

Assessing the 1st MSFD Implementation Cycle in Greece under Biodiversity & Contaminants Descriptors.

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ABBREVIATIONS

ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area
BD	Birds Directive
BWMC	Ballast Water Management Convention
CFP	Common Fisheries Policy
DCF	Data Collection Framework
ECAP	Ecosystem Approach
EEA	European Environment Agency
EQS	Environmental Quality Standards
EU	European Union
GES	Good Environmental Status
GFCM	General Fisheries Commission for the Mediterranean
HD	Habitats Directive
ICCAT	International Commission for the Conservation of Atlantic Tunas
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
MPAs	Marine Protected Areas
MS(s)	Member State(s)
MSFD	Marine Strategy Framework Directive
O.G.G.	Official Government Gazette
NVZ	Nitrate Vulnerable Zone
PoM(s)	Programme(s) of Measures
RSC	Regional Sea Convention
UNEP/MAP	United Nations Environment Programme/Mediterranean Action Plan for the Barcelona Convention
UWWTD	Urban WasteWater Treatment Directive
WFD	Water Framework Directive

ANNEX 1

GES Definitions for Biodiversity and Contaminants descriptors provided by Greece in 2012 [17].

	GES Definitions
D1	<p>Regarding biodiversity, an ecosystem is in Good Environmental Status when</p> <ul style="list-style-type: none"> ▪ The loss of biodiversity is halted and where possible restored, while the basic ecosystems are preserved or recovering. ▪ The abundance, distribution and condition of species and habitats reflect the prevailing environmental conditions, taking into account the sustainable use of the marine environment. ▪ The extent of habitats and dispersion of species is not significantly reduced and the necessary conditions and functions for their long-term conservation exist and are likely to exist in the predictable future. ▪ Rare species and habitats or threatened under national law and existing international treaties are effectively conserved through the appropriate national or regional mechanisms. ▪ The impacts of human activities do not cause significant degradation of marine habitats, species, populations or functional groups. <p>To achieve GES there should be: No change in the size and distribution of the seal <i>Monachus monachus</i> in Greek waters. No change in the population size of the <i>Caretta caretta</i> spawning in the Greek coasts. No significant reduction of the survival rate of <i>Posidonia oceanica</i> with time. No significant reduction of the area occupied by the <i>Posidonia oceanica</i> habitat. No significant reduction of the area occupied by the Maerl-type sediments and other coralligenous habitats. Compliance of benthic macrofauna communities with environmental quality criteria. No significant adverse effect of the structure of planktonic communities by anthropogenic activities.</p>
D4	<p>Regarding the food webs, an ecosystem is in Good Environmental Status when</p> <ul style="list-style-type: none"> ▪ The populations of the main important groups of the food web are in levels that ensure the long-term viability of the marine ecosystem of which they are part, which is reflected in the age structure and the size distribution within the population. ▪ The by catch of non-target species in fisheries has been reduced in levels that do not threaten the structure of food webs. <p>To achieve GES there should be: No significant change in the proportion of biomass at higher trophic levels in the total catch of demersal fish. No significant decrease in the populations of large pelagic fish.</p>
D6	<p>Regarding seafloor integrity, an ecosystem is in Good Environmental Status when</p> <ul style="list-style-type: none"> ▪ Marine habitats are productive enough and in sufficient size to perform their natural functions, including essential ecological processes and the supply of ecological goods and services and are able to support for a long term a healthy and sustainable ecosystem. ▪ The most sensitive to human impacts benthic ecosystems are preserved so as to maintain their extent and functions. <p>To achieve GES: Opportunistic species in benthic communities should not exceed levels of abundance that indicate unacceptable ecological quality. Multimetric indices assessing environmental quality should be kept at levels indicating high or good ecological quality.</p>
D8	<p>In order to achieve GES in the marine environment according to descriptor 8, it is needed to gradually reduce the concentrations of hazardous substances (HS) and try to restrict their adverse impacts to ensure there will not be major risks entailed.</p>
C8.1	<p>To achieve GES, hazardous substances should be kept at low levels and ultimately reach background values or zero. Therefore, the concentrations and impacts of hazardous substances are evaluated according to threshold values (limit reference points) suggested [provided thresholds in 17].</p>
C8.2	<p>Concentration of contaminants in seabed habitat/biota [provided thresholds in 17].</p>
D9	<p>To assess if an area is in GES, it is necessary for fish and other seafood contaminants concentrations to remain below certain regulatory levels. In this way public health is protected.</p>
C9.1	<p>Levels of contaminants [provided thresholds in 17].</p>

ANNEX 2

Environmental targets & associated indicators set by Greece in 2012. (S: State/ M: Monitoring/ I: Impact) [17].

	Environmental targets	Associated indicators	Type
D1	Maintain the population of monk seals <i>Monachus monachus</i> in Greek waters.	Size, characteristics & distribution of the population of the Mediterranean monk seal <i>Monachus monachus</i> in the marine subregions	S
	Census of marine turtle <i>Caretta caretta</i> reproducing in the Greek coasts and conservation of spawning areas.	Breeding area of the sea turtle <i>Caretta caretta</i> and monk seals <i>Monachus monachus</i>	S
	Conservation and mapping of <i>Posidonia oceanica</i> meadows.	Presence of <i>Posidonia oceanica</i> meadows.	S
	Inventory of area occupied by biogenic Maerl type sediments and other sensitive coralligenous habitats	Presence of the Maerl-type biogenic sediment areas.	S
	Preservation of the structure of the benthic macrofauna and plankton communities.	Presence and composition of benthic macrofauna communities and planktonic communities.	S
D4	The monitoring and assessment of balance biomass at higher trophic levels in the total catch of demersal fish.	The ratio of biomass in the higher trophic levels to the total catch of demersal fish.	M/ S
D6	Mapping of sensitive benthic habitats		S
	Maintenance of the balance of benthic macrofauna	Monitoring of the proportion of resistant/opportunistic species in relation to the total abundance of benthic macrofauna.	M
D8	The determination of pollutant effects and prevailing trends in contaminants concentrations in the water column, sediments and ecosystems	The concentration of pollutants	M/ I
		The presence of pollutants	
D9	Contaminant levels in fish and other seafood should comply with official levels.	Concentration of contaminants in fish and other seafood.	S
		The number of contaminants in fish and other seafood.	

ANNEX 3

Monitoring programmes for Greece as related to Com Dec 2010/477/EU criteria, the environmental indicators established and linked to existing legislation & Regional Agreements [32].

D1_D4_D6 Criteria	Environmental Indicators	Subprogrammes	Relevant Legislation/ Regional Agreements
1.1 Species Distribution	1.1.1 Mediterranean monk seal <i>Monachus monachus</i> .	1.1_Monitoring of <i>Monachus monachus</i>	Natura Network/ HD
	1.1.2 Sea turtle <i>Caretta caretta</i>	1.2_Monitoring of <i>Caretta caretta</i>	
	1.1.3 Seabirds	1.3_Seabirds monitoring	
	1.1.4 Population of cetacean	1.4_Monitoring of the cetaceans	
	1.1.5 Fish and cephalopods	1.5_Fish & cephalopods monitoring	DCF
1.2 Population size	1.2.1: Abundance of <i>Monachus monachus</i>	1.1_Monitoring of <i>Monachus monachus</i>	Natura Network /HD
	1.2.2: Abundance of the sea turtle <i>Caretta caretta</i>	1.2_Monitoring of <i>Caretta caretta</i>	
	1.2.3: Abundance of seabirds	1.3_Seabirds monitoring	
	1.2.4: Abundance of the population of cetaceans	1.4_Monitoring of the cetaceans	
	1.2.5: Abundance of fish & cephalopods	1.5_Fish & cephalopods monitoring	DCF
1.3 Demographic parameters (D.P)	1.3.1: D.P. of <i>Monachus monachus</i>	1.1_Monitoring of <i>Monachus monachus</i>	Natura Network / HD/BD
	1.3.2: D.P. of <i>Caretta caretta</i> .	1.2_Monitoring of <i>Caretta caretta</i>	
	1.3.3: D.P. of seabirds	1.3_Seabirds monitoring	
	1.3.4: D.P. of cetaceans	1.4_Monitoring of the cetaceans	
	1.3.5: D.P. of fish and cephalopods.	1.5_Fish & cephalopods monitoring	DCF
1.4 Distribution of habitat types	1.4.1: Distribution of seagrass habitat types.	1.6 Seagrass and macro-algae communities monitoring	HD/WFD
	1.4.2: Distribution of "maerl" habitat types.	1.7 "Maerl" type habitats monitoring program	DCF
1.5 Abundance of habitat types	1.5.1: Abundance of seagrass habitat types (<i>Posidonia oceanica</i>)	1.6 Seagrass and macro-algae communities monitoring	HD/WFD
	1.5.2: Abundance of "maerl" habitat types	1.7 "Maerl" type habitats monitoring program	Mediterranean Fisheries Regulation
1.6 Habitat Quality	1.6.1: Ecological Quality Status (e.g. PREI bio-indicator) of <i>Posidonia oceanica</i> meadows	1.6 Seagrass and macro-algae communities monitoring	HD/WFD
	1.6.2: Ecological Quality Status (e.g. EEI-c bio-indicator) of macro-algae habitats.		
	1.6.3: Ecological Quality Status (e.g. BENTIX bio-indicator) of macro-invertebrate habitats	1.8 Macro-invertebrate communities monitoring	WFD
1.7 Ecosystem structure	1.7.1: Composition of benthic macro-invertebrate communities	1.8 Macro-invertebrate communities monitoring	WFD & MSFD open sea network
	1.7.2: Composition of benthic macro-algae communities	1.6 Seagrass and macro-algae communities monitoring	WFD
	1.7.3: Composition of planktonic communities	1.9 Planktonic communities monitoring	WFD & MSFD open sea network

4.1 Ratio production of pelagic / demersal fish	4.1.1: Ratio pelagic/ benthopelagic species.	3.1 Fishery Independent data	DCF
		3.2 Fishery dependent data	
4.2 Biomass ratio of fished species at the top of the food web / demersal fish catch	4.2.1: Large fish indicator.	3.2 Fishery dependent data	
4.3 Abundance / distribution of key species / trophic groups	4.3.1: Abundance of selected, functionally important species / groups.	3.1 Fishery Independent data	WFD UNEP/MAP
		4.1 Plankton Independent surveys	
6.1 Structure of benthic habitats	Assessing the condition of benthic community 1.6.3: Ecological Quality Status (e.g., BENTIX bio-indicator) of macro-invertebrate habitats 1.4.2: Distribution of “maerl” habitat types.	6.1 Impacts from trawling activity monitoring	DCF/ WFD
	6.1.1. / 1.4.1/ 1.5.1: Assessing the Physical damage in regard to substrate characteristics, physical loss of natural habitat	6.2 Monitoring of benthic habitat patterns	HD
D8_D9 Criteria			
	Environmental Indicators	Subprogrammes	Relevant Legislation/ Regional Agreements
8.1 Concentrations of contaminants in water, sediments	8.1.1: Concentrations of contaminants in water (µg/L) and sediments (mg/Kg). a) Synthetic (PAHs, PCBs, DDTs, TBTs, etc) b) Heavy metals i) seawater: Cd, Pb, Cu, Ni, Zn, Hg ii) sediments: Cd, Pb, Ni, Cu, Zn, Fe, Mn, Hg	8.1 Monitoring of contaminants in the marine environment	WFD & MSFD open sea network UNEP/MEDPOL
8.2 Effects of contaminants in biota	8.2.1: Concentrations and effects of pollutants in marine organisms used as “bioindicators” according to the international experience (MytiMED network). 8.2.2: Frequency, source and extension of acute cases of pollution (e.g., oil spills) and their effect on bioindicators.		
9.1 Frequency of levels exceeding regulatory levels in fish and seafood	9.1.1: Number of pollutants and concentrations exceeding the levels set by international regulations.	9.1 Monitoring for contaminants in fish and seafood	(data from Greek Competent Authorities of public health) UNEP/MEDPOL
	9.1.2: Frequency of cases exceeding the levels set by international regulations.		

ANNEX 4

Established Measures by Greece for Biodiversity descriptors [35].

Code	Title of the Measure as in the National PoM
1.3.1	Establishment of the Lagana National Park (Zakynthos) and the National Marine Park of Alonissos and Northern Sporades. The former was established by P.D. in December 1999 (O.G.G 906 D / 22-12-1999) and was amended by the P.D. of 2003 (O.G.G. 1272Δ, 27-11- 2003) while the characterization of the land and sea area of the latter as National Maritime Park was carried out with PD in 2003 (O.G.G. 621 / 19-6-2003).
1.3.2	Establishment of Natura 2000 marine areas and protected areas (marine-brackish waters) under Law 3937/2011 (O.G.G 60 / 31.03.2011) "Preservation of Biodiversity and other provisions
1.3.3	Establishment of the National Nature Conservation Committee "Nature 2000" and determination of its work (J.M.D. 33318/3028/1998, O.G.G 1289 B / 28-12-1998 - article 5) with the main responsibility to monitor compliance with and effective implementation of the provisions of the HD (92/43/EEC), as incorporated into Greek law, for all Natura 2000 sites (SCIs and SPAs), but also for the whole of the country (beyond the Natura 2000 network)
1.3.4	Determination of eight (8) protected areas of sea and brackish water according to Law 3937/2011
1.3.5	Adopt and implement, from the year 2014, the National Strategy and the Action Plan on Biodiversity according to Art. 40332/2014 "Adoption of a National Biodiversity Strategy for the years 2014-2029 and a five-year Plan of Action" (GG 2383 / B / 2014)
1.3.6	Issue of M.D. 167378/2007, within the framework of Article 4, paragraph 1, of Regulation 1967/2006, which defines <i>Posidonia oceanica</i> marine areas located within the Natura 2000 network (priority). Fishing with towed gear was banned. Subsequently, and after the completion of the mapping, the entire territory of the distribution of the bottomless subsoil was adopted, MS 2442/51879/2016, which defines the marine areas outside the Natura 2000 network with <i>Posidonia oceanica</i> which prohibits fishing with specific gear.
1.3.7	Development of five (5) artificial reefs (TF Fishing is prohibited, with all fishing gear and instruments, to protect biodiversity and restore local fish stocks.)
1.3.8	Implementation of the National Program for the Collection of Fishing Data within the framework of Regulation (EC) 199/2008 on the collection, management and use of data in the fisheries sector.
1.3.9	Ongoing assessment of the Ecological Status of 246 coastal aquatic systems. Monitoring of biological quality elements (phytoplankton, macrophages, angiosperms and macroinvertebrates), in the context of the implementation of the WFD.
1.4.1	Integrate the systematic collection of data and research on the abundance, distribution and population dynamics of marine mammals, reptiles and birds in the MSFD monitoring programs. Enable participation of Greece in ACCOBAMS activities.
1.4.2	Integrate the systematic collection of data and research on the abundance, distribution and dynamics of fish and cephalopod populations in the MSFD monitoring programs.
1.4.3	Completion of mapping on seabed covered by Maerl habitats, as required by Regulation 1967/2006.
1.4.4	Updating the Natura 2000 marine SPAs & SCIs. Setting management priorities and conservation measures.
	For D4 the measures are the same as for D3
3.3.1	Implementation of the National Fisheries Data Collection Program through the General Fisheries Directorate of the Ministry of Fisheries, which collects catch data, biological, environmental, technical and socio-economic data necessary for the management of fisheries and aquaculture in the (EC) No 1380/2013 "on the Common Fisheries Policy, the amendment of the Regulation (EC) 1954/2003 and the Regulation (EC) 1224/2009, as well as the harmonization of the measures with other European countries the Council and the Commission latecomers of Regulation (EC) 2371/2002 and Regulation (EC) 639/2004 and Decision 2004/585
3.3.2	Operation of the Integrated Program for Monitoring and Registration of Fishing Activities according to the MD 2287/40083/2015, Government Gazette B / 24-4-2015), for the submission of data by the enterprises of the fishing sector by General Directorate General Sustainable Fisheries.
3.3.3	Approval under No. 317222/2011 Decision of the Coordination Committee (Government Gazette 2505 / 4-11-2011) of the "Special Framework for Spatial Planning and Sustainable Development for Aquaculture and its Strategic Environmental Impact Assessment" and has drafted the "Multiannual National Strategic Plan

	for the Development of aquaculture in Greece 2014-2020 "on the basis of the common strategic guidelines issued by the European Commission (COM (2013) 229 final / 29-4-2013)
3.3.4	Implementation of a multitude of technical measures defining specific gear characteristics such as minimum mesh opening for netting to capture sub-catch, maximum length and width of nets, minimum hook size, maximum number of hooks and a set of rules for the use and operation of fishing gear tools (distance from the shore, minimum depths, time duration, permissible period within 24 hours, etc.).
3.3.5	Implement a large number of time-and space bans, by fishing gear and by geographical area, to protect spawning / breeding grounds and sensitive ecosystems.
3.3.6	Draft Fisheries Management Plans for the dynamic fishing gear trawlers, shovels and purse seines approved by the European Commission.
3.3.7	Prohibition of fishing in 5 Artificial Reeves with fishing gear and means, for restoring local fish stocks.
3.3.8	Prohibition of any kind of fishing activity at depths exceeding 1000 m.
3.3.9	A total ban on specific fishing gear and practices.
3.3.10	Determination of minimum catches for 55 commercial species.
3.3.11	Draft rules governing recreational fisheries.
3.3.12	Implementation of the Europe-wide information campaign entitled "I eat, I buy, I sell fish responsibly" with a view to ensuring sustainable fishing in the Mediterranean, and in the consumption of fry, with a central message "Let the fowl become a parent" to ensure and the adequacy of the fish stocks.
3.3.13	Establishment of terms and conditions for fishing for highly migratory species of bluefin tuna (<i>Thunnus thynnus</i> BFT), albacore (<i>Thunnus alalunga</i> ALB) and swordfish (<i>Xiphias gladius</i> SWO) in respect of the issue of tuna fishing licenses (amendment of UN 5632/104626/2015 , Government Gazette B 2151/2015).
3.3.14	Draft Fisheries Code
3.3.15	By means of Regulations (EC) 1224/2009 and (EU) 404/2011, a community control system was introduced, imposing new measures and extending already implemented measures, such as the VMS. An important tool for controlling fishing and maintaining fleet capacity at the permitted levels (within the limits) at country level is the National Fishing Registry (NAM), which includes the minimum information on characteristics and activity of the vessels.
3.3.16	Implementation of specific measures (measures for the adaptation of the fishing fleet, measures of common interest for the protection and development of aquatic flora and fauna, measures for the sustainable development of fishing areas) under the Priority Axes of the 2007-2013 funds
3.4.1	Redefining fishermen's professionalism and updating the professional fishing logbook (Zero Cost, already being promoted in a bill of the Ministry of Agricultural Development and Food)
3.4.2	Coding and updating of fisheries legislation (Cost Coverage: Resources for implementation can come from the 2014-2020 funds as related initiatives are eligible actions to be funded under Priority Axis 1 "Improving Fisheries Management" http://ec.europa.eu/fisheries/cfp/emff/doc/op-greece_en.pdf).
3.4.3	Promotion of Marine Stewardship Council (MSC) (Cost Coverage: Resources for implementation can come from the 2014-2020 funds since initiatives are eligible actions to be funded under Priority Axis 1: "Improving the Management of the Fisheries by enhancing fisheries monitoring through knowledge of the state of fish stocks and strengthening research and implementation of sustainable fisheries management systems" http://ec.europa.eu/fisheries/cfp/emff/doc/op-greece_en.pdf)
3.4.4	Education and training programs for fishermen and consumers (Cost Coverage: resources for implementation can come from the 2014-2020 funds, since initiatives are eligible actions to be funded under the Priority Axis 1: "Develop and implement management measures that drive fishermen to act in a way that will help achieve the desired good environmental status" http://ec.europa.eu/fisheries/cfp/emff/doc/op-greece_en.pdf)
3.4.5	Estimation of the pressure exerted by recreational fishing on fish stocks and their licensing, control and regulation. Cost Coverage: the resources for implementation can come from the 2014-2020 funds since relevant initiatives are eligible actions to be funded under Priority Axis 3 : "Monitoring of commercial and recreational fishing activities at sea" http://ec.europa.eu/fisheries/cfp/emff/doc/op-greece_en.pdf)

3.4.6	Implementation of legislation through innovative methods of effective control and monitoring (Cost Coverage: the resources for implementation can come from the 2014-2020 funds, since related initiatives are eligible actions to be funded under Priority Axis 3: "Development of innovative control and monitoring systems and implementation of pilot programs for fisheries control, including DNA analysis of fish and the creation of audit-related websites http://ec.europa.eu/fisheries/cfp/emff/doc/op-greece_en.pdf)
3.4.7	Reducing unwanted catches as a requirement of the revised Common Fisheries Policy - COM 13080/2013 Art.14. In order to reduce unwanted catches, adaptation of the various fishing practices will need to be adapted following the development of targeted pilot studies to assess the suitability and efficiency of individual measures (eg increasing selectivity, imposing space-time bans, etc.). A first step would be to use the results from existing efforts (eg EPILEXIS research program).
3.4.8	Establishment of a Single Maritime Spatial Plan with forecasts for fisheries and aquaculture
3.4.9	The 2014-2020 Fisheries and Maritime Operational Program submitted to the EC exploits the resources of the European Maritime and Fisheries Fund to achieve the objectives of the CFP and the IMP. Part of the program's resources are to be allocated to the following areas: -fisheries (€ 186.2 million) by supporting innovative measures, partnerships between fishermen and scientists, investment on vessels, fishing tourism, protection and recovery of marine biodiversity, and investment in infrastructure (fishing ports, landing sites, auction and fishing shelters). - the development of fisheries areas (€ 54.2 million), through the implementation of local development strategies on the initiative of local communities. - strengthening the implementation of the CFP (€ 92 million) by supporting the collection of fisheries data and implementing the control, inspection and enforcement system. - strengthening the implementation of the Integrated Maritime Policy (€ 6 million) by supporting the functioning of the Common Information Sharing Environment for the surveillance of the Union's maritime sector
6.3	Measures to protect the sea bottom from towed gear (see D1).
6.4	Completion of the mapping of the benthic communities with priority on Maerl type habitats (see D1).

1.3, 3.3, 4.3, 6.3.: Existing measures / 1.4, 3.4, 4.4, 6.4: New measures

Established Measures by Greece for Contaminants descriptors [35].

Code	Title of the Measure in the National PoM
8.3.1	Operation of the National Water Monitoring Network (JMD 140384/2011, O.G.G 2017 /B/ 09-09-2011), in application of the WFD) under which the chemical quality of the coastal waters of the country is monitored.
8.3.2	WFD Programmes of Measures to improve the status of coastal waters, in accordance with the RBMD of the Water Districts.
8.3.3	Prohibition and/or restrictions on discharges from vessels and provision of reception facilities for waste & vessel oil in ports (MARPOL), marinas & fishing shelters, to minimize and/or eliminate pollution from vessels
8.3.4	Reduction of chemical pollutant loads by applying the limits set out in the National Fisheries Regulations and WFD Programs of Measures, as described in the RBMP, including a special licensing system for discharges by industry in marine waters and the nomination of a committee for the management of Oil Spill Accidents.
8.3.5	Drawing up emergency action plans
8.3.6	Drawing up waste management plans in marinas and harbors
8.3.7	Institutional Framework for the Management Control and Security of Ships and Port Facilities.
8.4.1	Implementation of the Programme of Measures of the WFD related to the improvement of the state of coastal water systems in the 1st revision of the River Basin Management Plans of the Water Districts
8.4.2	Regulations for Hydrocarbon extraction and setting of Emergency Plan for hydrocarbon pollution
8.4.3	Implementation of the regulations and the International Ship Management Ballast (BWMC). IMO Guidelines (entry into force 8.9.2017). Also, the relevant MARPOL Rules of Procedure on bans / restrictions for ship discharges and the obligation to use the facilities provided at ports by offshore vessels are applicable.
9.3.1	Royal Decree 142/1971, Article 1 "Fishing for aquatic organisms ... and their protection "(O.G.G 49 / A / 12-3-1971).
9.3.2	Regulation 1881/2006 setting maximum permissible levels for certain substances which contaminate food.

9.3.3	Regulation No 1379/2013 on the common organization of the markets in fishery and aquaculture products, amending Council Regulations No 1184/2006 and 1224/2009 and repealing Regulation 104/2000.
9.3.4	Adoption of guidelines for the categorization and monitoring of the production and relocation areas of live bivalve molluscs, by the Veterinary Administration of the Ministry of Rural Development and Food of Greece pursuant to article 5 of the Presidential Decree 79/2007.
9.4.1	Intensify sampling and measurements of concentrations of pollutants by Competent Authorities.

8.3, 9.3: Existing measures / 8.4, 9.4: New measures