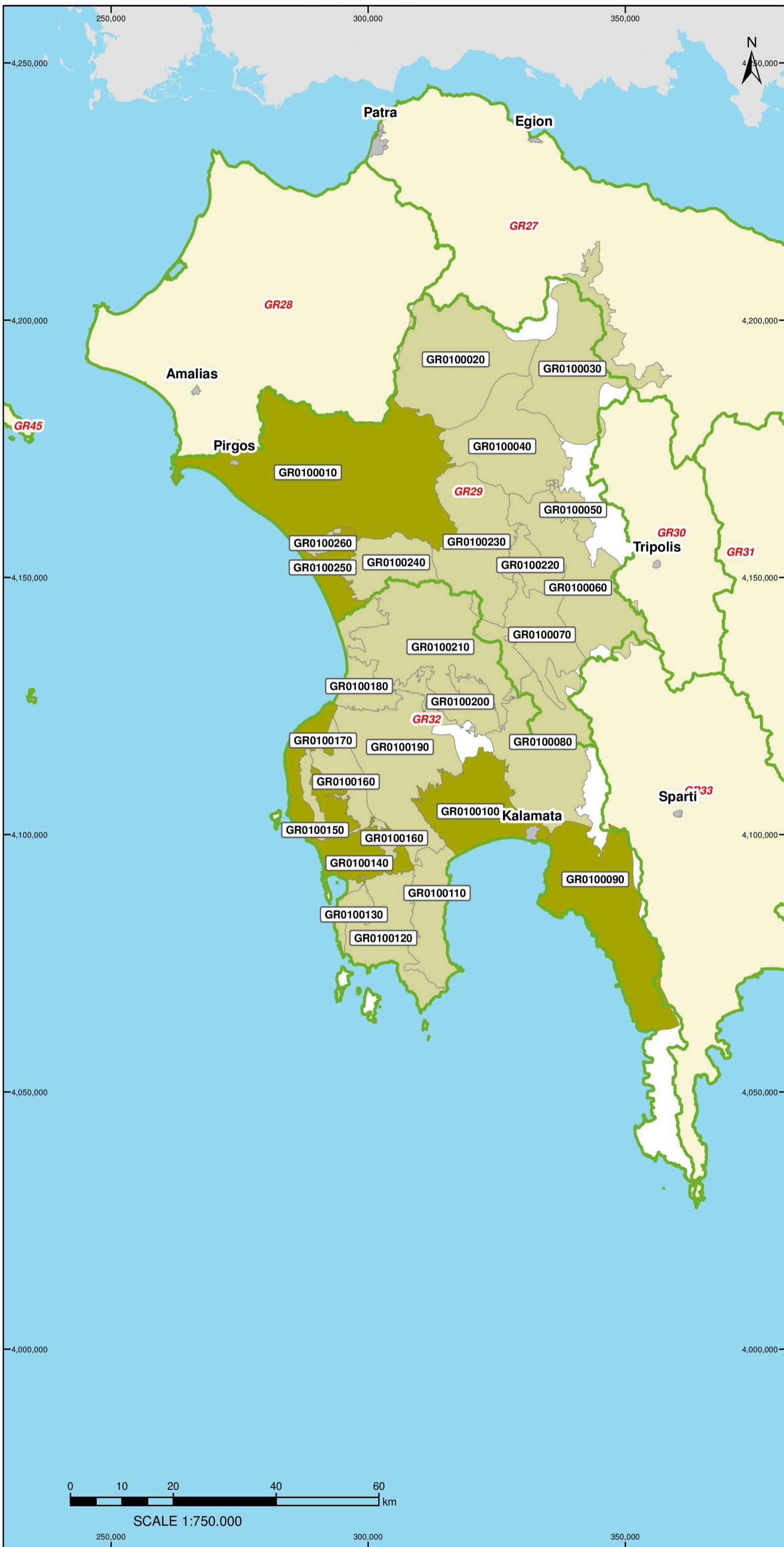
SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

COASTAL & TRANSITIONAL WATER BODIES

RBD:01	RB: 29 - 32	No.MAP: 6.1
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NOVEMBER 2012



LEGEND

- RIVER BASINS
- GROUNDWATER BODIES**
 - Initial characterisation
 - Further characterisation

RB	NAME
29	
CODE	NAME
GR0100010	Alfios Groundwater Body
GR0100020	South Erimanthos Groundwater Body
GR0100030	Ladon Groundwater Body
GR0100040	Lagkadia Groundwater Body
GR0100050	Methidrio-Piana Groundwater Body
GR0100060	Elissonas Groundwater Body
GR0100070	Megalopoli Groundwater Body
GR0100220	Karitena-Stemnitsa Groundwater Body
GR0100230	Lousios-Paloumba Groundwater Body
GR0100240	Minthi Groundwater Body
GR0100250	Zacharo Groundwater Body
GR0100260	Kaiafas Groundwater Body

RB	NAME
32	
CODE	NAME
GR0100080	Agios Floros - Pidima Groundwater Body
GR0100090	West Taigetos Groundwater Body
GR0100100	Pamisos Groundwater Body
GR0100110	Koroni Groundwater Body
GR0100120	Methoni Groundwater Body
GR0100130	Kinigos Groundwater Body
GR0100140	Romanos-Chora Groundwater Body
GR0100150	Gargalianoi Groundwater Body
GR0100160	Chora Groundwater Body
GR0100170	Filiatra-Kiparissia Groundwater Body
GR0100180	Kalo Nero-Neda Groundwater Body
GR0100190	Kiparissia - Ithomi Groundwater Body
GR0100200	Ano Messinia Groundwater Body
GR0100210	Diavolitsi - Nea Figalia Groundwater Body



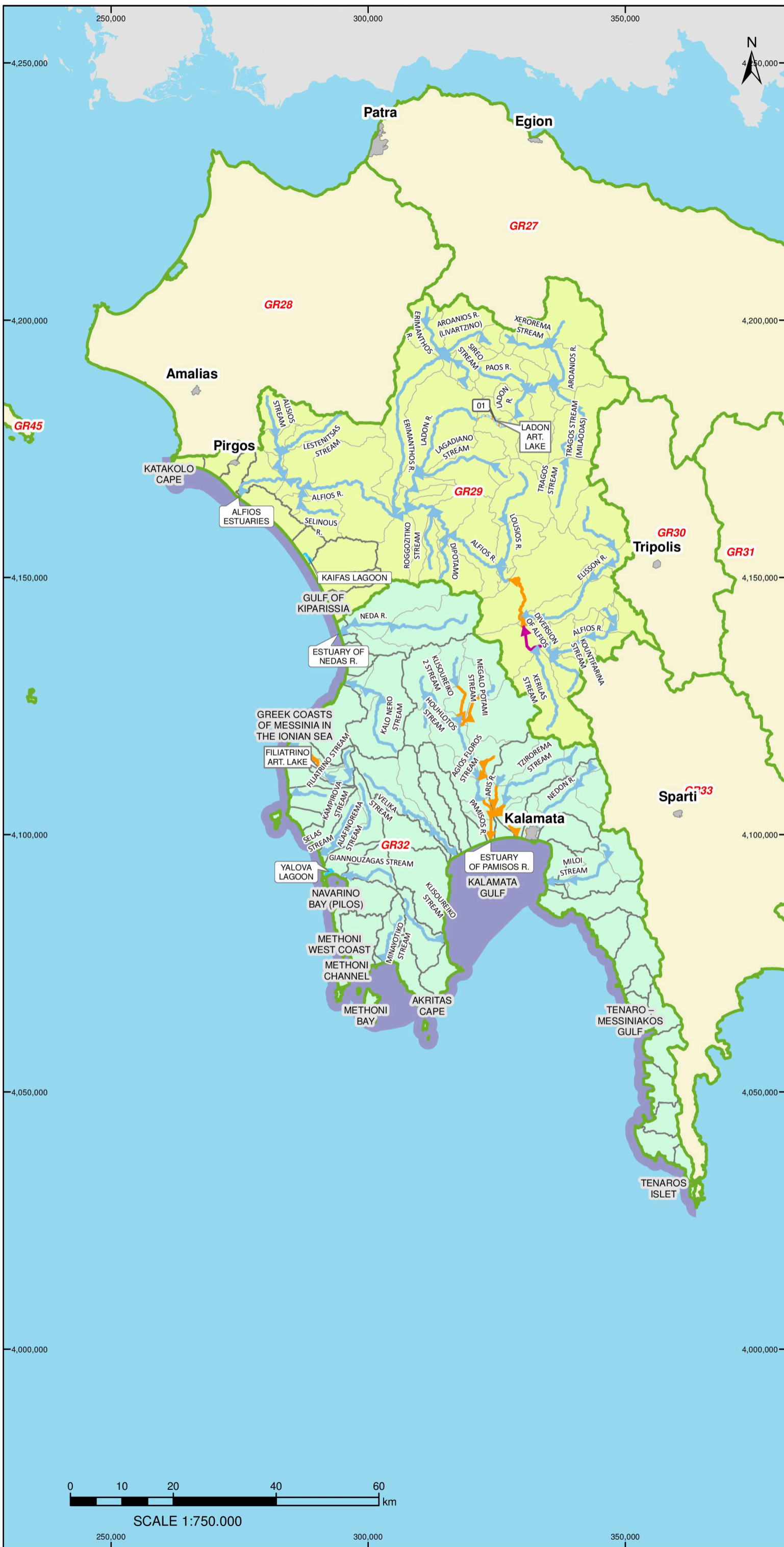
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MINISTRY OF ENVIRONMENT & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

GROUNDWATER BODIES



LEGEND

- RIVER BASINS
- RIVER SUBBASINS
- WATER BODIES SUBBASINS

RIVER WB

- HMWB
- AWB

LAKE WB

- HMWB
- AWB

COASTAL WB

- HMWB

TRANSITIONAL WB

-

RB 29		RB 29	
RIVERS HMWB / AWB		LAKES HMWB / AWB	
S/N	CODE WB	S/N	CODE WB
44	GR0129R000215044H	01	GR0129L000000001H
50	GR0129R000217050H		
51	GR0129R000217051A		
53	GR0129R000219053A		

RB 32		RB 32	
RIVERS HMWB / AWB		LAKES HMWB / AWB	
S/N	CODE WB	S/N	CODE WB
23	GR0132R000201023H	01	GR0132L000000001H
24	GR0132R000201024H		
38	GR0132R000201038H		
26	GR0132R000202026H		
27	GR0132R000202027H		
39	GR0132R000202039H		
42	GR0132R000203042H		
43	GR0132R000203043H		
30	GR0132R000204030H		
33	GR0132R000204033H		
31	GR0132R000204131H		
13	GR0132R000900013H		
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SPECIAL SECRETARIAT FOR WATER

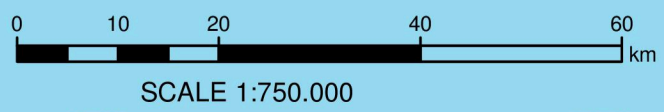
RIVER BASIN DISTRICT MANAGEMENT PLAN

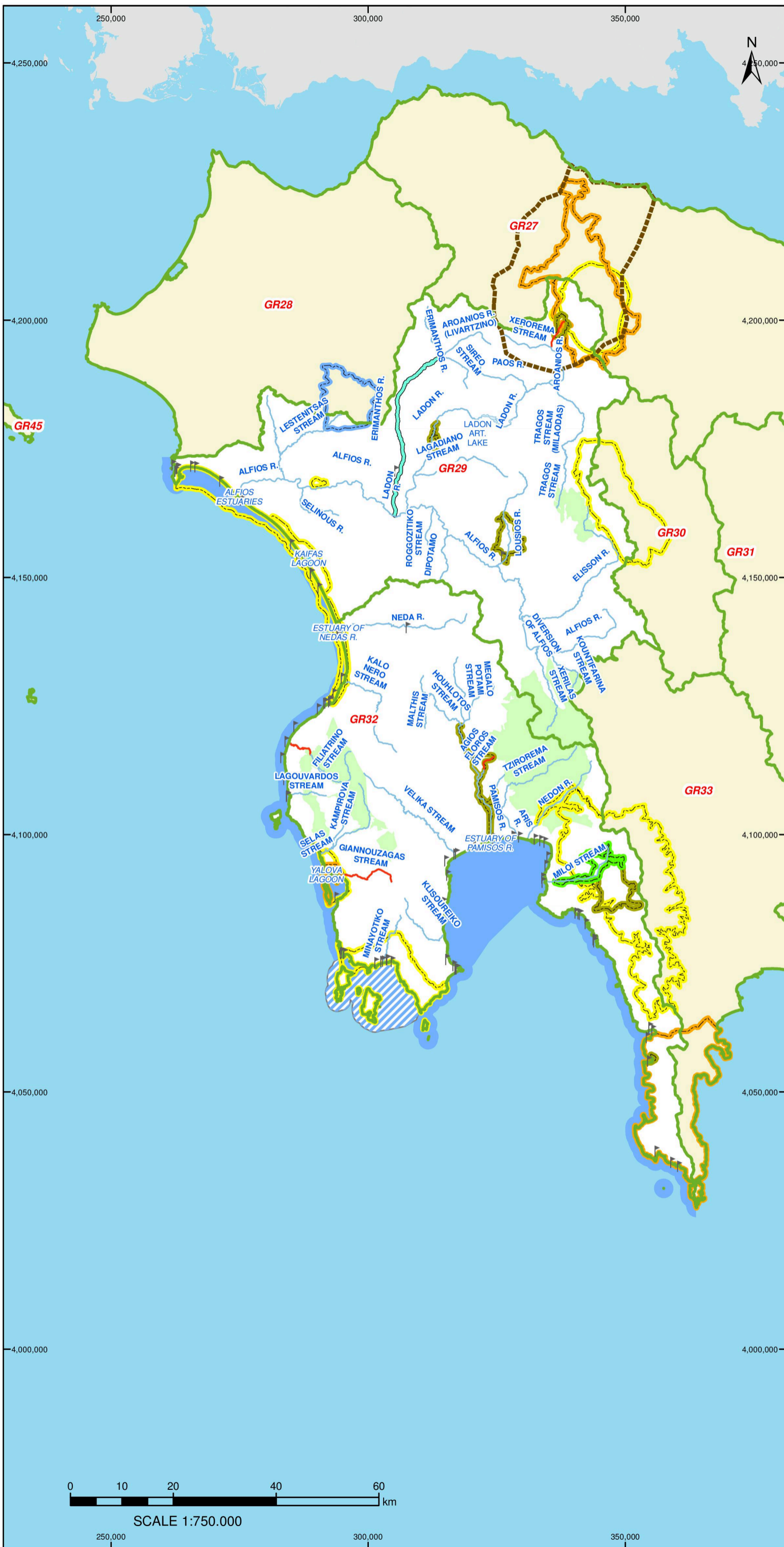
WESTERN PELOPONNESE (RBD01)

SURFACE AWB - HMWB

RBD:01	RB: 29 - 32	No.MAP: 8.1
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NOVEMBER 2012





LEGEND

RIVER WB

- Rivers
- Rivers with water abstraction
- Rivers with aquatic species of economic importance

LAKE WB

- Lakes

TRANSITIONAL WB

- Transitional
- Transitional with aquatic species of economic importance

COASTAL WB

- Coastal
- Coastal with aquatic species of economic importance

Bathing waters

PROTECTED AREAS

- CORINE Habitats
- Sites of Community Importance (SCI)
- Special Protection Areas (SPA)
- SPACSI
- National Parks
- Landscapes of Outstanding Natural Beauty
- Areas polluted by nitrates

GROUNDWATER BODIES

- Groundwaterbodies with water abstraction

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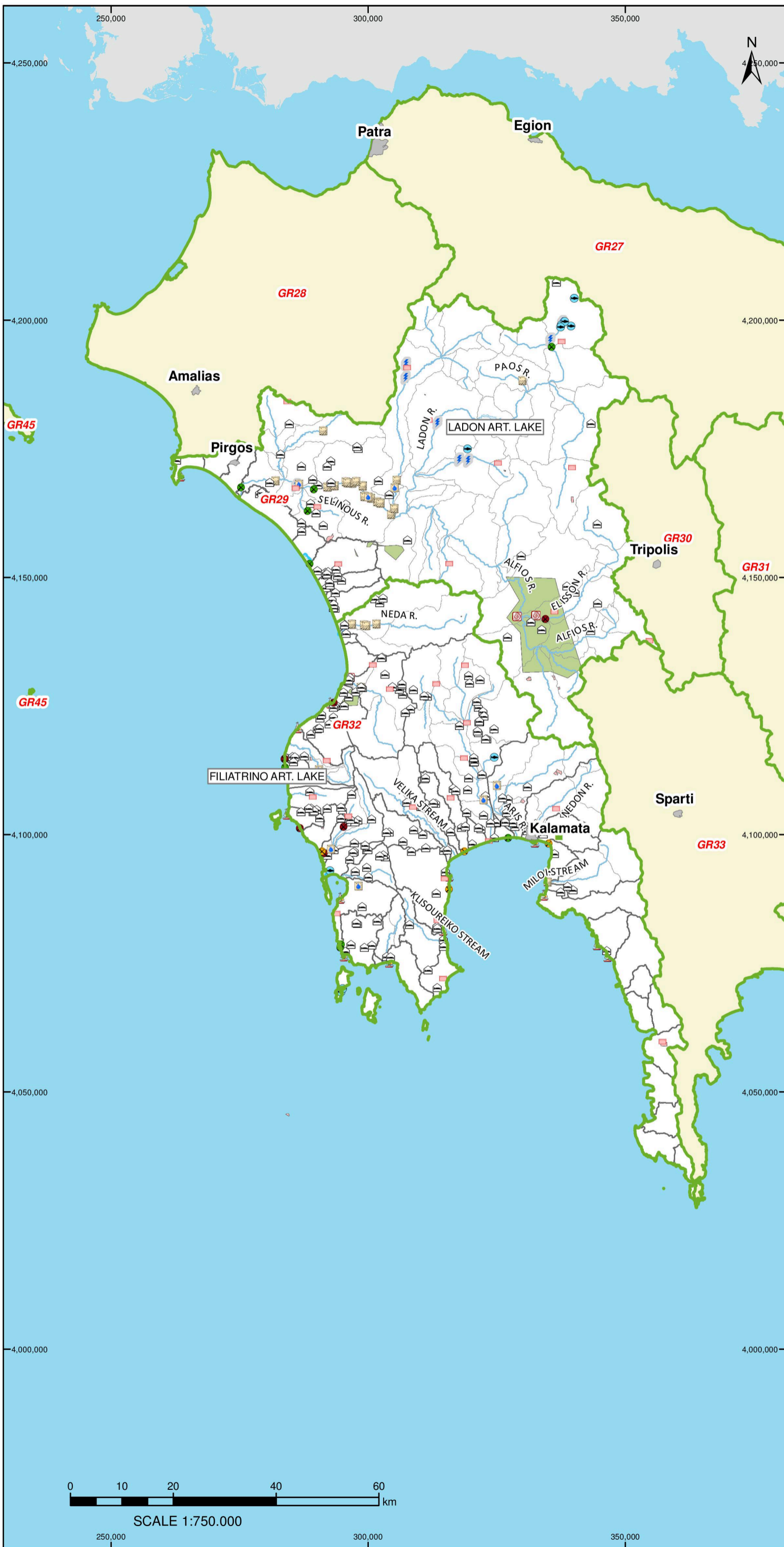
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SECRETARIAT
FOR WATER

**RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)**

PROTECTED AREAS

RBD:01	RB: 29 - 32	No.MAP: 9.1
NOVEMBER 2012		



LEGEND

- Water abstraction
- Sand pits
- Thermal power stations
- Small hydroelectric power plants
- Fisheries
- Discharge of treated wastewater
- Discharge of treated wastewater (Hotels)
- Treated waste water discharge in natural recipients
- Uncontrolled waste disposal sites
- Landfills
- Important industries
- Desalination plants
- Port facilities
- Clay pits
- Minerals
- River Basins
- River Subbasins
- Water Bodies Subbasins
- River WB
- Lake WB
- Transitional WB

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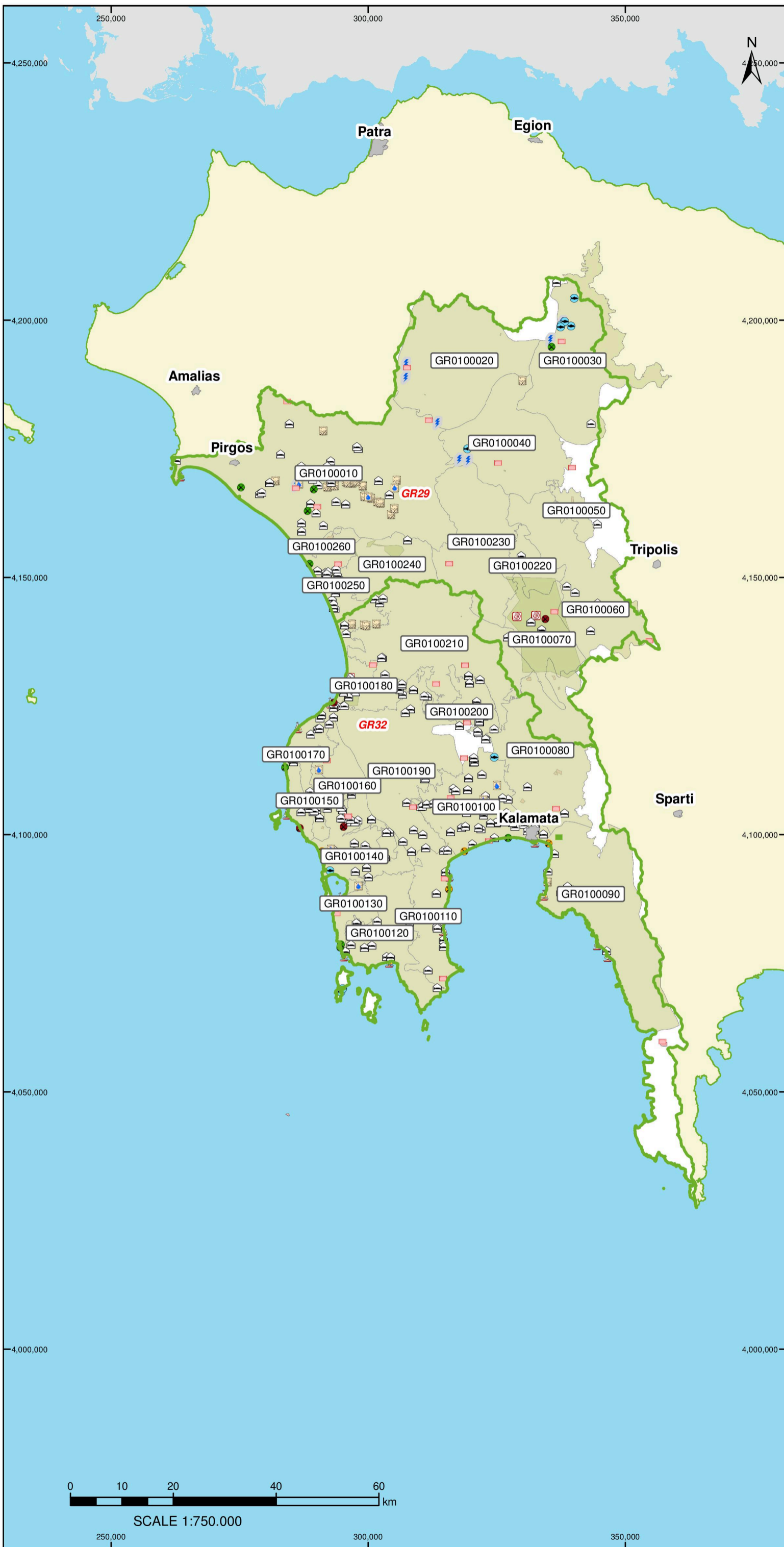
SPECIAL SECRETARIAT
FOR WATER

**RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)**

**POINT SOURCE PRESSURES
AT SURFACE WB**

RBD:01	RB: 29 - 32	No.MAP: 10.1
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NOVEMBER 2012



LEGEND

- Water abstraction
- Sand pits
- Thermal power stations
- Small hydroelectric power plants
- Fisheries
- Discharge of treated wastewater
- Discharge of treated wastewater (Hotels)
- Treated waste water discharge in natural recipients
- Uncontrolled waste disposal sites
- Landfills
- Important industries
- Desalination plants
- Port facilities
- Clay pits
- Minerals
- River Basins
- Groundwater Bodies

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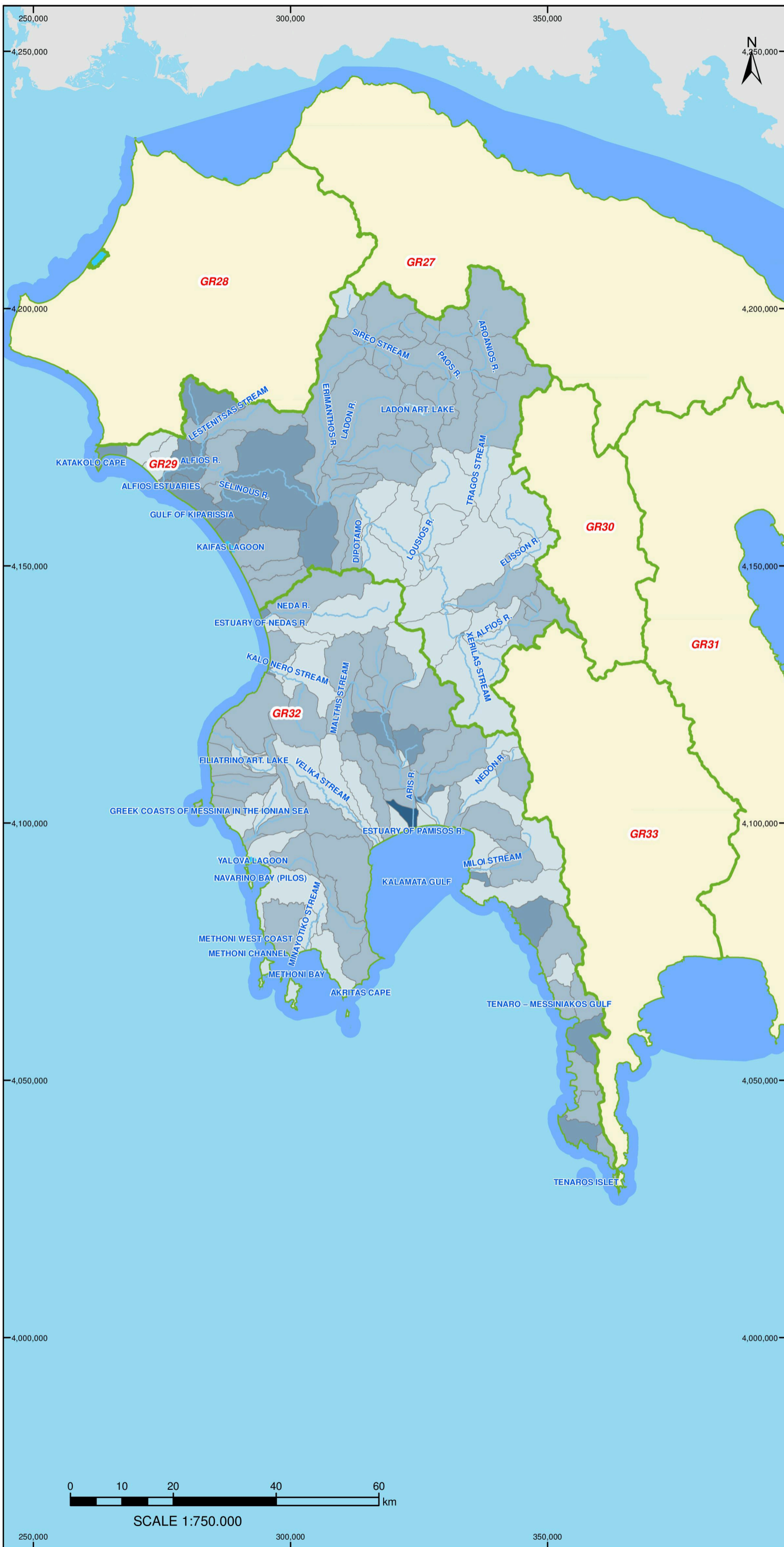
SPECIAL SECRETARIAT
FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

POINT SOURCE PRESSURES
AT GROUNDWATER BODIES

RBD:01	RB: 29 - 32	No.MAP: 11.1
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NOVEMBER 2012



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual Intensity BOD (t/km²)

- 0.00 - 0.18
- 0.18 - 0.62
- 0.62 - 1.40
- 1.40 - 3.16
- 3.16 - 8.33

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SPECIAL SECRETARIAT FOR WATER

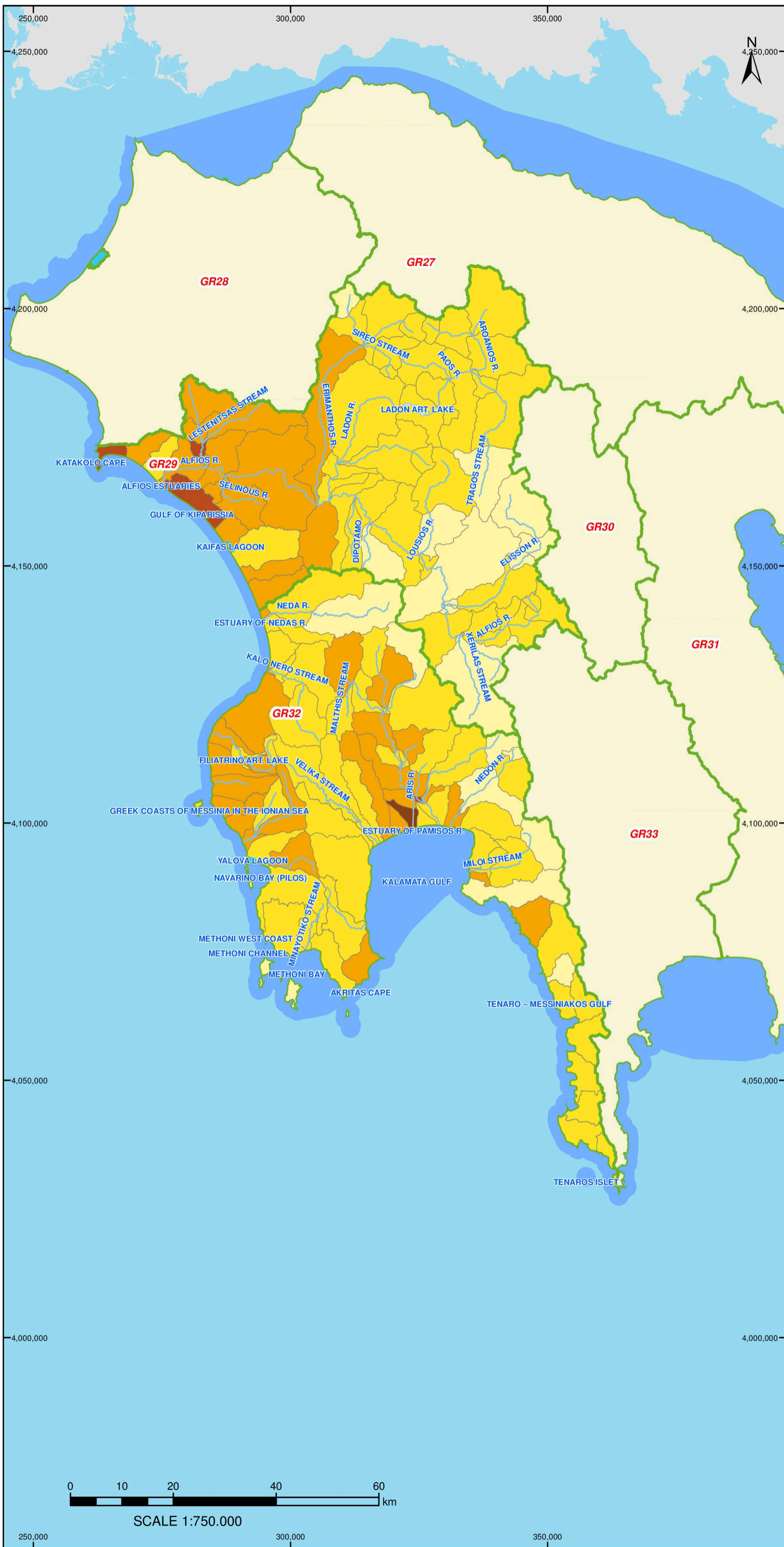
RIVER BASIN DISTRICT MANAGEMENT PLAN

WESTERN PELOPONNESE (RBD01)

ANNUAL SURFACE BOD QUANTITY INTENSITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 12.1
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NOVEMBER 2012



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual Intensity N (t/km²)

- 0.00 - 0.11
- 0.11 - 0.31
- 0.31 - 0.57
- 0.57 - 1.17
- 1.17 - 2.76

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RIVER BASIN DISTRICT MANAGEMENT PLAN

WESTERN PELOPONNESE (RBD01)

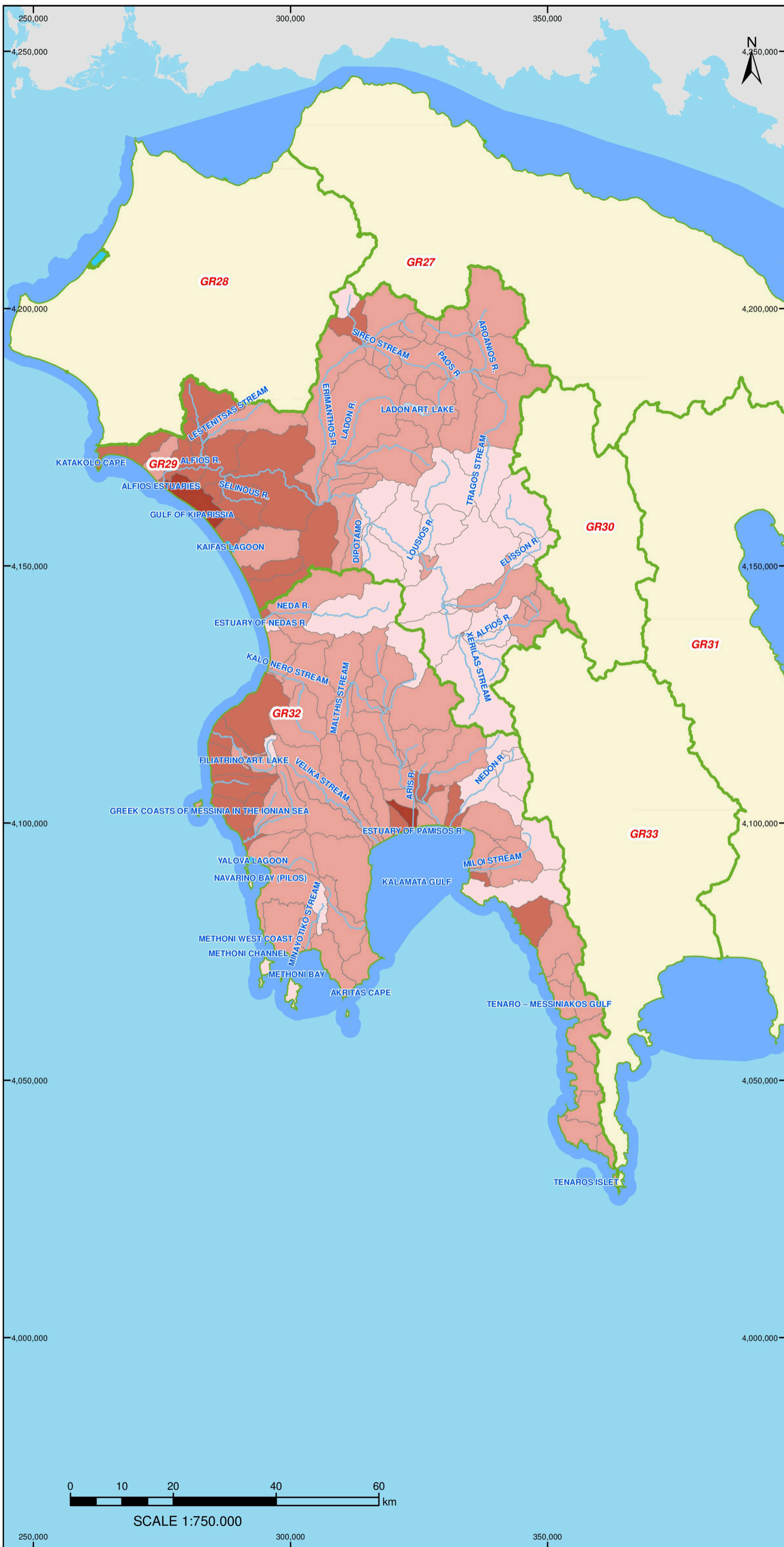
ANNUAL SURFACE N QUANTITY INTENSITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 13.1
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NOVEMBER 2012



SCALE 1:750.000



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual Intensity P (t/km2)

- 0.00
- 0.00 - 0.010
- 0.01 - 0.03
- 0.03 - 0.06
- 0.06 - 0.10

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SPECIAL SECRETARIAT FOR WATER

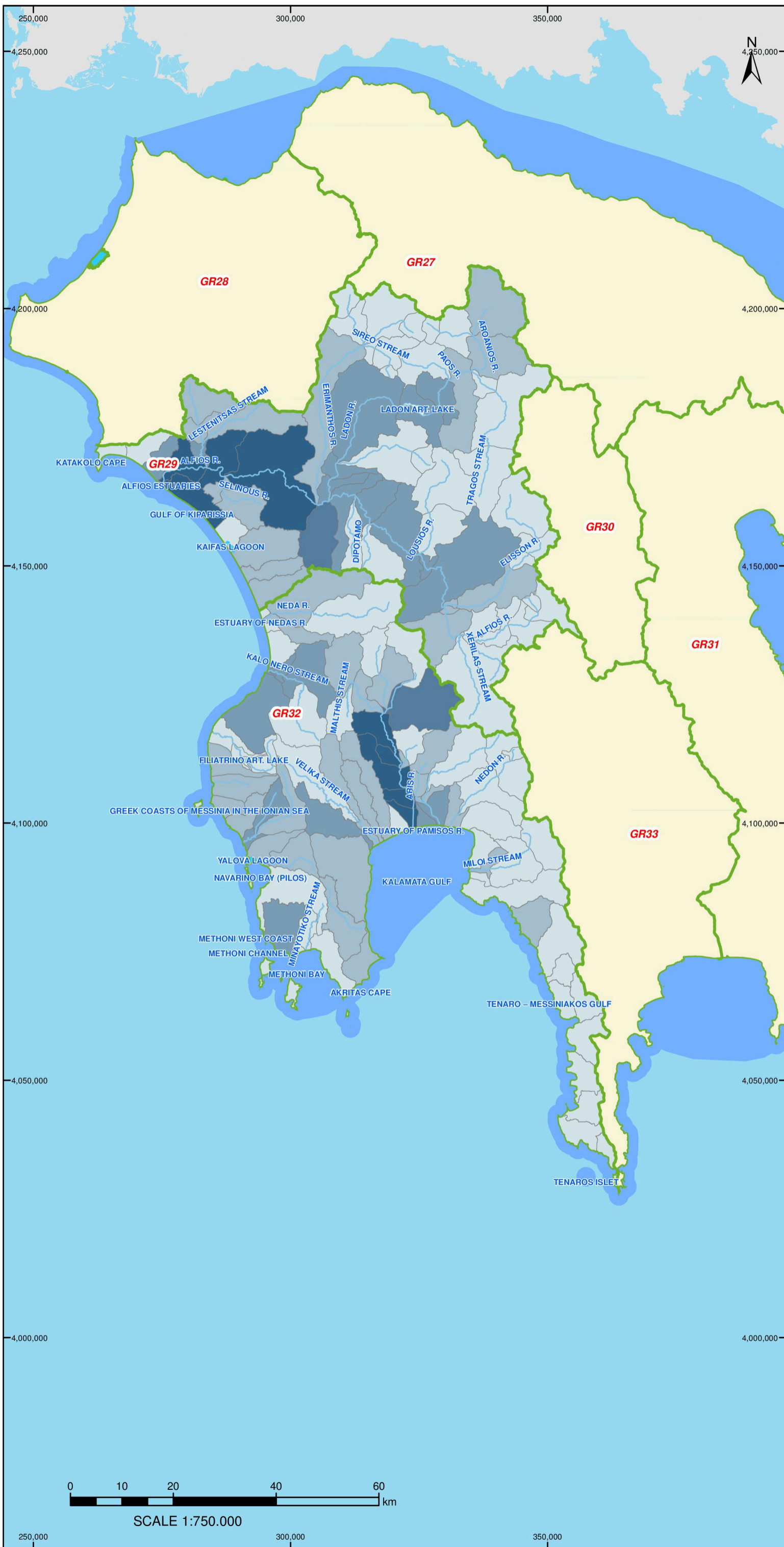
RIVER BASIN DISTRICT MANAGEMENT PLAN

WESTERN PELOPONNESE (RBD01)

ANNUAL SURFACE P QUANTITY INTENSITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 14.1
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NOVEMBER 2012



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative amount BOD (t)

- 0.00 - 73.80
- 73.80 - 237.63
- 237.63 - 597.86
- 597.86 - 1245.27
- 1245.27 - 4902.02

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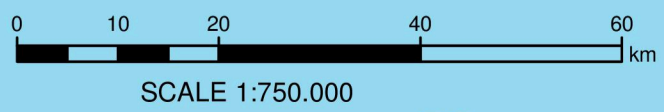
SPECIAL SECRETARIAT FOR WATER

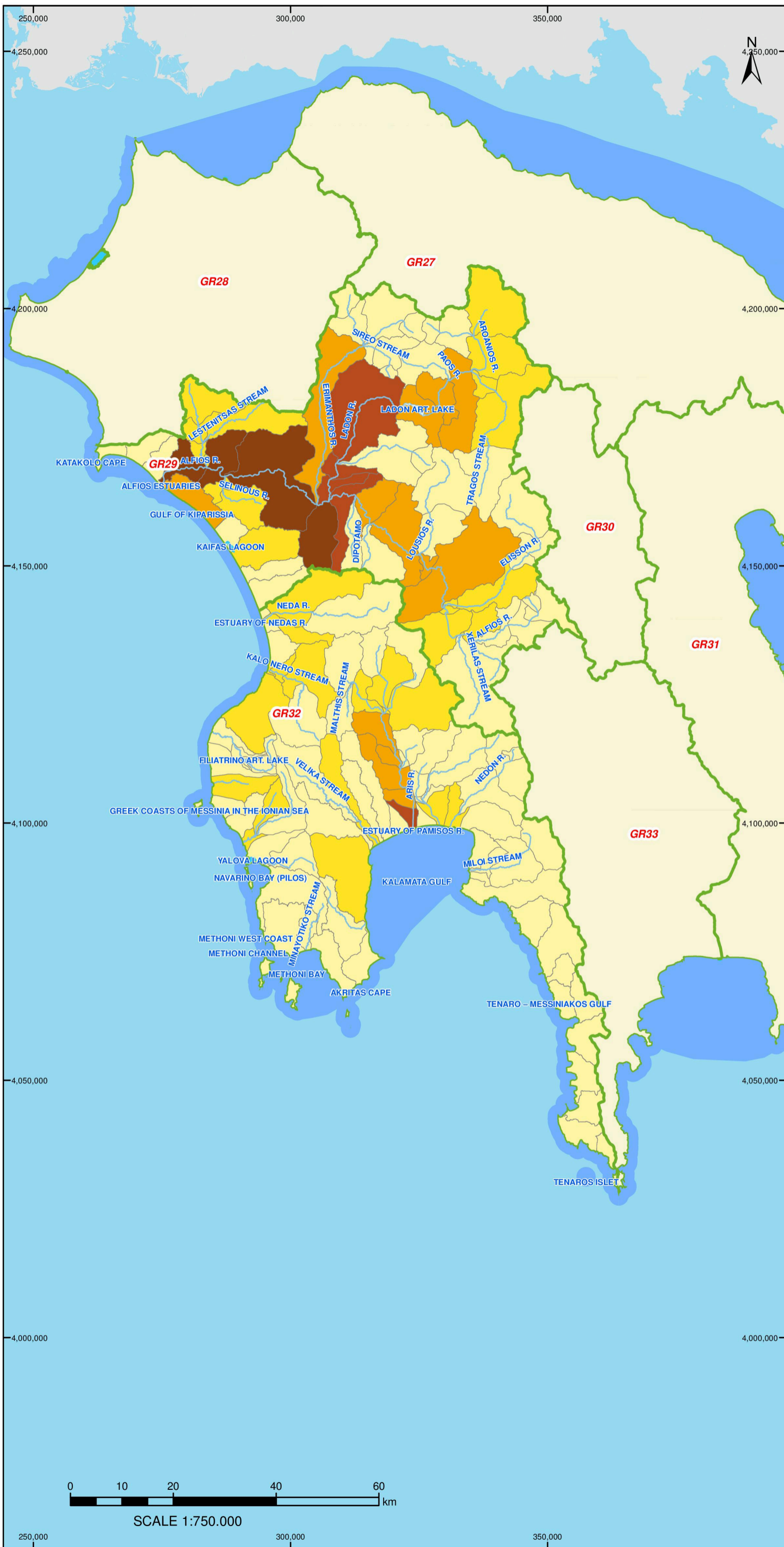
RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

ANNUAL CUMULATIVE OF SURFACE BOD QUANTITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 15.1
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NOVEMBER 2012





LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative amount N (t)

- 0.00 - 27.42
- 27.42 - 97.04
- 97.04 - 199.81
- 199.81 - 390.95
- 390.95 - 927.87

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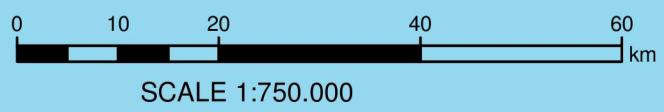
SPECIAL SECRETARIAT FOR WATER

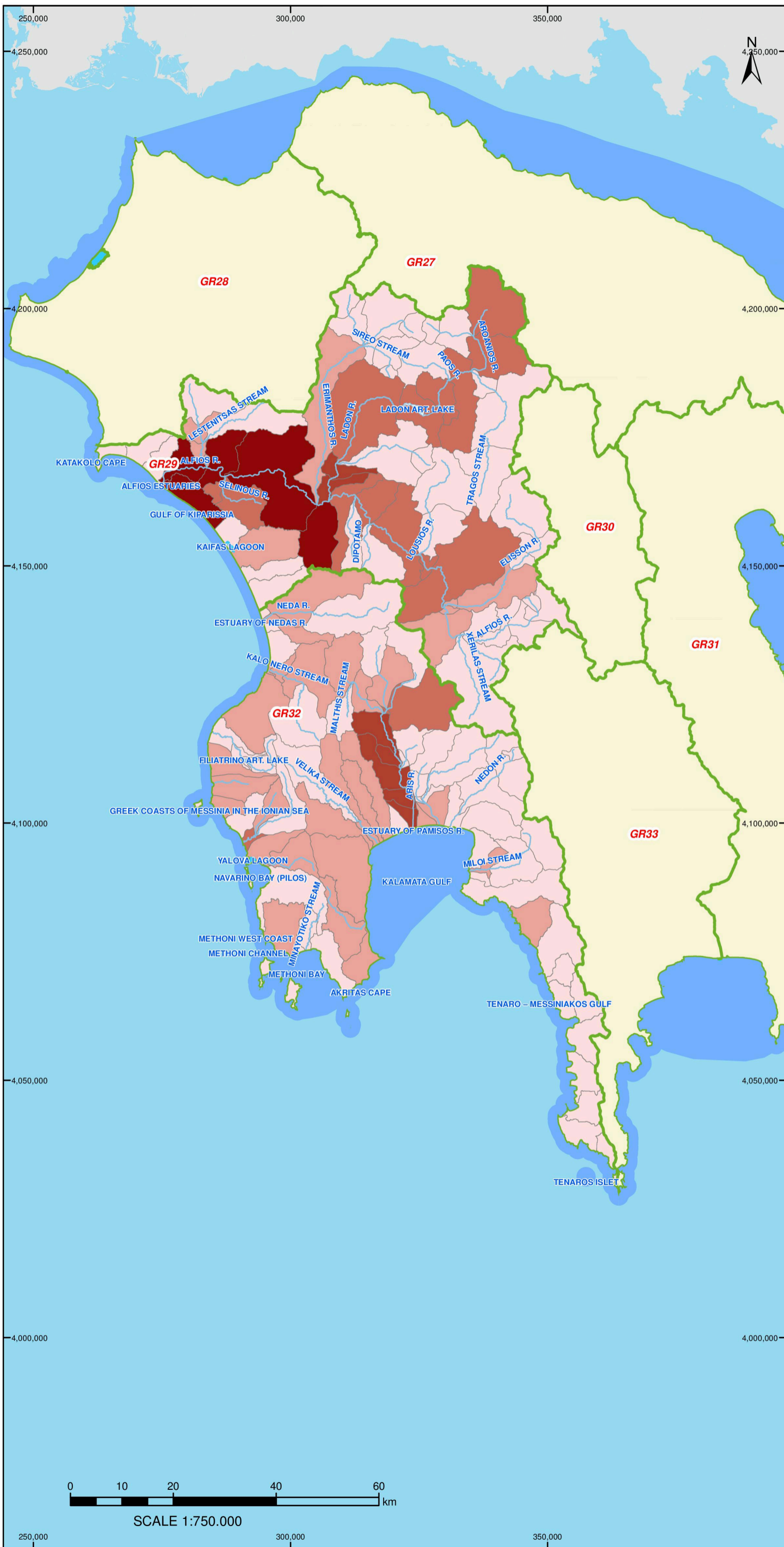
RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

ANNUAL CUMULATIVE OF SURFACE N QUANTITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 16.1
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NOVEMBER 2012





LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative amount P (t)

- 0.00 - 1.74
- 1.74 - 6.49
- 6.49 - 14.60
- 14.60 - 28.39
- 28.39 - 65.28

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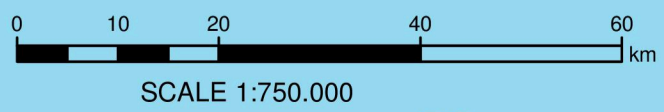
 SPECIAL SECRETARIAT FOR WATER

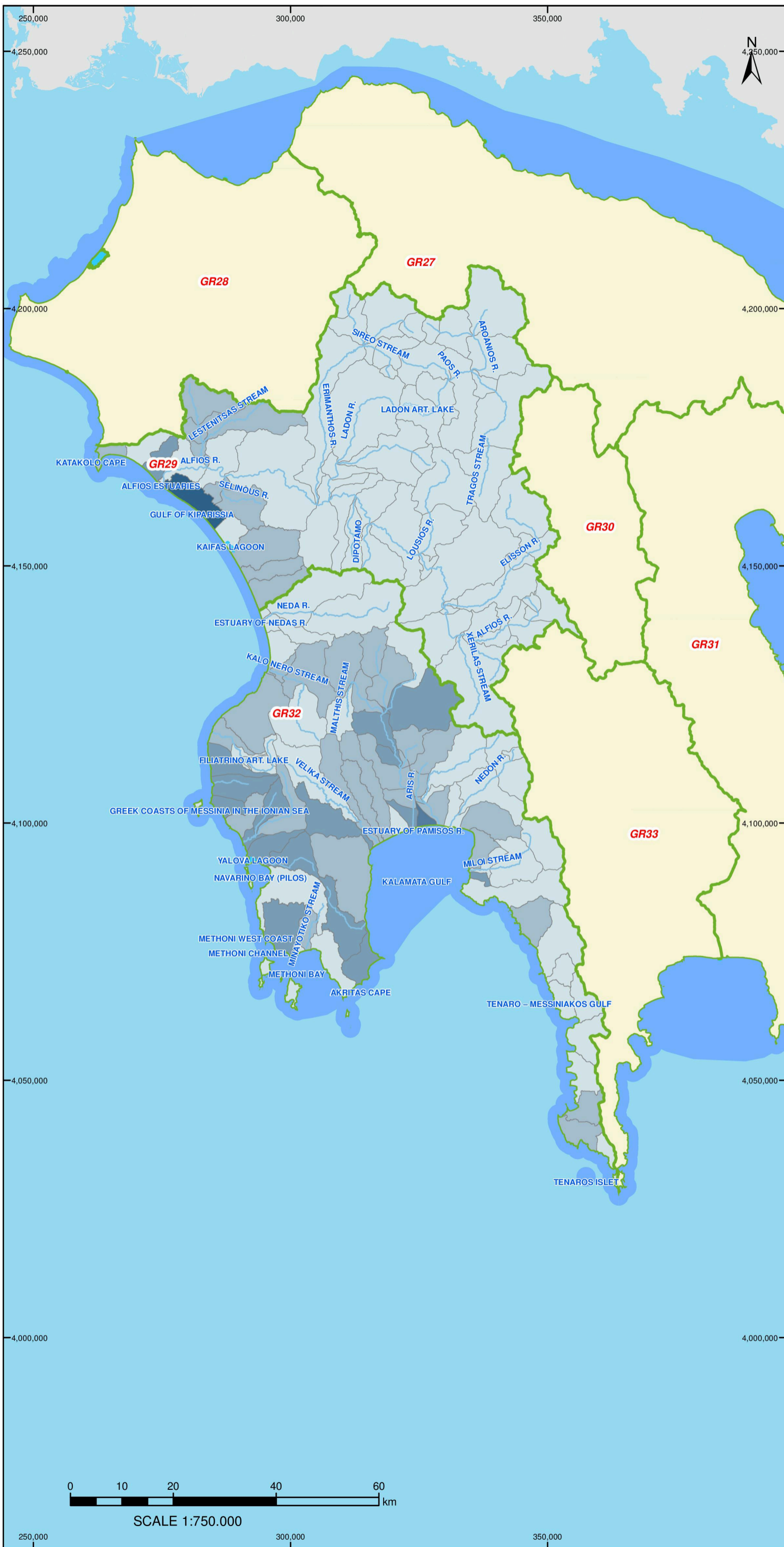
RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

ANNUAL CUMULATIVE OF SURFACE P QUANTITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 17.1
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NOVEMBER 2012





LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative concentration BOD (mg/l)

- 0.00 - 1.92
- 1.92 - 7.41
- 7.41 - 23.00
- 23.00 - 75.66
- 75.66 - 147.38

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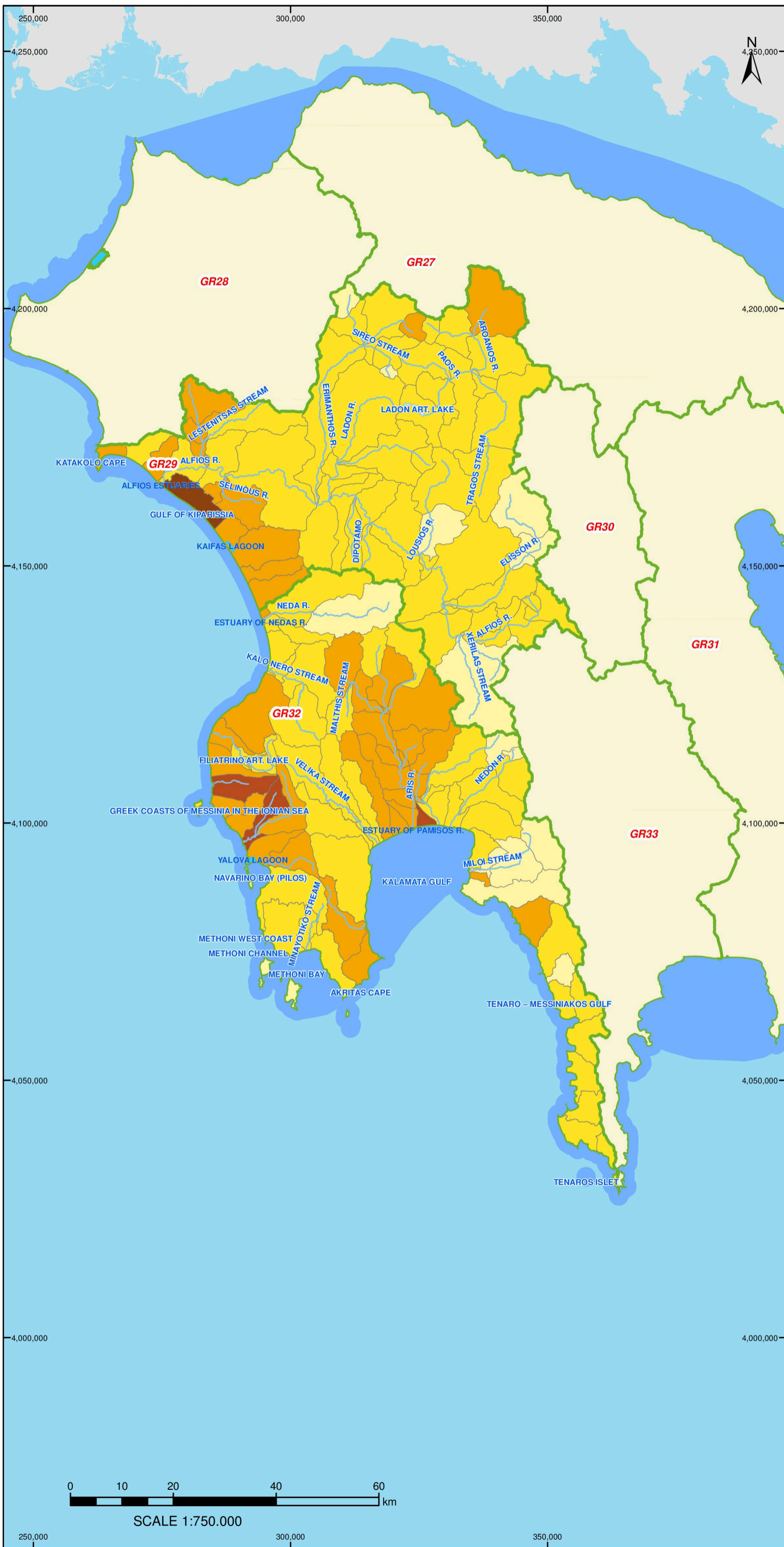
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RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

ANNUAL CUMULATIVE OF SURFACE CONCENTRATION BOD QUANTITY FROM POINT AND DIFFUSE SOURCES

RBD:01	RB: 29 - 32	No.MAP: 18.1
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NOVEMBER 2012



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative concentration N (mg/l)

- 0.00 - 0.21
- 0.21 - 0.65
- 0.65 - 1.27
- 1.27 - 2.63
- 2.63 - 5.52

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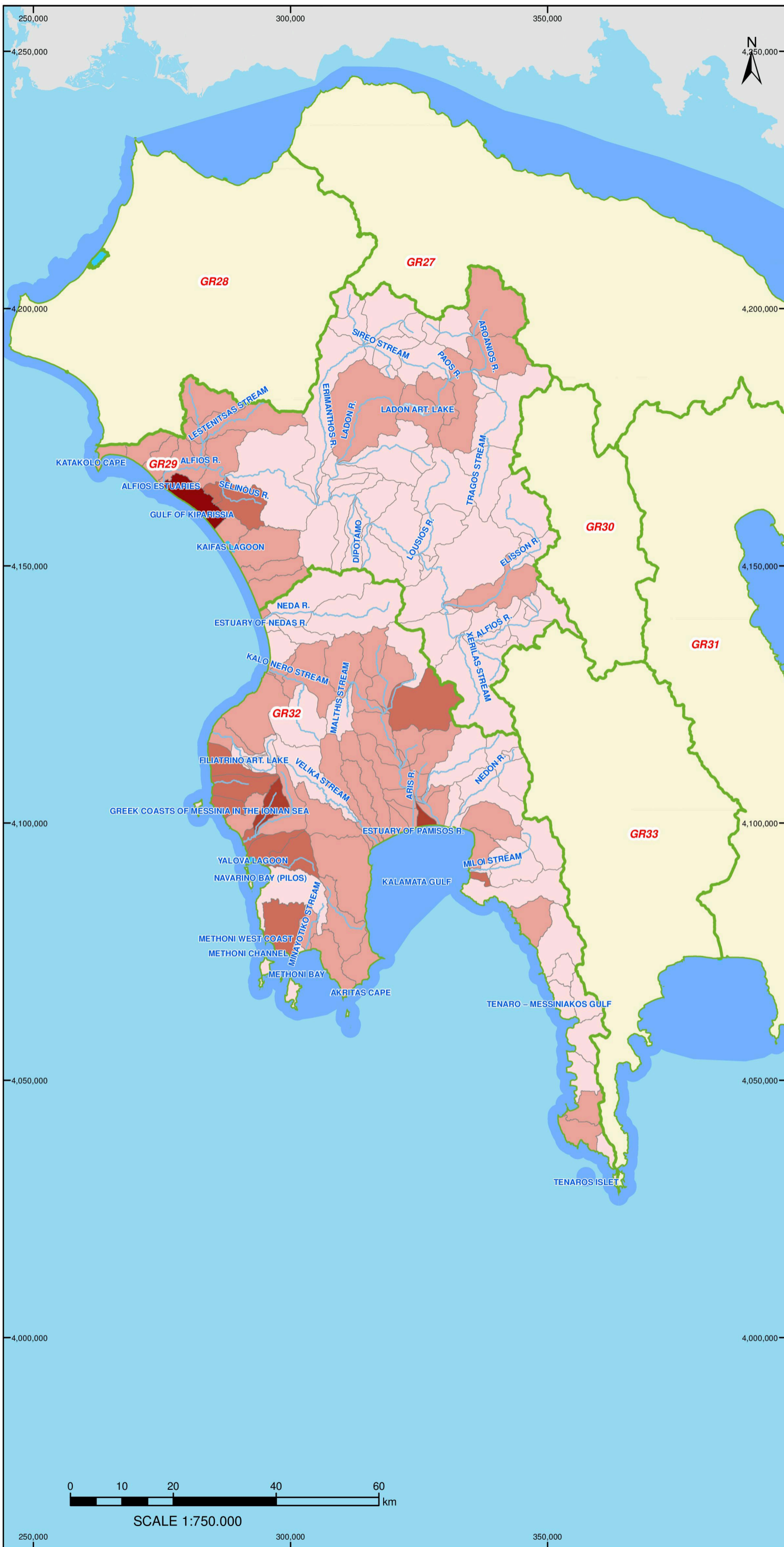
 SPECIAL SECRETARIAT FOR WATER

**RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)**

**ANNUAL CUMULATIVE OF SURFACE CONCENTRATION
N QUANTITY FROM POINT AND DIFFUSE SOURCES**

RBD:01	RB: 29 - 32	No.MAP: 19.1
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NOVEMBER 2012



LEGEND

- River Basins
- River WB
- Lake WB
- Transitional WB
- Coastal WB

Annual cumulative concentration P (mg/l)

- 0.00 - 0.02
- 0.02 - 0.10
- 0.10 - 0.27
- 0.27 - 0.69
- 0.69 - 1.37

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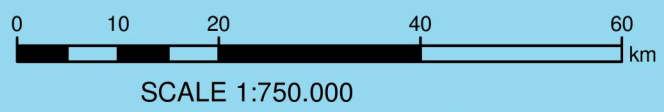
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FOR WATER

**RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)**

**ANNUAL CUMULATIVE OF SURFACE CONCENTRATION
P QUANTITY FROM POINT AND DIFFUSE SOURCES**

RBD:01	RB: 29 - 32	No.MAP: 20.1
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NOVEMBER 2012





LEGEND

- River Basins
- River Subbasins
- Water Bodies Subbasins
- Urban Areas

Coastal WB / Transitional WB / Lake WB

Status	Resources (AWB/HMWB)
High	Good
Good	Moderate
Moderate	Poor
Poor	Bad
Bad	Unknown
Unknown	Unknown

River WB

Status	Resources (AWB/HMWB)
High	Good
Good	Moderate
Moderate	Poor
Poor	Bad
Bad	Unknown
Unknown	Unknown

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RIVER BASIN DISTRICT MANAGEMENT PLAN

WESTERN PELOPONNESE (RBD01)

ECOLOGICAL STATUS SURFACE WB

RBD:01	RB: 29 - 32	No.MAP: 26.1
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LEGEND

- River Basins
- River Subbasins
- Water Bodies Subbasins
- Urban Areas

Chemical Status
Lake WB / Transitional WB / Coastal WB

- Good
- Bad
- Unknown

Chemical Status
River WB

- Good
- Bad
- Unknown

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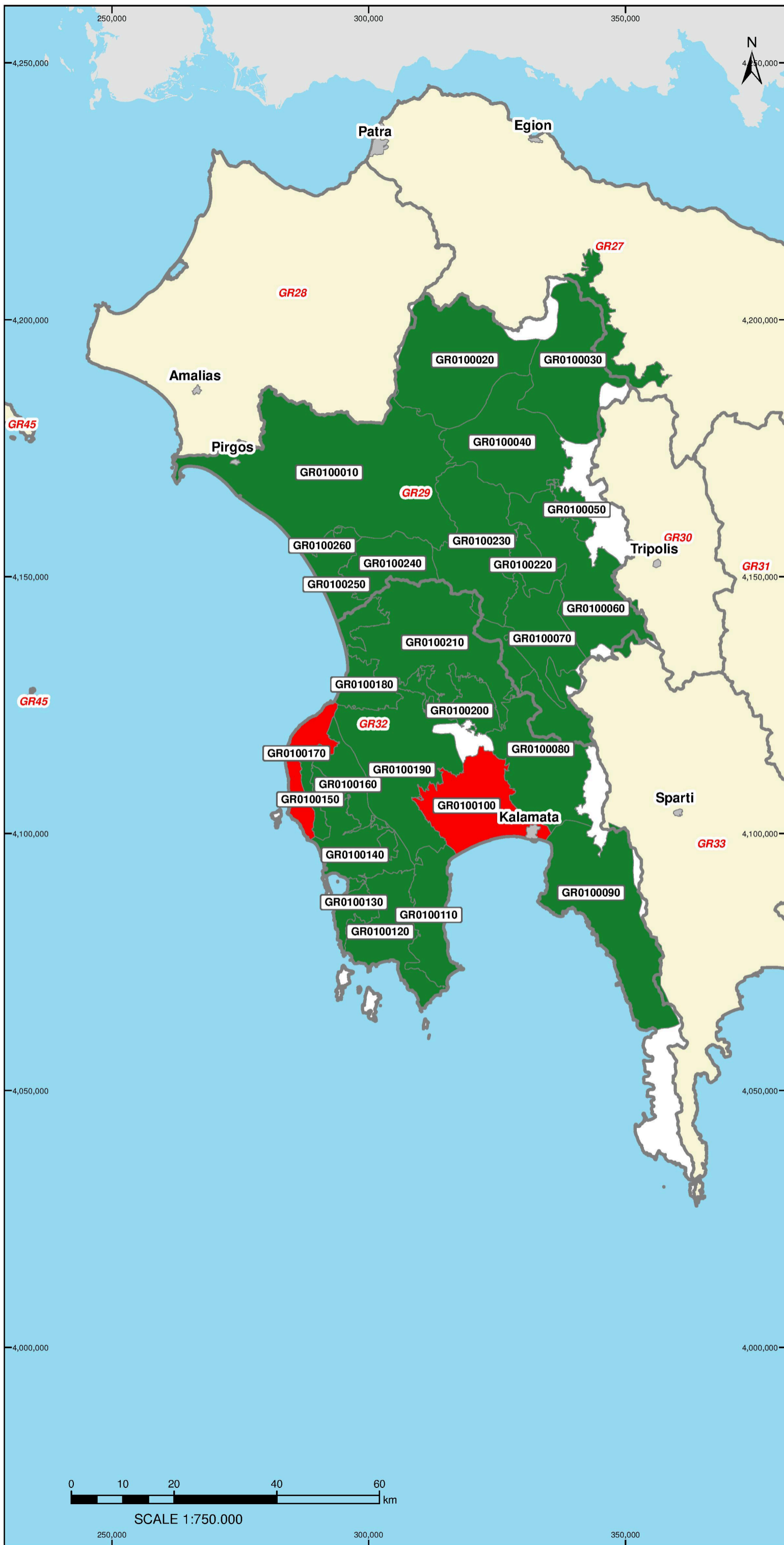
SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

CHEMICAL STATUS OF SURFACE WB

RBD:02	RB: 27 - 28 - 45	No.MAP: 27.1
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NOVEMBER 2012



LEGEND

River Basins

Groundwater Bodies Quantative status

Good

Bad

RB	29
CODE	NAME
GR0100010	Alfios Groundwater Body
GR0100020	South Erimanthos Groundwater Body
GR0100030	Ladon Groundwater Body
GR0100040	Lagkadia Groundwater Body
GR0100050	Methidio-Piana Groundwater Body
GR0100060	Elissonas Groundwater Body
GR0100070	Megalopoli Groundwater Body
GR0100220	Karitena-Sternitsa Groundwater Body
GR0100230	Lousios-Paloumba Groundwater Body
GR0100240	Mirithi Groundwater Body
GR0100250	Zacharo Groundwater Body
GR0100260	Kaiafas Groundwater Body

RB	32
CODE	NAME
GR0100080	Agios Floros - Pidima Groundwater Body
GR0100090	West Taigetos Groundwater Body
GR0100100	Pamisos Groundwater Body
GR0100110	Koroni Groundwater Body
GR0100120	Methoni Groundwater Body
GR0100130	Kinigos Groundwater Body
GR0100140	Romanos-Chora Groundwater Body
GR0100150	Gargalianoi Groundwater Body
GR0100160	Chora Groundwater Body
GR0100170	Filiatra-Kiparissia Groundwater Body
GR0100180	Kalo Nero-Neda Groundwater Body
GR0100190	Kiparissia - Ithomi Groundwater Body
GR0100200	Ano Messinia Groundwater Body
GR0100210	Diavolitsi - Nea Figalia Groundwater Body



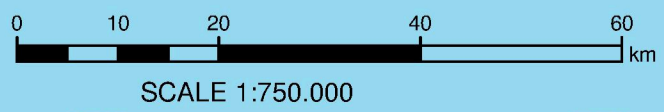
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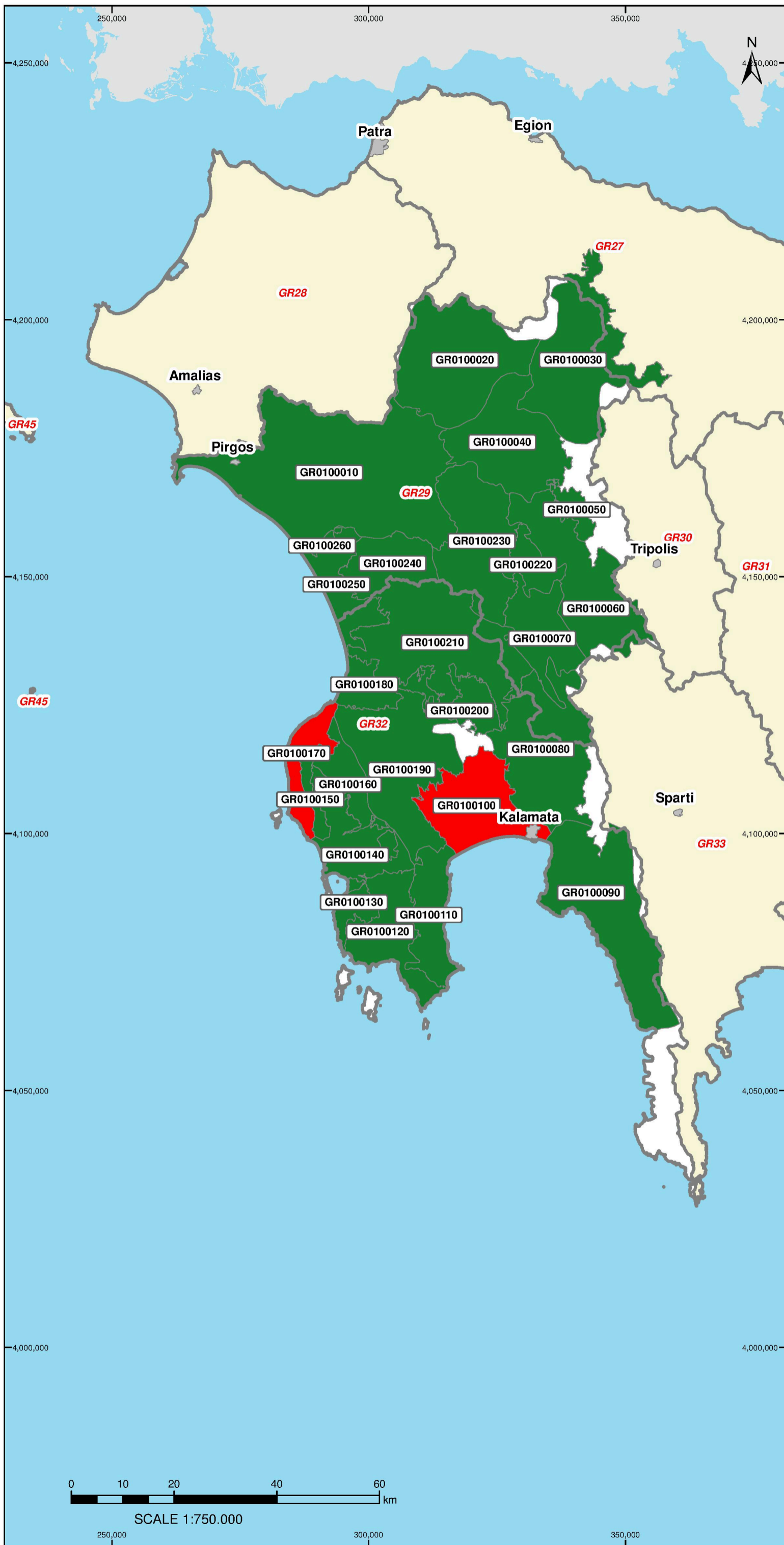
MINISTRY OF ENVIRONMENT & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

QUANTATIVE STATUS
OF GROUNDWATER BODIES





LEGEND

River Basins

Groundwater Bodies Chemical Status

Good

Bad

RB	NAME
29	
CODE	NAME
GR0100010	Alfios Groundwater Body
GR0100020	South Erimanthos Groundwater Body
GR0100030	Ladon Groundwater Body
GR0100040	Lagkadia Groundwater Body
GR0100050	Methidrio-Piana Groundwater Body
GR0100060	Elissonas Groundwater Body
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RB	NAME
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GR0100080	Agios Floros - Pidima Groundwater Body
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GR0100110	Koroni Groundwater Body
GR0100120	Methoni Groundwater Body
GR0100130	Kinigos Groundwater Body
GR0100140	Romanos-Chora Groundwater Body
GR0100150	Gargalianoi Groundwater Body
GR0100160	Chora Groundwater Body
GR0100170	Filiatra-Kiparissia Groundwater Body
GR0100180	Kalo Nero-Neda Groundwater Body
GR0100190	Kiparissia - Ithomi Groundwater Body
GR0100200	Ano Messinia Groundwater Body
GR0100210	Diavolitsi - Nea Figalia Groundwater Body



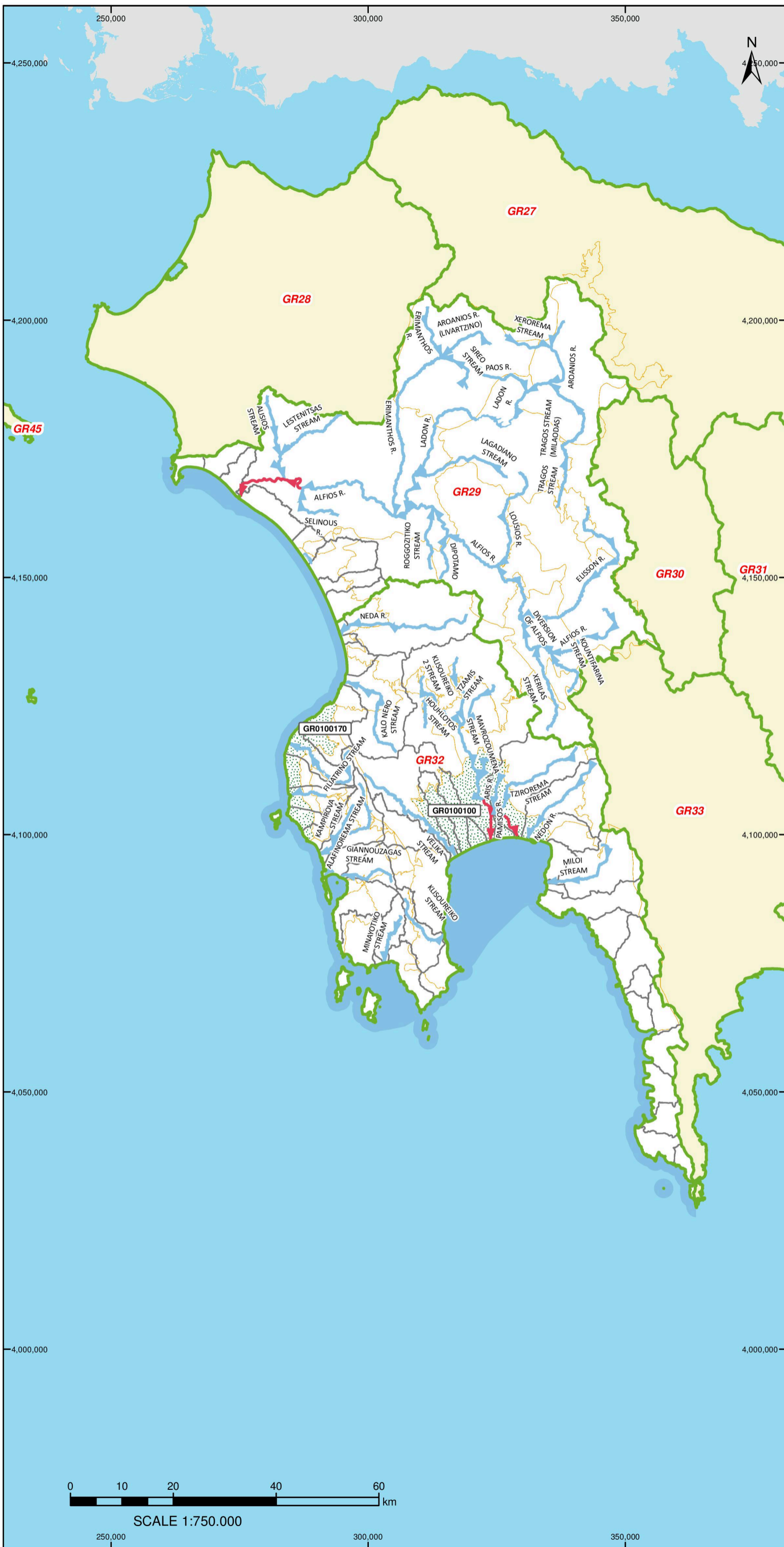
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MINISTRY OF ENVIRONMENT & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

CHEMICAL STATUS OF GROUNDWATER BODIES



LEGEND

- River Basins
- River Subbasins

River WB

Year achieved objectives

- until 2015
- until 2021
- after 2027

Lake WB / Coastal WB / Transitional WB

Year achieved objectives

- until 2015
- until 2021
- after 2027

Underground WB

Year achieved objectives

- until 2015
- until 2021
- after 2027

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MINISTRY OF ENVIRONMENT ENERGY & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

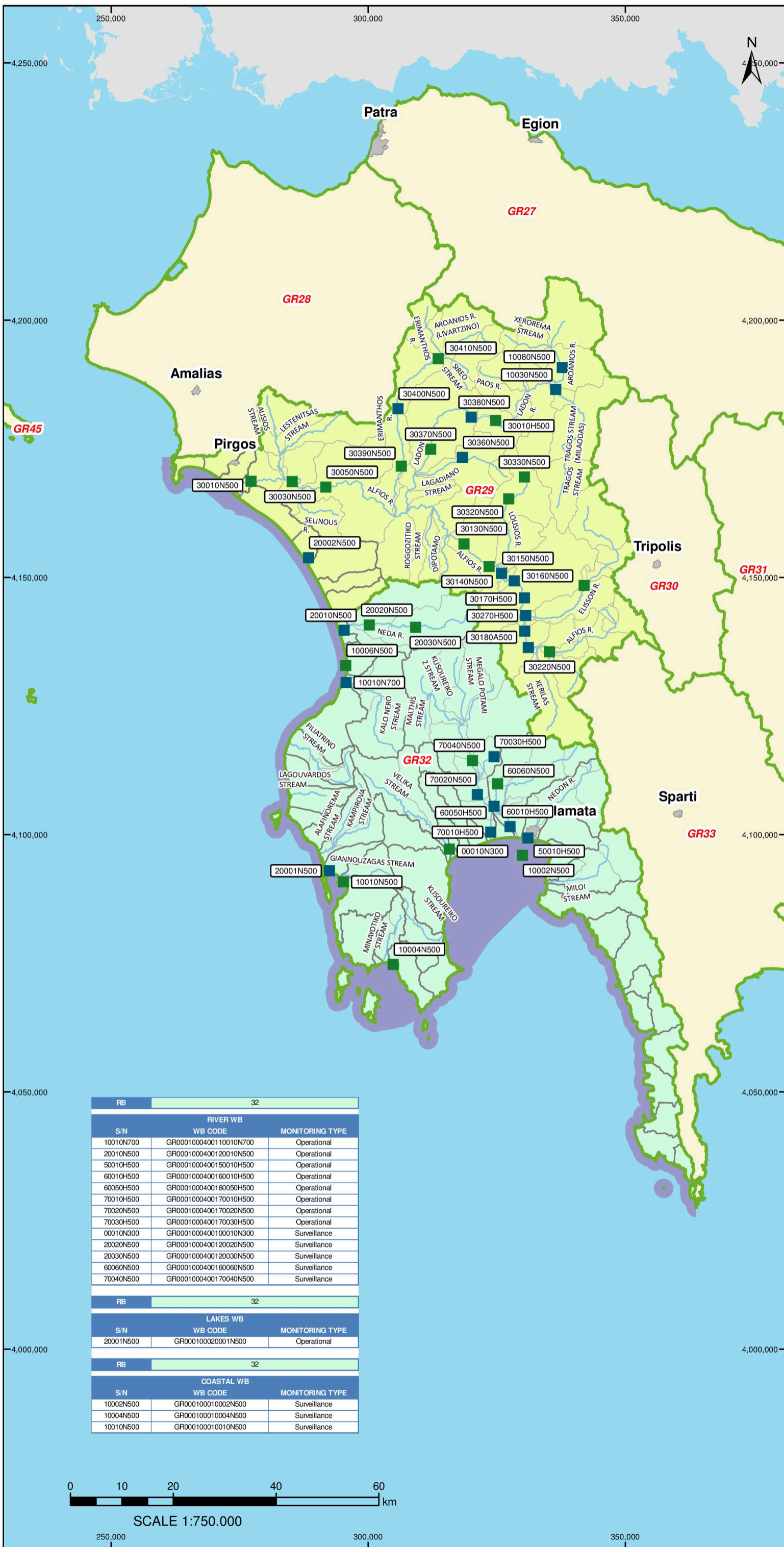
RIVER BASIN DISTRICT MANAGEMENT PLAN

WESTERN PELOPONNESE (RBD01)

YEAR ACHIEVED OBJECTIVES - EXCLUSIONS

RBD:01	RB: 29 - 32	No.MAP: 31.1
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NOVEMBER 2012



LEGEND

- River Basins
- River Subbasins
- Water Bodies Subbasins
- River WB
- Lake_WB
- Coastal WB
- Transitional WB

Monitoring Stations

- Operational
- Surveillance

RB 29		
S/N	RIVER WB WB CODE	MONITORING TYPE
10030N500	GR0001000400010030N500	Operational
10080N500	GR0001000400010080N500	Operational
30150N500	GR0001000400130150N500	Operational
30160N500	GR0001000400130160N500	Operational
30170H500	GR0001000400130170H500	Operational
30180A500	GR0001000400130180A500	Operational
30190A500	GR0001000400130190A500	Operational
30270H500	GR0001000400130270H500	Operational
30360N500	GR0001000400130360N500	Operational
30380N500	GR0001000400130380N500	Operational
30400N500	GR0001000400130400N500	Operational
30010N500	GR0001000400130010N500	Surveillance
30030N500	GR0001000400130030N500	Surveillance
30050N500	GR0001000400130050N500	Surveillance
30130N500	GR0001000400130130N500	Surveillance
30140N500	GR0001000400130140N500	Surveillance
30220N500	GR0001000400130220N500	Surveillance
30290N500	GR0001000400130290N500	Surveillance
30320N500	GR0001000400130320N500	Surveillance
30330N500	GR0001000400130330N500	Surveillance
30370N500	GR0001000400130370N500	Surveillance
30390N500	GR0001000400130390N500	Surveillance
30410N500	GR0001000400130410N500	Surveillance

LAKES WB		
S/N	WB CODE	MONITORING TYPE
30010H500	GR000100030010H500	Surveillance

TRANSITIONAL WB		
S/N	WB CODE	MONITORING TYPE
20002N500	GR000100020002N500	Operational

COASTAL WB		
S/N	WB CODE	MONITORING TYPE
10006N500	GR000100010006N500	Surveillance



RB 32		
S/N	RIVER WB WB CODE	MONITORING TYPE
10010N700	GR0001000400110010N700	Operational
20010N500	GR0001000400120010N500	Operational
50010H500	GR0001000400150010H500	Operational
60010H500	GR0001000400160010H500	Operational
60050H500	GR0001000400160050H500	Operational
70010H500	GR0001000400170010H500	Operational
70020N500	GR0001000400170020N500	Operational
70030H500	GR0001000400170030H500	Operational
00010N300	GR0001000400100010N300	Surveillance
20020N500	GR0001000400120020N500	Surveillance
20030N500	GR0001000400120030N500	Surveillance
60060N500	GR0001000400160060N500	Surveillance
70040N500	GR0001000400170040N500	Surveillance

LAKES WB		
S/N	WB CODE	MONITORING TYPE
20001N500	GR000100020001N500	Operational

COASTAL WB		
S/N	WB CODE	MONITORING TYPE
10002N500	GR000100010002N500	Surveillance
10004N500	GR000100010004N500	Surveillance
10010N500	GR000100010010N500	Surveillance

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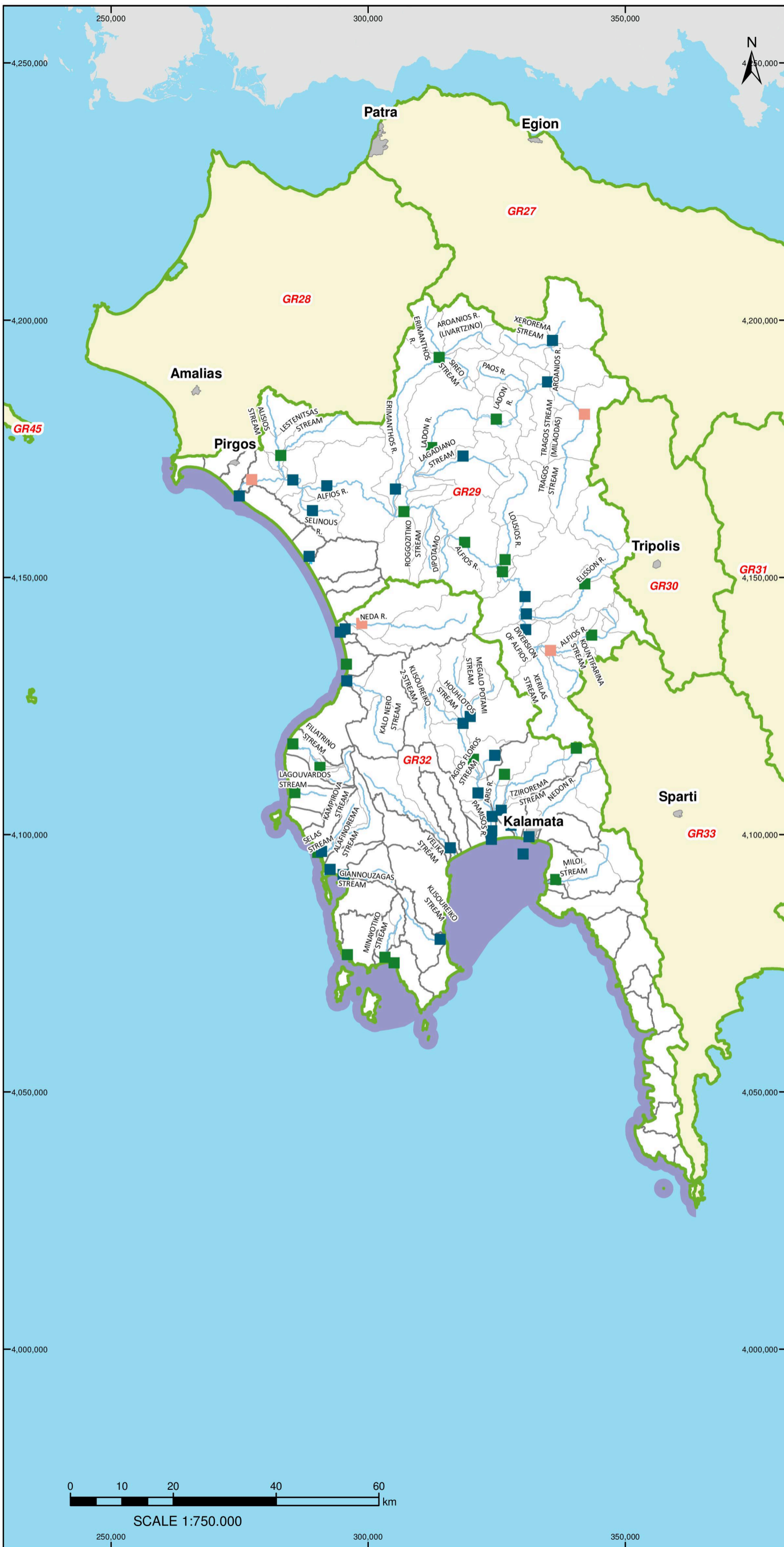
SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

MONITORING NETWORK KYA 140384/2011

RBD:01	RB: 29 - 32	No.MAP: 33.1
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NOVEMBER 2012



LEGEND

- River Basins
- River Subbasins
- Water Bodies Subbasins
- River WB
- Lake_WB
- Coastal WB
- Transitional WB

Suggested Monitoring

- Operational
- Serveillance
- Investigative

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MINISTRY OF ENVIRONMENT & CLIMATE CHANGE

SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN

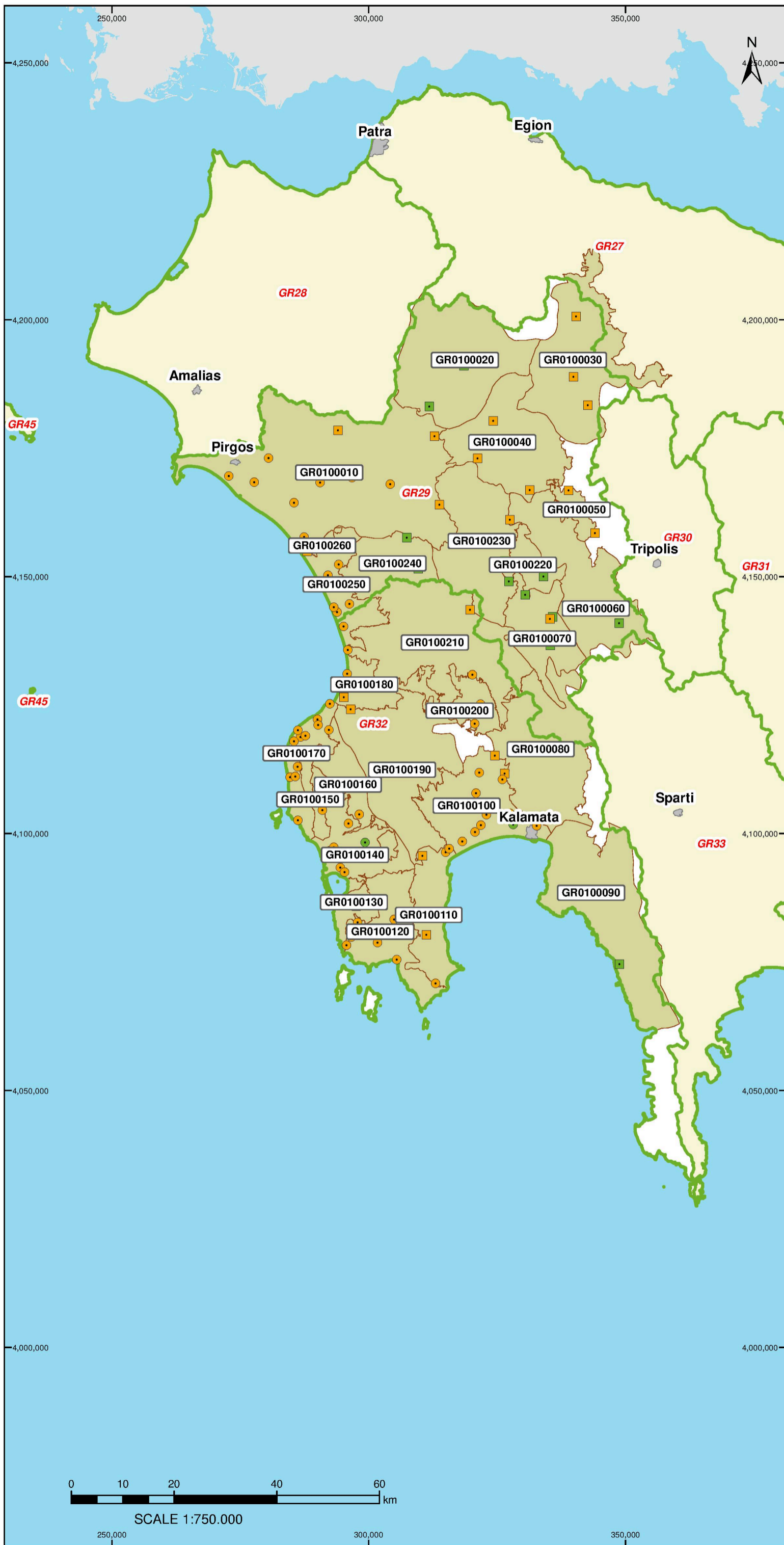
WESTERN PELOPONNESE (RBD01)

RECOMMENDED MONITORING NETWORK

PROJECT MANAGEMENT

RBD:01	RB: 29 - 32	No.MAP: 34.1
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NOVEMBER 2012



LEGEND

- River Basins
- Groundwater Bodies

Suggested Monitoring

- Operational KYA
- Surveillance KYA
- Operational B' PHASE
- Surveillance B' PHASE

RB	NAME
29	
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GR0100030	Ladon Groundwater Body
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GR0100240	Mirithi Groundwater Body
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GR0100260	Kaiafas Groundwater Body
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CODE	NAME
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GR0100120	Methoni Groundwater Body
GR0100130	Kinigios Groundwater Body
GR0100140	Romanos-Chora Groundwater Body
GR0100150	Gargalianoi Groundwater Body
GR0100160	Chora Groundwater Body
GR0100170	Filatra-Kiparissia Groundwater Body
GR0100180	Kalo Nero-Neda Groundwater Body
GR0100190	Kiparissia - Ithomi Groundwater Body
GR0100200	Ano Messinia Groundwater Body
GR0100210	Diavolitsi - Nea Figalia Groundwater Body



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MINISTRY OF ENVIRONMENT & CLIMATE CHANGE

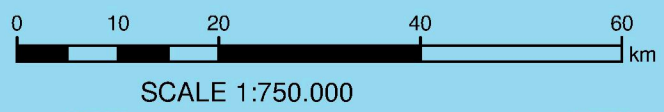
SPECIAL SECRETARIAT FOR WATER

RIVER BASIN DISTRICT MANAGEMENT PLAN
WESTERN PELOPONNESE (RBD01)

RECOMMENDED GROUNDWATER MONITORING NETWORK OF RIVER MANAGEMENT PLAN

RBD:01	RB: 29 - 32	No.MAP: 35.1
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NOVEMBER 2012





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