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accompanying

**the Report from the Commission in accordance with Article 3.7 of the Groundwater
Directive 2006/118/EC on the establishment of groundwater threshold values**

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the Report from the Commission to the Council and the European Parliament in accordance with article 3.7 of the Groundwater Directive 2006/118/EC on the establishment of groundwater threshold values

1. INTRODUCTION

The role of the Groundwater Directive within the implementation process of the Water Framework Directive

The new Groundwater Directive (2006/118/EC, GWD) establishes specific measures as provided for in Article 17 (1) and (2) of the Water Framework Directive (2000/60/EC, WFD) to reach the aims of Article 4 WFD. In particular, it establishes a regime which sets groundwater quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.

The directive establishes quality criteria that take into account local characteristics and allows for further improvements to be made based on monitoring data and new scientific knowledge. The directive is related to assessments on chemical status of groundwater and the identification and reversal of significant and sustained upward trends in pollutant concentrations. Member States will have to establish the standards (threshold values) at the most appropriate level and take into account local or regional conditions. Complementing the WFD, the Groundwater Directive requires that:

- groundwater threshold values (quality standards) to be established by Member States by the end of 2008;
- compliance with good chemical status criteria (based on EU wide standards of nitrates and pesticides and on threshold values established by Member States) be achieved by the end of 2015;
- pollution trend studies be carried out using existing data and monitoring data which are mandatory under the WFD (referred to as “baseline level” data obtained in 2007-2008);
- pollution trends be reversed so that environmental objectives are achieved by 2015 using the measures set out in the WFD;
- measures to prevent or limit inputs of pollutants into groundwater be operational so that WFD environmental objectives can be achieved by 2015;

Legal basis in the GWD committing COM to prepare the report

The Member States were obliged by Article 3 (5) of the Groundwater Directive to establish threshold values for the first time by 22 December 2008 and to publish them in the WFD river

basin management plans and provide a summary of the information set out in Part C of Annex II of the Directive.

This Report responds to Article 3 (7) of GWD which requires the Commission to publish a report on the basis of the information provided by Member States on the above mentioned threshold values.

Data collection

In order to collect the necessary information for this report, the Commission sent a questionnaire to the Member States in February 2009.

This report represents the situation as of March 2009¹. Some Member States indicated that the information submitted was not yet final, as work on the finalization of the WFD river basin management plans was still ongoing.

In the future Member States will report information on threshold values in electronic format through WISE, the Water Information System for Europe², within the reporting of the river basin management plans.

The role of groundwater threshold values in the assessment of groundwater status and the assessment of the reversal of trends according to the Water Framework Directive

The definition of good chemical status for groundwater is given in the WFD. In this context, the compliance regime is based on quality objectives (compliance to relevant standards, no saline intrusion) that have to be achieved by the end of 2015. The establishment of good chemical status criteria was one of the elements of the mandate of Article 17 of the WFD which had to be set in the new Groundwater Directive. The direction chosen is based on compliance with EU-wide groundwater quality standards for nitrates and pesticides reinforcing the parent directives³. Regarding other pollutants, the adoption of numerical values at community level was not considered to be a viable option, considering the high natural variability of substances in groundwater (depending upon hydrogeological conditions, background levels, pollutant pathways, and interactions with different environmental compartments). In addition, the management of groundwater pollution should focus on actual risks identified by the analysis of pressures and impacts under Article 5 of the WFD. Consequently, the regime of the new directive requests Member States to establish their own groundwater quality standards (referred to as “threshold values”), taking into account identified risks and the list of pollutants/indicators given in Annex II of the GWD.

Article 3 and 4 of the GWD establish detailed criteria and a procedure for the assessment of chemical status of groundwater bodies, in particular for the application of quality standards and threshold values. In principle no groundwater body will be allowed to exceed these standard values. However it is recognised that standard values being exceeded may be due to a local pressure (e.g. point or diffuse source pollution) that does not endanger the status of the overall groundwater body concerned. Therefore, the GWD gives the possibility to investigate the reasons why values are exceeded and classify chemical status on the basis of actual risks

¹ Malta reported in October 2009. MS had the opportunity to check and update the relevant data in October 2009

² see <http://water.europa.eu/>

³ EU Nitrates Directive (91/676/EEC), Plant Protection Products Directive (91/414/EEC), Biocidal Products Directive (98/8/EC).

for the overall groundwater body (i.e. risks to human health, associated aquatic ecosystems or related terrestrial ecosystems, and legitimate uses and functions of groundwater). This means that situations might occur where standard values having been exceeded will correspond to local pressures needed to be controlled and possibly remediated without classifying the groundwater body with “poor status”. The results of the status assessment will determine whether the groundwater bodies are in good status and whether appropriate measures need to be undertaken in order to reach good status as a rule by 2015.

Another element covered by the WFD concerns the identification of sustained upward pollution trends and their reversal where quality standards and threshold values are needed. The reversal obligation establishes that any significant and sustained upward trend will have to be reversed when reaching 75% of the values of EU-wide groundwater quality standards and/or threshold values. This principle rule may be adapted according to local circumstances justifying a different percentage value.

2. REQUIREMENT FOR ESTABLISHING THRESHOLD VALUES ACCORDING TO THE GROUNDWATER DIRECTIVE

For the purpose of the assessment of the chemical status of groundwater bodies or groups of groundwater bodies, Article 3 (1) of the GWD lays down criteria in the form of groundwater quality standards as referred to in Annex I of the GWD and groundwater threshold values.

The GWD defines groundwater quality standards for two pollutant types, for nitrates and for pesticides. For nitrates the quality standard is 50 mg/l. For active substances in pesticides, including their relevant metabolites, degradation and reaction products the quality standard for individual substances the quality standard is 0.1 µg/l and 0.5 µg/l for the sum of these substances.

However, if these groundwater quality standards are not adequate for achieving the environmental objectives set out in Article 4 of the WFD e.g. if concentrations in groundwater that are lower than quality standards are leading to (or are likely leading to) chemical and/or the ecological status failures in associated surface waters and/or significant damage to associated terrestrial ecosystems, then more stringent values have to be applied⁴. These new values become ‘threshold values’ and the procedure for defining those follows Article 3 and Annex II of the GWD.

Article 3 (1)(b) of the GWD requires Member States to derive ‘threshold values’ for relevant parameters causing a GWB to be at risk of not meeting the WFD objectives. General guidelines for the establishment of threshold values are set out in Annex II Part A GWD. As defined in Article 2 (2) GWD, these threshold values will become Member State defined quality standards. Member States need to take into account at least the list of pollutants/indicators in Annex II Part B GWD which are:

- ‘Substances or ions or indicators which may occur both naturally and/or as a result of human activities’: Arsenic, Cadmium, Lead, Mercury, Ammonium, Chloride, Sulphate

⁴ Typically, an example is when nitrates values lower than 50 mg/l in groundwater are demonstrated to be the cause of eutrophication in an associated surface water body, thus justifying a lower threshold value for nitrates to be established.

- ‘Man-made synthetic substances’: Trichloroethylene, Tetrachloroethylene
- ‘Parameters indicative of saline or other intrusion’: Conductivity or Chloride and Sulphate to be decided by Member States

As laid down in the guidelines for establishing threshold values (Annex II Part A of the GWD), the determination of threshold values should also be based on the extent of interactions between groundwater and associated aquatic and dependent terrestrial ecosystems, the interference with actual or potential legitimate uses or functions of groundwater and the hydro-geological characteristics including information on background levels and water balance.

Based on these elements, two criteria can be considered when deriving threshold values, environmental criteria where threshold values are aiming at the protecting associated aquatic ecosystems and groundwater dependent terrestrial ecosystems, and usage criteria where threshold values are aiming at the protection of drinking water in Drinking Water Protected Areas (DWPA) and other legitimate uses of groundwater (e.g. crops irrigation, industry, etc...)

Given the complexities and challenges of appropriate implementation, the Commission together with the Member States and Stakeholders developed the Guidance Document No. 18 ‘Guidance on Groundwater Status and Trend Assessment’ which aims to support Member States in the establishment of groundwater threshold values and the assessment of status and trend.

The threshold values should be set at the most appropriate scale (national level, river basin district level, or groundwater body level) and be used in the assessment of good chemical status. In case of transboundary groundwater bodies, coordination on the establishment of threshold values among Member States concerned is required. Member States should also endeavour coordination in case of groundwater bodies shared with non-EU countries.

The groundwater threshold values had to be established for the first time by the 22 December 2008 and published within the river basin management plan including a summary of information set out in Annex II Part C of the GWD.

The list of threshold values established by Member States should be prone to regular reviews within the river basin management planning framework, which may lead to additional substances being considered (in case of new identified risks) or the deletion of substances (in case formerly identified risks no longer exist).

3. RESULTS OF THE ASSESSMENT OF THE THRESHOLD VALUES ESTABLISHED BY MEMBER STATES

3.1. Communication and completeness of the reports

To date, 26 Member States have reported on the establishment of threshold values in the agreed format. Greece has not reported at all, Denmark has reported on the process of establishing threshold values only but no threshold values. Portugal did not establish threshold values so far at all as no groundwater body was identified as being at risk for pollutants other than nitrates.

Beyond the required reporting 4 Member States (Belgium, Finland, Netherlands and Spain) provided additional background documents with more details related to the methodology / establishment process.

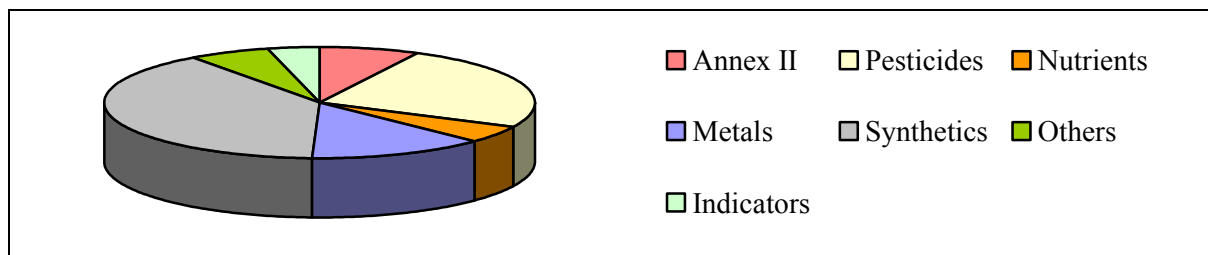
3.2. Established threshold values

Threshold values have been reported for 158 different pollutants/indicators in total. The pollutants/indicators are grouped accordingly:

- 12 Core substances (10 substances of GWD Annex II part B together with ammonium as nitrogen and with the sum of Trichloroethylene and Tetrachloroethylene)
- 39 Pesticides
- 8 Nutrients (e.g. nitrate, nitrite, phosphorus etc.)
- 21 Metals
- 62 Synthetic substances
- 10 Other substances (e.g. Boron, Calcium, Bromate, Cyanide etc.)
- 6 Indicators (e.g. acid capacity, hardness, pH etc.)

Two thirds of the reported substances are pesticides or synthetic substances and one third are naturally occurring substances.

Figure 1: Groups of pollutants/indicators for which threshold values have been established.



Looking at those pollutants/indicators where most often threshold values were established in Europe (ranking of substances according to the number of Member States), it appears that all 10 pollutants/indicators listed in Annex II of the GWD are most commonly reported (some Member States established threshold values for the sum of trichloroethylene and tetrachloroethylene and some Member States established additional TVs for ammonium expressed in nitrogen). The following *Table 1* lists the 13 pollutants/indicators which were reported by at least 10 Member States.

Table 1: Pollutants/indicators for which at least 10 Member States have established threshold values, including the range of threshold values.

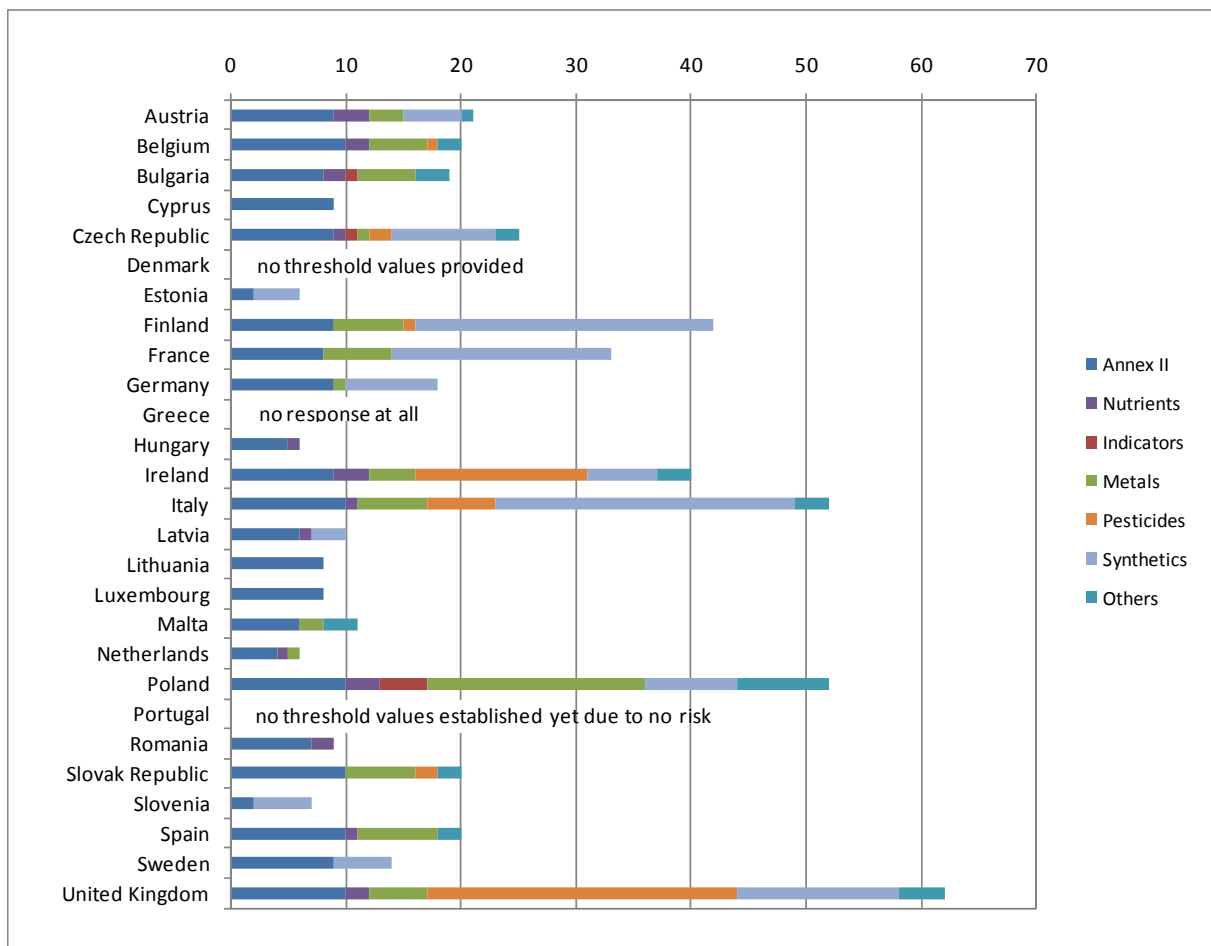
Substance/Indicator	Group of substances	Number of Member States	Range of threshold values		Unit
			From	To	
Chloride	Annex II	22	24	12,300	mg/l

Arsenic	Annex II	21	0.75	189	µg/l
Sulphate	Annex II	21	129.75	4,200	mg/l
Ammonium	Annex II	21	0.084	52	mg/l
Lead	Annex II	20	5	320	µg/l
Cadmium	Annex II	19	0.08	27	µg/l
Mercury	Annex II	18	0.03	1	µg/l
Conductivity	Annex II	14	485	10,480	µS/cm
Nickel	Metal	11	10	60	µg/l
Copper	Metal	10	10.1	2000	µg/l
Tetrachloroethylene	Annex II	10	1.1	50	µg/l
Trichloroethylene	Annex II	10	1.5	50	µg/l
Sum of Trichloroethylene and Tetrachloroethylene	Annex II	10	5	40	µg/l

The number of threshold values established by each Member State varies between no threshold value (Portugal) and 62 (United Kingdom).

Figure 2 and *Table 13* (Annex 1) rank Member States according to the number of threshold values established. A comprehensive list of pollutants/indicators for which threshold values have been established per Member State is attached in Annex 1 as *Table 14*. A complete list of the ranges of threshold values in Europe can be found in *Table 15*.

Figure 2: Number of pollutants/indicators for which threshold values have been established by each Member States (pollutants/indicators grouped).



3.2.1. Ranges of threshold values

The ranges of threshold values established in Europe are impressively broad for many pollutants/indicators. As already laid down in chapter 3.3.2, the GWD requires Member States to consider the different receptors of the groundwater body as well as the risks and functions, the characteristics and behavior of the pollutants and the hydrogeological characteristics.

For naturally occurring substances the main elements causing differences in threshold values are the individual background levels and the different receptors (ecosystems and uses) and risks which also need to be considered individually.

For synthetic substances the background levels are not relevant and the elements causing the differences are the different receptors (ecosystems and uses) and the risks.

The consideration of these different requirements, potentially adapted to each individual groundwater body, demonstrates the different approaches followed by the Member States. As a consequence the established threshold values might not be fully comparable within Europe.

The following *Table 2* lists the maximum, median and mean ranges of threshold values found for naturally occurring substances and synthetic substances.

Table 2: Overview of different ranges of threshold values, distinguished by naturally occurring substances and synthetic substances.

	Number of pollutants/indicators	Maximum	Median	Mean

	Total	Single TV	Ranges of TVs	Range (max TV / min TV)		
Naturally occurring substances	54	21	33	621 x (ammonium)	16 x	81 x
Synthetic substances	104	57	47	3333 x (1,2-Dichlorobenzene)	8 x	212 x
Total	158	78	80			

3.2.2. Level of threshold value establishment

Most of the groundwater threshold values (126) were established at Member State level. 79 pollutants/indicators were established at groundwater body level and few substances (24) were established at the level of river basin districts. Some Member States reported about establishing threshold values for certain substances at two different levels (river basin district level – groundwater body level, or regional level – groundwater body level, or Member State level – groundwater body level). Germany established threshold values for 9 substances on administrative level and Belgium established some threshold values on regional levels which are additional levels than those listed in GWD Article 3(2).

From the 24 Member States that reported threshold values 15 Member States established their entire threshold values at the same level (marked grey in the *Table 16* in the Annex 1), 9 Member States established their threshold values at different levels.

3.2.3. Consideration of Annex II Part B GWD pollutants/indicators

The GWD explicitly requires Member States to take account of the list of pollutants and indicators listed in Annex II Part B when establishing threshold values in accordance with Article 3 of the GWD. This does not necessarily mean that the establishment of threshold values is obligatory. Member States were asked to either provide the established threshold values (or ranges) or a reason why threshold values were not established.

The provided information showed that the Annex II pollutants/indicators were comprehensively considered by all 25 Member States which provided information. *Table 3* summarizes the number of Member States which established either single values or ranges of threshold values, how many Member States did not establish such values and how many did not give reasons for this (number in brackets). Furthermore, the overall ranges of threshold values in Europe are listed for each pollutant/indicator of Annex II GWD. Denmark did not provide information on threshold values and Greece did not respond at all.

Regarding the man-made synthetic substances Trichloroethylene and Tetrachloroethylene 15 Member States established threshold values for each individual substance, nine Member States established threshold values for the sum of both substances and one Member State established both, threshold values for these individual substances and for the sum of them.

Detailed information on Member State level can be found in *Table 17* in the Annex 1.

Table 3: Consideration of GWD Annex II part B pollutants/indicators including the ranges of threshold values established

Pollutants / indicators	Member	Single	Range	No	Range of TVs	Unit
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					from	to	
1. Substances or ions or indicators which may occur both naturally and/or as a result of human activities							
Arsenic	25	14	7	4	0.75	189	µg/l
Cadmium	25	11	8	6/(1)	0.08	27	µg/l
Lead	25	12	8	5	5	320	µg/l
Mercury	25	14	4	7/(1)	0.03	1	µg/l
Ammonium	25	14	7	4	0.0837	52	mg/l
Chloride	25	7	15	3	24	12,300	mg/l
Sulphate	25	10	11	4/(1)	129.75	4,200	mg/l
2. Man-made synthetic substances							
Tetrachloroethylene	16	9	1	6/(1)	1.1	50	µg/l
Trichloroethylene	16	9	1	6/(1)	1.5	50	µg/l
Sum of Trichloroethylene and Tetrachloroethylene	10	9	1		5	40	µg/l
3. Parameters indicative of saline or other intrusions ³							
Conductivity	25	4	10	11/(3)	485	10,480	µS/cm

Note: 1) Number of Member States establishing single threshold values; 2) Number of Member States establishing different threshold values; 3) With regard to saline concentrations resulting from human activities, Member States may decide to establish threshold values either for sulphate and chloride or for conductivity. 4) Number of Member States that considered the establishment of a substance / indicator. Denmark did not provide information on threshold values and Greece did not respond at all.

3.2.4. Threshold values established for nitrates

In case that the groundwater quality standard for nitrates established in Annex I (1) of the GWD (50 mg/l) is not sufficient to meet the objectives of the WFD, Member States need to establish more stringent values in accordance with Article 3 of the GWD. Such values are threshold values.

Five Member States reported threshold values for nitrates. The values range from 18 mg/l to 50 mg/l – see following *Table 4*.

Table 4: Threshold values established for nitrates

Member State	Single threshold value	Range of threshold values		Unit	Comment
		From	to		
Austria	45			mg/l	
Ireland	37.5			mg/l	
United Kingdom		18	42	mg/l	
Hungary		25	50	mg/l	
Latvia	48.7			mg/l	Established as 11 mg/l NO ₃ -N

3.2.5. Threshold values established for pesticides

The GWD establishes groundwater quality standards for pesticides in Annex I. For active substances in pesticides, including their relevant metabolites, degradation and reaction products the quality standard is 0.1 µg/l and for the total pesticides it is 0.5 µg/l. The directive furthermore specifies that ‘total’ means the sum of all individual pesticides detected and

quantified in the monitoring procedure, including their relevant metabolites, degradation and reaction products.

As for nitrates, if the groundwater quality standards for pesticides are not sufficient to meet the objectives of the WFD, Member States need to establish more stringent values in accordance with Article 3 of the GWD. Such values are threshold values.

Six Member States established threshold values below the quality standard of 0.1 µg/l for 36 individual active substances in pesticides (respectively groups of active substances). The threshold values range from 0.0001 µg/l to 0.1 µg/l.

Only Cyprus reported a threshold value for total pesticides which is 0.375 µg/l.

Details about which Member States established such threshold values and ranges of threshold values can be found in *Table 13* and *Table 15* in Annex 1.

Two Member States established threshold values for pesticide substances which are above the quality standard of 0.1 µg/l. France reported a threshold value for 1,2-Dichloropropane of 40 µg/l. It was clarified that this substance was treated as synthetic substance and not as a pesticide because the substance was found in one groundwater body where chlorine solvents are manufactured. The value of 40 µg/l is based on WHO standards. Belgium reported a threshold value for 2,6-Dichlorobenzamide of 0.2 µg/l and clarified that this metabolite from the herbicide Dichlobenyl is not considered as "relevant" by the Belgian Health Authority according to EU Directive 91/414/EEC, so the threshold of 0,1 µg/l is not applicable to 2,6-Dichlorobenzamide in Belgium.

3.2.6. Further substances for which threshold values have been established

In addition to the pollutants and indicators of Annex II of the GWD and nitrate and pesticides for which quality standards are given in Annex I GWD, 20 Member States established threshold values for another 106 pollutants/indicators. Details can be found in the respective tables (*Table 13*, *Table 14* and *Table 15*) in Annex 1.

Table 5: Number of Member States and number of pollutants/indicators for which threshold values have been established, except for nitrate, Annex II substances and pesticides.

Groups of pollutants	Member States	Pollutants/Indicators
Nutrients except nitrates (e.g. Phosphorus etc.)	11	7
Metals	15	21
Synthetic substances	13	62
Other substances (e.g. Boron, Calcium, Bromate etc.)	11	10
Indicators (e.g. acid capacity, hardness, pH etc.)	3	6
Total	20	106

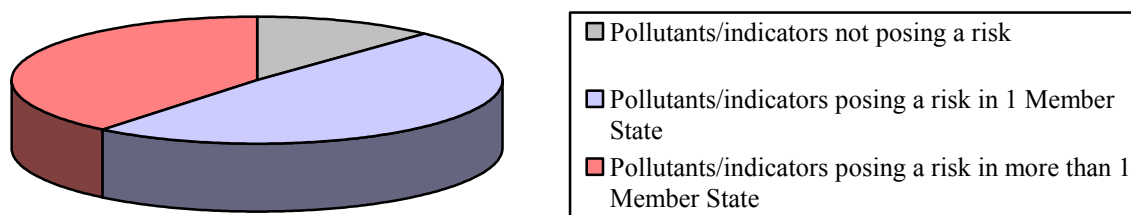
3.2.7. GWBs at risk / GWBs in poor status

(a) Groundwater bodies at risk

139 (88 %) of the 158 pollutants/indicators for which threshold values have been established are responsible for groundwater bodies being at risk. 62 of these substances were reported by more than one Member State.

18 Member States also established threshold values for 68 pollutants/indicators which do not pose risk in these Member States.

Figure 3: Pollutants/indicators posing a risk



The following *Table 6* gives an overview of those substances which are responsible for more than 100 groundwater bodies being identified as at risk. Nitrate is posing risk to at least 478 groundwater bodies in Europe. ‘At least’ means that information on the number of groundwater bodies being at risk due to nitrates was not explicitly requested from Member States within this data collection and therefore the information is partial (18 Member States reported fully or partly on the related numbers).

Table 6: Seven pollutants posing risk to more than 100 groundwater bodies in Europe

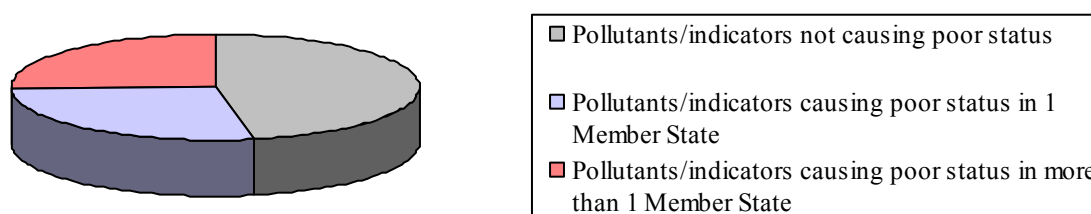
Pollutants	posing risk		poor status	
	GWBs	Member States	GWBs	Member States
Nitrate*	478	17	504	14
Ammonium	276	14	147	13
Chloride	256	18	117	13
Sulphate	216	16	117	15
Arsenic	128	13	42	11
Benzo(a)pyrene	110	4	51	3
Cadmium	101	11	55	5

*partial information

(b) Groundwater bodies at poor status

Half (84) of the 158 pollutants/indicators for which threshold values have been established are responsible for groundwater bodies being in poor status. 40 of these substances were reported by more than one Member State, 44 pollutants/indicators were nominated only once.

Figure 4: Pollutants/indicators causing poor status



The following *Table 7* gives an overview of those substances which are responsible for more than 50 groundwater bodies being of poor status. Nitrate is the pollutant which is by far most responsible for groundwater bodies being of poor status. At least 504 groundwater bodies in Europe are of poor status due to nitrates. ‘At least’ means that information on the number of groundwater bodies being of poor status due to nitrates was not explicitly requested from

Member States within this data collection and therefore the information is partial (16 Member States reported fully or partly on the related numbers).

Table 7: Ten pollutants causing poor status to more than 50 groundwater bodies in Europe

Pollutants	poor status		posing risk	
	GWBs	Member States	GWBs	Member States
Nitrate*	504	14	478	17
Ammonium	147	13	276	14
Chloride	117	13	256	18
Sulphate	117	15	216	16
Molybdate Reactive Phosphorus (as P)	102	1	210	1
Tetrachloroethylene	62	6	96	6
Benzene	58	6	124	7
Cadmium	55	5	101	11
Benzo(a)pyrene	51	3	110	4
Lead	51	5	90	10

*partial information

Detailed information on groundwater bodies at risk and groundwater bodies of poor status can be found in the corresponding *Table 15* in Annex 1.

3.3. Methodologies applied for the establishment of threshold values

Annex II part A of the GWD sets out guidelines which should be considered by the Member States when establishing threshold values. In particular the types of threshold values e.g. for protecting drinking water use, protecting aquatic and/or terrestrial ecosystems, avoiding saltwater intrusion was requested. Furthermore, Annex II Part C requires Member States to report, where feasible, on the relationship between threshold values and for naturally-occurring substances on the background levels and the environmental quality objectives and other standards for water protection that exist at national, Community or international level.

3.3.1. Types of threshold values established and relationship between threshold values and environmental quality objectives and other standards for water protection that exist at national, Community or international level

In most of the Member States the procedure for establishing threshold values considered both, the protection of associated aquatic and dependent terrestrial ecosystems and the uses and functions of groundwater – mainly drinking water use. Some Member States took regard of saltwater intrusion, where this problem was relevant. The accompanying *Table 10* in Annex 1 provides details for each Member State.

The accompanying *Table 12* in Annex 1 provides details for each Member State on the relationship between threshold values and environmental quality objectives and other standards for water protection that exist at national, Community or international level.

(a) Groundwater and associated aquatic and dependent terrestrial ecosystems:

- In 15 Member States the established threshold values consider the protection of associated aquatic and dependent terrestrial ecosystems. Threshold values were reported to be based on environmental quality objectives - international or national - as far as relevant. Four

Member States explicitly mentioned the EQS Directive (2008/105/EC) as the basis for derivation.

- Two Member States reported that due to no risk or non-substantial impacts, respective threshold values related to ecosystems have not been established. Two Member States reported of not being able to establish threshold values based on the interrelationship between groundwater and ecosystems, due to limitations in knowledge of both state and processes.
- For eight Member States (30 %) the provided information did not allow for assessing whether ecological aspects were considered in the establishment procedure or not.
- Although this information was not requested, few Member States reported explicitly for which pollutants/indicators environmental quality objectives and other standards were considered within the threshold value establishment. Austria, Ireland, Italy and Malta provided such detailed information for TVs based on environmental criteria. Ecosystem related threshold values were established for ortho-phosphate in Austria, for cadmium, lead, mercury, hexachlorobutadiene, trichlorobenzenes, pentachlorobenzene and some pesticides (hexachlorobenzene, lindane, DDT, drins) in Italy, for ammonium and molybdate reactive phosphorus in Ireland and for chloride and conductivity in Malta.

(b) Actual and potential legitimate uses of functions of groundwater:

- 24 Member States reported about the consideration of the protection of uses and functions of groundwater; most of the Member States referred to drinking water use as the main legitimate use.
- 23 Member States referred explicitly to drinking water standards (DWS), either to those directly laid down in the EU Drinking Water Directive (98/83/EC) or to respective international (e.g. WHO) or national standards. Six Member States emphasized that the threshold values established are mainly based on drinking water standards. From Ireland and United Kingdom the relationship between threshold values and drinking water standards was reported as $TV = 75\% DWS$; In Finland the threshold values are based on $50\% DWS$. Other Member States did not report on the relationship between threshold values and related standards.
- Only few further standards were reported considering other uses and functions of groundwater than drinking water. Belgium (Flanders) reported about mineral water and industrial water uses and respective standards and expert values and Cyprus and Malta mentioned irrigation use being considered in the establishment process.

(c) Saltwater intrusion

- Four Member States mentioned saltwater intrusion being considered within the threshold value establishment of certain parameters, mainly for sulphate, chloride and electrical conductivity. Further details on how saltwater intrusion has been considered were not reported.

3.3.2. *Relationship between threshold values and background levels for naturally occurring substances*

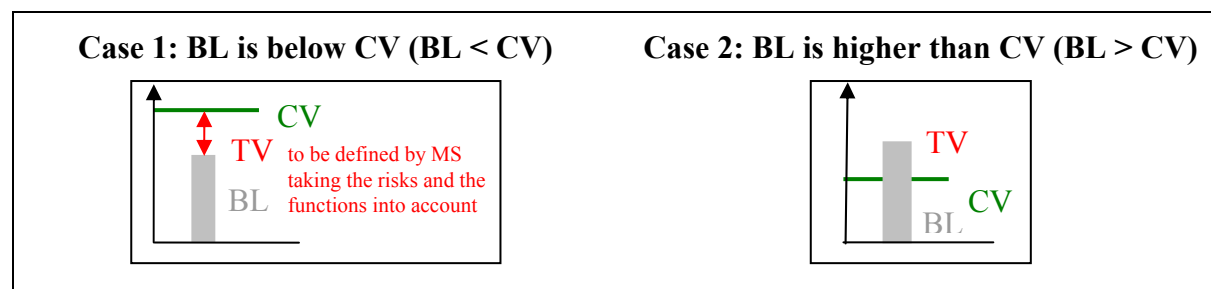
(a) Information provided

- 20 Member States (74 %) provided information about the relationship between groundwater threshold values and background levels for naturally occurring substances.
- Two Member States reported that the consideration of background levels was not needed; in France and Slovenia no threshold values were established for substances that have natural origin.
- Austria, Spain and Poland reported that background levels are not treated as pollution which is taken into account in the status assessment.
- For five Member States (19 %) the relationship between threshold values and background levels was not reported. Portugal did not establish threshold values due to no risk and Greece did not provide any information at all.

(b) Relationship

The general methodology for defining threshold values in a groundwater body is summarised in the CIS Guidance Document No 18⁵. According to the guidance, two types of criteria should be considered when establishing threshold values: Environmental criteria and Usage criteria. Threshold values will be set by Member States by comparing the background level (BL) to the criteria value (CV). The criteria value is the concentration of a pollutant, not taking into account any natural background concentrations, that if exceeded may lead to a failure of the good status criterion concerned. CVs should take into account risk assessment and groundwater functions and there might be separate CVs, one for each of the relevant receptors of the groundwater body. When BLs and CVs are compared, two situations may arise, either the background level is below the criteria value or the background level is higher than the criteria value. The following *Figure* illustrates the two cases and the interrelation between background levels, criteria values and threshold values.

Figure 5: Two cases for establishing threshold values when comparing background levels with criteria values (according to the CIS Guidance Document No 18).



Note: BL... background level, CV... criteria value, TV...threshold value

For case 1, it is recommended by the guidance document that Member States define the TV according to national strategies and a risk assessment. For case 2, the TV is recommended to be equal to the BL, however, in order to integrate the concept of sustainable development and allow for the growth of economic activities (especially existing activities), Member States may consider a *small* addition to the BL which represents an acceptable amount of human influence as long as this is considered not to be harmful in protecting the relevant receptors.

⁵ Guidance Document No. 18: Groundwater Status And Trend Assessment (2009) http://circa.europa.eu/Public/irc/env/wfd/library?!=/framework_directive/guidance_documents&vm=detailed&sb=Title

- Several Member States took regard of the methodology described in the CIS Guidance Document No 18 (four explicitly referred to the guidance) and provided detailed information on how they distinguished between the two cases, whether the BLs are above or below CVs.

In case where background levels are below criteria values (Case 1: BL < CV): Member States considered different approaches for establishing threshold values. As listed in *Table 8* and as far as information was provided by Member States, all possible approaches were taken.

Table 8: Approaches taken by Member States in case background levels are below criteria values (Case 1: BL < CV).

Approaches for case 1: BL < CV	Member States	
TV = BL	4	Bulgaria, Czech Republic (for metals), Latvia (for ammonium and BTEX) and Romania.
TV = between BL and CV 0.5 x (CV+BL)	2	Belgium (Flanders) and Slovak Republic
TV = between BL and CV	2	Spain, Malta (TV = percentage of CV)
TV = CV	3	Germany, Denmark and Netherlands

In case where background levels are higher than criteria values (Case 2: BL > CV): Member States considered following different approaches for establishing threshold values (see *Table 9*). In case criteria values are lower than background levels (CV < BL) most of the Member States defined the background level as threshold value (TV = BL). Only Bulgaria, the Netherlands and Romania considered the concept of adding a small addition to the background level. Finland established the threshold values as 2 times the background levels (TV = 2*BL).

Table 9: Approaches taken by Member States in case background levels are higher than criteria values (Case 1: BL < CV).

Approaches for case 2: BL > CV	Member States	
TV = BL	10	Belgium (Flanders), Cyprus (for sulfates, chloride and conductivity), Czech Republic, Germany, Denmark, Spain, Ireland, Italy, Malta, Slovak Republic
TV = BL + small addition	1	Netherlands
TV = BL + small addition of 10 %	1	Bulgaria
TV = BL + small addition of 20 %	1	Romania
TV = 2*BL	1	Finland

The GWD provides certain flexibility to the Member States in the establishment of threshold values by requiring the consideration of the different receptors of the groundwater body as well as the risks and functions, the characteristics and behavior of the pollutants and the hydrogeological characteristics represented by the background levels (Annex II Part A of the GWD). The consideration of these different requirements, adapted to potentially each individual groundwater body, leads to the different approaches followed by the Member States with the consequence that the established threshold values might not be fully comparable within Europe.

The accompanying *Table 11* in Annex 1 provides details for each Member State on the relationship between threshold values and background levels for naturally occurring substances.

4. SUMMARY

Nearly all Member States (89 %) considered the uses and functions of groundwater (mainly drinking water use) within the establishment of threshold values. For some Member States the information was insufficient whether associated aquatic and dependent terrestrial ecosystems were considered or not.

Drinking water standards were most frequently reported as basis of threshold values, either laid down in the EU Drinking Water Directive (98/83/EC) or respective international (e.g. WHO) or national standards. More than half of the Member States (56 %) also considered environmental quality objectives – international (e.g. EQS Directive - 2008/105/EC) or national – as far as relevant.

Although this information was not requested, few Member States reported explicitly for which pollutants/indicators environmental quality objectives and other standards were considered within the threshold value establishment.

74 % of the Member States provided information on the relationship between groundwater threshold values and background levels for naturally occurring substances. In Europe, for 158 different pollutants/indicators threshold values have been established. Two thirds of the reported substances are pesticides or synthetic substances and one third are naturally occurring substances. All the 10 substances of Annex II GWD were reported as the most relevant substances in Europe.

For half of the pollutants/indicators there is only one threshold value established within Europe, for the other half of the pollutants/indicators ranges of threshold values were established.

Most of the groundwater threshold values were established at Member State level. Half of the threshold values were established at groundwater body level and for few substances the threshold values are related to river basin districts.

The provided information showed that the Annex II pollutants/indicators were comprehensively considered by nearly all Member States. All these substances are causing risk in a considerable high number of Member States.

Five Member States established more stringent threshold values for nitrate than the quality standard of 50 mg/l as laid down in Annex I GWD. The values range from 18 mg/l to 50 mg/l.

22 % of the Member States established threshold values for 36 active substances in pesticides (respectively groups of active substances) below the quality standard of 0.1 µg/l. The threshold values range from 0.0001 µg/l to 0.1 µg/l. Only one Member State established a threshold value for total pesticides of 0.375 µg/l which is below the quality standard of 0.5 µg/l as laid down in Annex I GWD.

In total for 106 pollutants/indicators threshold values have been established in Europe which do not belong to Annex I (nitrates and pesticides) and Annex II of the GWD. Nearly two thirds belong to the group of synthetic substances.

88 % of the pollutants/indicators for which threshold values have been established pose risk in at least one Member State. Half of the pollutants/indicators cause poor status. 18 Member States also established threshold values for pollutants/indicators which do not pose risk to groundwater bodies.

Although this information was not requested, one Member State reported on transboundary cooperation within the establishment of threshold values.

ANNEXES

1. ANNEX 1 ASSESSMENT RESULTS

1.1. Methodologies applied for the establishment of threshold values

1.1.1. Considered elements within the establishment of groundwater threshold values

Table 10: Considered elements within the establishment of groundwater threshold values

Member State	At risk considered*	associated aquatic and dependent terrestrial ecosystems	Uses and functions of groundwater	Saltwater intrusion
AT		Considered. TV for phosphate although no ecosystem endangered.	Drinking water (main receptor)	No intrusion
BE		Considered for each GWB	Drinking water, mineral water, industrial use	
BG			Drinking water	
CY			Drinking water, irrigation	
CZ	Yes	No ecosystem endangered and not considered at the moment	Drinking water	
DE		Considered	Drinking water	
DK		Limitations in knowledge of both state and processes. Not included in TV establishment	Drinking water	
EE	Yes	No substantial impacts on ecosystems	Drinking water	
ES	Yes	All relevant criteria considered	Drinking water where relevant	Considered
FI	Yes	All receptors considered	Drinking water	
FR	Yes	Considered	Drinking water	
GR				
HU		Considered	Drinking water	
IE		Considered. TV for ammonium and phosphorus	Drinking water	TVs for conductivity and chloride
IT		Considered	Drinking water	
LT		Considered	Drinking water	
LU			Drinking water	
LV				
MT		Considered	Drinking water, irrigation	Considered
NL		Considered	Considered	TV for chloride
PL		Considered	Drinking water (main receptor)	
PT	No GWB at risk, no threshold values established			

RO		Limitations in knowledge of both state and processes. Not included in TV establishment	Drinking water	
SE			Drinking water	
SI	Yes		Drinking water (main receptor)	
SK			Drinking water	
UK	Yes	Considered	Considered	

*Member States that explicitly mentioned that all substances posing a risk to groundwater bodies were considered within the threshold value establishment

1.1.2. Relationship between threshold values and background levels for naturally occurring substances

Table 11: Relationship between threshold values and background levels

Member State	Relationship between threshold values (TVs) and background values (BL)	Background values
AT	BLs are considered in the status assessment and not in the TV establishment.	Country wide assessment for each GWB and for a considerable number of parameters.
BE	BL have been considered only in Flemish region according to CIS Guidance No 18: If $QS > BL$: $TV = 0.5 (EQS + BL)$ If $QS < BL$: $TV = BL$	BLs were derived according to the BRIDGE approach
BG	For SO_4, Cl, EC : $TV = BL$ If $CV > BL$: $TV = BL$ If $CV < BL$: $TV = 1.1 BL$ (small addition of 10 %)	
CY	For SO_4, Cl, EC : $TV = BL$	BLs usually $< DWS$ except SO_4, Cl, EC .
CZ	If $DWS > BL$: $TV = BL$ (for metals) If $DWS < BL$ and if anthropogenic source was not known: $TV = BL$ (for sulphates)	BLs calculated for natural occurring metals and sulphates as 95-percentiles (monitoring data between 2000 and 2005).
DE	If $EQS > BL$: $TV = EQS$ If $EQS < BL$: $TV = BL$ (only for the GWB concerned)	
DK	According to CIS Guidance No 18: If $EQS > BL$: $TV = EQS$ (the strictest) If $EQS < BL$: $TV = BL$	
EE		Consideration of BL was reported for chloride
ES	According to GWD and CIS Guidance No 18: Salt intrusion: $TV = BL$. Drinking water: If $CV > BL$: $BL < TV \leq CV$ If $CV \leq BL$: $TV = BL$	BLs were defined for each GWB at risk, based on either the 50-, 90- or 97.7-percentile of each parameter. Elevated BLs are not considered as pollution and are not taken into account in the status assessment.
FI	$TV = 2 \times BL$	For mercury, cadmium, chromium, copper and

Member State	Relationship between threshold values (TVs) and background values (BL)	Background values
		zinc the BL is calculated as the 90-percentile of monitoring data from pristine GWBs.
FR	The origin of substances is in France either completely natural (no TV established) or completely human (DWS)	
GR		
HU		BLs for ammonium, sulfate and EC were calculated as the 90-percentile of monitoring data from unpolluted water. For these substances/indicators the BL was above the DWS.
IE	If $QS < BL$: $TV = BL$	A study on BLs has been undertaken recently.
IT	If national TVs $< BL$: $TV = BL$	
LT		BLs for ammonium and hydrochemical anomalies of chloride and sulphate considered.
LU		
LV	All TVs $> BL$. For ammonium and BTEX : $TV = BL$	
MT	If $CV > BL$: $TV =$ percentage of CV Percentage defined on the basis of the risk posed by the particular parameter to the non-achievement of good status, and the chemical/toxicological properties of the particular pollutant If $CV < BL$: $TV = BL$	
NL	According to CIS Guidance No 18: If $CV > BL$: $TV = CV$ If $CV < BL$: $TV = BL$ A maximum permissible addition was considered except for chloride.	BLs need to be derived for each GWB.
PL		BLs where considered in status assessment
PT	No GWB at risk, no threshold values established	
RO	If $CV > BL$: $TV = BL$ If $CV < BL$: $TV = 1.2 BL$ (small addition of 20 %)	BLs were derived as 50- respectively 90-percentiles considering the BRIDGE methodology.
SE		National reference values must be considered when establishing regional or individual TVs
SI	Not needed	No BLs needed. TVs only established for anthropogenically induced substances.
SK	If $CV > BL$: $TV = 0.5*(CV+BL)$ If $CV < BL$: $TV = BL$	For synthetic substances the $BL = 0$
UK	TVs never $< BL$ for each GWB. No addition considered	Ranges of BL determined according to the methodology of Baseline and BRIDGE.

Note: BL...background level, CV...criteria value (see CIS Guidance No 18), DWD...Drinking Water Directive (98/83/EC)DWS...drinking water standard, EC...electrical conductivity, EQS...environmental quality standard, EQS-D...EQS Directive (2008/105/EC), GWB...groundwater body, RBD...River Basin District

1.1.3. Relationship between threshold values and environmental quality objectives and other standards for water protection that exist at national, Community or international level

Table 12: Relationship between threshold values and environmental quality objectives and other standards for water protection

Member State	DWS based	EQS based	Other standards / Comments
AT	mainly	ortho-PO ₄	Ortho-PO ₄ linked to eutrophication in surface water as the limiting factor for eutrophication.
BE	partly	yes	Mineral waters and source waters (Cl, Ba, B); expert values for industrial uses, limit between fresh and brackish water (EC), clean-up values for groundwater (Cu, Zn, As, Ni, Pb) and expert judgment.
BG	partly		
CY	mainly		Irrigation usage criteria
CZ	for synthetic substances		In other cases BL.
DE	yes	various EQS from different directives	The methodology for deriving TVs follows the concept of so-called insignificance thresholds. TVs are always laid down according to the lower values of the human-toxicological (DWS) and ecotoxicological derivation. GW ecosystems were considered – if no ecotox values are available then PNEC values were taken.
DK	yes	EQS-D	For non-EQS-D polluting substances national orders were considered
EE	yes	yes	TVs based on national decrees ("Quality and control requirements for SW and GW intended for the water supply"; and "Maximum Limits for Hazardous Substances in Soil and groundwater")
ES	yes		Environmental criterion: The saline intrusion criterion has been applied for those groundwater bodies identified at risk due to this pressure (TV = BL).
FI	yes	yes	The TVs considered the following relationships: 0.5 x national drinking water standard, odor or taste limit values, 0.5 x TVs for groundwater used in risk assessment for contaminated soil sites, 0.5 x WHO drinking water guideline values, Maximal concentrations (annual arithmetic average) in surface water used as raw water for drinking water production Guidance value for chloride in national legislation
FR	mainly	EQS-D	In case of significant contribution from GW to surface waters, the EQS-D was considered. Effects of attenuation and dilution are unknown and hence not considered.

Member State	DWS based	EQS based	Other standards / Comments
GR			
HU	yes	EQS-D	
IE	Mainly TV = 75 %	yes	Surface water EQS were considered where necessary and derived for ammonium and molybdate reactive phosphorus. TVs considering saltwater intrusion were derived for EC and chloride.
IT	mainly	EQS-D	
LT	yes	yes	TVs correspond to national DWS for the main GWBs and to EQS for shallow part of aquifers.
LU	yes		TVs correspond to national DWS. Transboundary harmonization of TVs in Rhine and Meuse RBD.
LV			TVs are more stringent than water QS.
MT	yes		'Good' irrigation water standards
NL	yes	yes	For naturally occurring substances (chloride, metals and phosphate) environmental risk levels were considered.
PL			Human being is treated as a main receptor. Environmental role of ground water has been mainly taken into account during establishing the TVs.
PT	No GWB at risk, no threshold values established		
RO	yes	no	Surface water standards were not considered due to limited knowledge of connections between groundwater and surface water.
SE	mainly	Not yet	EQS on regional level not yet considered.
SI	yes	yes	TVs more stringent than DWS and EQS
SK	yes		
UK	Yes TV = 75%	yes	TVs based on national and European EQS taking into account dilution and attenuation in groundwater

Note: DWS...drinking water standards, EQS-D...Environmental Quality Standards Directive, PNEC...predicted non-effect concentration

1.2. Established threshold values

Table 13: Number of threshold values established by each Member States according to substances/indicator groups.

Member State	Annex II	Indicators	Metals	Nutrients	Others	Pesticides	Synthetics	Total
United Kingdom	10		5	2	4	27	14	62
Italy	10		6	1	3	6	26	52
Poland	10	4	19	3	8		8	52
Finland	9 ¹		6			1	26	42
Ireland	9 ¹		4	3	3	15	6	40
France	8 ²		6				19	33
Czech Republic	9	1	1	1	2	2	9	25
Austria	9 ¹		3	3	1		5	21
Belgium	10		5	2	2	1		20
Slovak Republic	10		6		2	2		20
Spain	10		7	1	2			20
Bulgaria	8	1	5	2	3			19
Germany	9 ¹		1				8	18
Sweden	9 ¹						5	14
Malta	6		2		3			11
Latvia	6 ¹			1			3	10
Cyprus	9 ¹							9
Romania	7			2				9
Lithuania	8 ¹							8
Luxembourg	8 ¹							8
Slovenia	2						5	7
Hungary	5			1				6
Netherlands	4		1	1				6
Estonia	2						4	6
Denmark								0
Greece								0
Portugal								0

Note: 1) threshold value for the sum of Trichloroethylene and Tetrachloroethylene established. 2) Threshold values for the individual substances Trichloroethylene and Tetrachloroethylene and for the sum of Trichloroethylene and Tetrachloroethylene established.

Table 14: Pollutants/indicators for which threshold values were established by the Member States.

Group	Pollutants/indicators	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
Annex II	Ammonium	x	x	x	x	x	x			x	x	x		x	x	x	x	x	x	x		x		x	x		x		20
Annex II	Ammonium (as nitrogen)										x																	x	2
Annex II	Arsenic	x	x	x	x	x	x			x	x	x			x	x	x	x	x	x	x	x		x	x		x	x	21
Annex II	Cadmium	x	x	x	x	x	x			x	x				x	x	x	x	x		x	x		x	x		x	x	19
Annex II	Chloride	x	x	x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x		x	x		x	x	22
Annex II	Conductivity	x	x	x	x		x			x				x	x	x					x		x			x	x	x	14
Annex II	Lead	x	x	x	x	x	x			x	x				x	x	x	x	x	x	x	x		x	x		x	x	20
Annex II	Mercury	x	x	x	x	x	x			x	x	x			x	x	x	x					x	x		x	x	x	18
Annex II	Sulphate	x	x	x	x	x	x		x	x	x	x		x	x	x	x	x			x		x		x	x		x	21
Annex II	Sum of Trichloroethylene and Tetrachloroethylene	x			x		x				x	x			x		x	x	x							x			10
Annex II	Tetrachloroethylene		x			x				x		x		x		x						x				x	x	x	10
Annex II	Trichloroethylene		x			x				x		x		x		x						x				x	x	x	10
Indicators	Acid capacity to pH 4.5*					x																							1
Indicators	AOX																					x							1
Indicators	Hardness			x																									1
Indicators	pH																					x							1
Indicators	Temperature																					x							1
Indicators	TOC																					x							1
Metals	Aluminium					x				x		x			x							x					x	x	7
Metals	Antimony		x								x	x				x						x							5
Metals	Barium																					x							1
Metals	Beryllium																					x							1
Metals	Chromium		x	x						x	x				x							x					x	x	8
Metals	Chromium (total)	x										x				x													3
Metals	Chromium VI															x													1
Metals	Cobalt										x											x							2
Metals	Copper	x	x	x						x	x				x						x	x					x	x	10
Metals	Iron			x						x		x										x					x		5
Metals	Manganese			x						x		x										x					x		5
Metals	Molybdenum																					x							1
Metals	Nickel	x	x				x			x	x	x			x	x						x	x					x	11
Metals	Selenium									x						x						x					x		4
Metals	Silver																					x							1
Metals	Thallium																					x							1
Metals	Tin																					x							1
Metals	Titanium																					x							1

Group	Pollutants/indicators	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
Metals	Uranium																					x							1
Metals	Vanadium															x						x							2
Metals	Zinc		x	x							x									x		x					x	6	
Nutrients	DOX																					x							1
Nutrients	Molybdate Reactive Phosphorus (as P)														x														1
Nutrients	Nitrate	x												x	x				x								x	5	
Nutrients	Nitrite	x		x		x				x					x	x							x		x				8
Nutrients	Orthophosphate	x		x																									2
Nutrients	Phosphate		x																					x			x	3	
Nutrients	Phosphorus (total)																				x	x							2
Nutrients	Phosphorus (total, as P2O5)		x																										1
Others	Bicarbonates					x																x							2
Others	Boron	x								x					x	x					x	x					x	7	
Others	Bromate																										x	1	
Others	Calcium			x																		x							2
Others	Cyanide														x	x						x							3
Others	Fluoride		x													x				x		x				x	x		6
Others	Hydrogen cyanide					x																					x	1	
Others	Magnesium			x																		x							2
Others	Potassium		x																			x							2
Others	Sodium			x						x					x						x	x					x	x	7
Pesticides	1,2-Dichloropropane											x																	1
Pesticides	2,4-Dichlorophenoxyacetic acid, 2-4 D														x														1
Pesticides	2,6-Dichlorobenzamide		x																										1
Pesticides	4,4 - DDT														x														1
Pesticides	Aldrin					x										x													2
Pesticides	Atrazine														x											x	x		3
Pesticides	Bentazone														x												x	2	
Pesticides	Carbendazim																										x	1	
Pesticides	Carbetamide																										x	1	
Pesticides	Chlorfenvinphos																										x	1	
Pesticides	Chlortoluron														x												x	2	
Pesticides	Clopyralid																										x	1	
Pesticides	Cyanazine																										x	1	
Pesticides	Cypermethrin														x												x	2	
Pesticides	Dalapon																										x	1	
Pesticides	DDT, DDD, DDE															x													1
Pesticides	Diazinon																										x	1	
Pesticides	Dichlorprop, 2-4-DP																										x	1	

Group	Pollutants/indicators	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
Pesticides	Dieldrin					x									x	x													3
Pesticides	Diuron														x													x	2
Pesticides	Epoxyconazole																											x	1
Pesticides	Glyphosate														x													x	2
Pesticides	Hexachlorobenzene										x					x													2
Pesticides	Hexachlorocyclohexane-beta															x													1
Pesticides	Isoproturon														x													x	2
Pesticides	Lindane														x														1
Pesticides	MCPA														x													x	2
Pesticides	Mecoprop														x													x	2
Pesticides	Metazachlor																											x	1
Pesticides	Pentachlorophenol																											x	1
Pesticides	Permethrin-cis+trans																											x	1
Pesticides	Pesticides (total)														x														1
Pesticides	Propazine																											x	1
Pesticides	Propetamphos																											x	1
Pesticides	Simazine														x												x	x	3
Pesticides	Sum (aldrin, dieldrin, endrin, isodrin)															x													1
Pesticides	Terbutryn																											x	1
Pesticides	Trietazine																											x	1
Pesticides	Trifluralin																											x	1
Synthetic	1,1,1-Trichloroethane											x																x	2
Synthetic	1,1,2-Trichloroethane																											x	1
Synthetic	1,1-Dichloroethane											x														x			2
Synthetic	1,1-Dichloroethene											x																	1
Synthetic	1,2,4-Trichlorobenzene															x													1
Synthetic	1,2-Dichlorobenzene										x	x																	2
Synthetic	1,2-Dichloroethane	x									x	x			x	x			x						x	x		x	9
Synthetic	1,2-Dichloroethene										x	x				x													3
Synthetic	1,4-Dichlorobenzene										x	x				x													3
Synthetic	Alkalised benzene						x																						1
Synthetic	Anthracene										x																	x	2
Synthetic	Benzene					x			x		x	x			x	x						x				x		x	9
Synthetic	Benzo(a)pyrene					x					x	x			x	x						x				x		x	8
Synthetic	Benzo(b)fluoranthene					x										x													2
Synthetic	Benzo(g,h,i)perylene					x										x													2
Synthetic	Benzo(k)fluoranthene					x										x													2
Synthetic	Benzol	x																											1
Synthetic	Bromodichlorometane															x													1

Group	Pollutants/indicators	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
Synthetic	BTEX																		x			x							2
Synthetic	Carbon tetrachloride										x	x																x	3
Synthetic	Chlorinated benzene						x																						1
Synthetic	Chlorinated phenol						x																						1
Synthetic	Chlorobenzene										x					x													2
Synthetic	Dibenzo(a,h)anthracene															x													1
Synthetic	Dibromochlorometane															x													1
Synthetic	Dichloromethane										x	x														x		x	4
Synthetic	Dichlorophenol										x																		1
Synthetic	Ethylbenzene										x	x																	3
Synthetic	Fluoranthene					x																						x	2
Synthetic	Hexachlorobutadiene															x													1
Synthetic	Hydrocarbons						x																						1
Synthetic	Hydrocarbons (total)	x														x													2
Synthetic	Indeno(1,2,3-cd)pyrene					x										x													2
Synthetic	Mono basic phenols								x																				1
Synthetic	Monochlorophenols										x																		1
Synthetic	MTBE						x				x																		2
Synthetic	Naphthalene					x					x																	x	3
Synthetic	Nitrobenzene															x													1
Synthetic	Oil fractions (C10-40)										x																		1
Synthetic	PAHs						x		x						x							x							4
Synthetic	PAHs (Benzo(a)pyrene, Fluoranthene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene, Indeno(1,2,3cd)pyrene)	x																											1
Synthetic	PAHs (DW-D: Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene, Indeno(1,2,3-cd)pyrene)										x	x																	3
Synthetic	PCB											x				x													2
Synthetic	PCBs (sum of 7 congeners: 28, 52, 101, 118, 138, 153, 180)										x																		1
Synthetic	Pentachlorobenzene					x					x					x													3
Synthetic	Petroleum hydrocarbons																					x							1
Synthetic	Petroleum products								x																				1
Synthetic	Phenol						x															x						x	3
Synthetic	Sum of highly volatile halogenated																									x			1

Group	Pollutants/indicators	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
	hydrocarbons																												
Synthetic	Sum of tri-, tetra- and pentachlorophenol										x																		1
Synthetic	Sum PCDD, PCDF															x													1
Synthetic	Surfactants-anionic																					x							1
Synthetic	Surfactants-anionic and nonionic																					x							1
Synthetic	TAME										x																		1
Synthetic	Tetrachloromethane																									x			1
Synthetic	Toluene										x	x				x												x	4
Synthetic	Trichlorobenzenes										x					x													2
Synthetic	Trichloromethane										x					x			x						x			x	5
Synthetic	Trihalomethane (total)	x										x			x										x			x	3
Synthetic	Vinyl Chloride										x	x			x	x													4
Synthetic	Volatile halogenated hydrocarbons (VHH)						x																						1
Synthetic	Xylene										x	x				x												x	4
Total		21	20	19	9	25	18		6	20	42	33		6	40	52	8	8	10	11	6	52	0	9	14	7	20	62	

Table 15: List of pollutants/indicators including number of Member States establishing threshold values (including the ranges of threshold values throughout Europe), number of Member States where the respective pollutant/indicator is causing groundwater bodies at risk and poor status (including the number of groundwater bodies concerned) *partial information

Group	Parameters/Indicators	Nominated MS	Range		Unit	at risk		not at risk MS	poor status		no poor status MS
			from	to		MS	GWBs		MS	GWBs	
Annex II	Ammonium	20	0.0837	52	mg/l	14	276	6	13	147	5
Annex II	Ammonium (as nitrogen)	2	0.2	0.29	mg/l	2	91		2	28	
Annex II	Arsenic	21	0.75	189	µg/l	13	128	9	11	42	8
Annex II	Cadmium	19	0.08	27	µg/l	11	101	10	5	55	12
Annex II	Chloride	22	24	12300	mg/l	18	256	6	13	117	8
Annex II	Conductivity	14	485	10480	µS/cm	11	84	5	8	27	6
Annex II	Lead	20	5	320	µg/l	10	90	12	5	51	13
Annex II	Mercury	18	0.03	1	µg/l	8	77	11	5	23	10
Annex II	Sulphate	21	129.75	4200	mg/l	16	216	6	15	117	5
Annex II	Sum of Trichloroethylene and Tetrachloroethylene	10	5	40	µg/l	5	36	4	4	40	3
Annex II	Tetrachloroethylene	10	1.1	50	µg/l	6	96	3	6	62	2
Annex II	Trichloroethylene	10	1.5	50	µg/l	6	50	4	6	19	3
Indicators	Acid capacity to pH 4.5	1	0.2		mmol/l	1	24		1	20	
Indicators	AOX	1	0.06		mgCl/l						
Indicators	Hardness	1	12		mg/Σqv/l	1	2				1
Indicators	pH	1	6.5	9.5	[-]	1	23				1
Indicators	Temperature	1	16		°C	1	16				1
Indicators	TOC	1	10		mg/l	1	23		1	1	
Metals	Aluminium	7	100	200	µg/l	6	37	1	3	5	3
Metals	Antimony	5	2.5	5	µg/l	1	0	4	1	3	3
Metals	Barium	1	700		µg/l	1	7		1	3	
Metals	Beryllium	1	100		µg/l						
Metals	Chromium	8	5	50	µg/l	4	44	4	3	6	4
Metals	Chromium (total)	3	50		µg/l	2	2	1			2
Metals	Chromium VI	1	5		µg/l	1	0		1	6	
Metals	Cobalt	2	2	200	µg/l	1	3	1	1	2	1
Metals	Copper	10	10.1	2000	µg/l	6	33	4	2	16	7
Metals	Iron	5	103	5000	µg/l	4	76	1	3	12	1
Metals	Manganese	5	27	1000	µg/l	4	42	1	3	17	1
Metals	Molybdenum	1	20		µg/l	1	4				1
Metals	Nickel	11	10	60	µg/l	9	88	1	8	36	2

Group	Parameters/Indicators	Nominated MS	Range		Unit	at risk		not at risk MS	poor status		no poor status MS
			from	to		MS	GWBs		MS	GWBs	
Metals	Selenium	4	5.25	28.5	µg/l	3	7	1	2	1	1
Metals	Silver	1	100		µg/l			1			1
Metals	Thallium	1	20		µg/l						
Metals	Tin	1	200		µg/l						
Metals	Titanium	1	100		µg/l	1	1				1
Metals	Uranium	1	30		µg/l						
Metals	Vanadium	2	50		µg/l	2	2				1
Metals	Zinc	6	60	5000	µg/l	5	81	1	4	30	2
Nutrients	DOX	1	0.5		mg/l			1			1
Nutrients	Molybdate Reactive Phosphorus (as P)	1	35		µg/l	1	210		1	102	
Nutrients	Nitrate	5	18	50	mg/l	17*	478*	1*	14*	504*	2*
Nutrients	Nitrite	8	0.05	1.4	mg/l	6	63	2	2	23	5
Nutrients	Orthophosphate	2	0.3	0.5	mg/l	1	12	1	1	3	1
Nutrients	Phosphate	3	0.0414	4.4	mg/l	2	51	1	2	30	1
Nutrients	Phosphorus (total)	2	0	1	mg/l	1	4		2	4	
Nutrients	Phosphorus (total, as P2O5)	1	1.15		mg/l			1			1
Others	Bicarbonates	2	10	500	mg/l	2	24		2	9	
Others	Boron	7	500	1000	µg/l	4	71	3	2	5	4
Others	Bromate	1	7.5		µg/l	1	1		1	1	
Others	Calcium	2	150	200	mg/l	2	12		1	1	1
Others	Cyanide	3	37.5	50	µg/l	1	0	1			1
Others	Fluoride	6	750	7000	µg/l	4	45	2	3	7	3
Others	Hydrogen cyanide	1	50		µg/l	1	2		1	2	
Others	Magnesium	2	80	100	mg/l	2	6		1	1	1
Others	Potassium	2	8	31	mg/l	2	54		2	18	
Others	Sodium	7	50.45	450	mg/l	5	75	2	4	11	2
Pesticides	1,2-Dichloropropane	1	40		µg/l	1	1		1	1	
Pesticides	2,4-Dichlorophenoxyacetic acid, 2-4 D	1	0.075		µg/l			1			1
Pesticides	2,6-Dichlorobenzamide	1	0.2		µg/l	1	2				1
Pesticides	4,4 - DDT	1	0.075		µg/l			1			1
Pesticides	Aldrin	2	0.03		µg/l	1	0	1			1
Pesticides	Atrazine	3	0.06	0.1	µg/l	4	72		3	24	1
Pesticides	Bentazone	2	0.075		µg/l	1	55	1	1	3	1

Group	Parameters/Indicators	Nominated MS	Range		Unit	at risk		not at risk MS	poor status		no poor status MS
			from	to		MS	GWBs		MS	GWBs	
Pesticides	Carbendazim	1	0.075		µg/l	1	55				1
Pesticides	Carbetamide	1	0.075		µg/l	1	55				1
Pesticides	Chlorfenvinphos	1	0.075		µg/l	1	55				1
Pesticides	Chlortoluron	2	0.075		µg/l	1	55	1			2
Pesticides	Clopyralid	1	0.075		µg/l	1	55				1
Pesticides	Cyanazine	1	0.075		µg/l	1	55				1
Pesticides	Cypermethrin	2	0.0001	0.075	µg/l	1	55	1			2
Pesticides	Dalapon	1	0.075		µg/l	1	55				1
Pesticides	DDT, DDD, DDE	1	0.01	0.1	µg/l	1	0				
Pesticides	Diazinon	1	0.01	0.075	µg/l	1	55				1
Pesticides	Dichlorprop, 2-4-DP	1	0.075		µg/l	1	55				1
Pesticides	Dieldrin	3	0.03	0.075	µg/l	1	0	2			2
Pesticides	Diuron	2	0.075		µg/l	1	55	1	1	3	1
Pesticides	Epoxyconazole	1	0.075		µg/l	1	56				1
Pesticides	Glyphosate	2	0.075		µg/l	1	55	1			2
Pesticides	Hexachlorobenzene	2	0.005	0.1	µg/l	1	0	2			2
Pesticides	Hexachlorocyclohexane-beta	1	0.02	0.1	µg/l	1	0				
Pesticides	Isoproturon	2	0.075	0.1	µg/l	1	55	2	1	1	2
Pesticides	Lindane	1	0.075		µg/l			1			1
Pesticides	MCPA	2	0.075		µg/l	1	55	1			2
Pesticides	Mecoprop	2	0.075		µg/l	2	56		1	2	1
Pesticides	Metazachlor	1	0.075		µg/l	1	55				1
Pesticides	Pentachlorophenol	1	0.075		µg/l	1	55				1
Pesticides	Permethrin-cis+trans	1	0.01	0.075	µg/l	1	55				1
Pesticides	Pesticides (total)	1	0.375	0.5	µg/l	3	26	3	2	14	3
Pesticides	Propazine	1	0.075		µg/l	1	55				1
Pesticides	Propetamphos	1	0.075		µg/l	1	55				1
Pesticides	Simazine	3	0.06	0.1	µg/l	3	61	1	3	6	1
Pesticides	Sum (aldrin, dieldrin, endrin, isodrin)	1	0.01		µg/l	1	0				
Pesticides	Terbutryn	1	0.075		µg/l	1	55		1	1	
Pesticides	Trietazine	1	0.075		µg/l	1	55				1
Pesticides	Trifluralin	1	0.075	0.1	µg/l	1	55	1			2
Synthetic	1,1,1-Trichloroethane	2	7.5	200	µg/l	2	28		1	2	1

Group	Parameters/Indicators	Nominated MS	Range		Unit	at risk		not at risk MS	poor status		no poor status MS
			from	to		MS	GWBs		MS	GWBs	
Synthetic	1,1,2-Trichloroethane	1	7.5		µg/l	1	25				1
Synthetic	1,1-Dichloroethane	2	2	30	µg/l	1	3	1			2
Synthetic	1,1-Dichloroethene	1	30		µg/l	1	3		1	1	
Synthetic	1,2,4-Trichlorobenzene	1	190		µg/l	1	0				
Synthetic	1,2-Dichlorobenzene	2	0.3	1000	µg/l	1	1	1			2
Synthetic	1,2-Dichloroethane	9	1.5	3	µg/l	5	29	3	4	4	4
Synthetic	1,2-Dichloroethene	3	25	60	µg/l	3	6		2	3	
Synthetic	1,4-Dichlorobenzene	3	0.1	300	µg/l	2	1	1			2
Synthetic	Alkalised benzene	1	20		µg/l	1	2		1	2	
Synthetic	Anthracene	2	0.1	60	µg/l	2	52		1	1	1
Synthetic	Benzene	9	0.5	10	µg/l	7	124		6	58	1
Synthetic	Benzo(a)pyrene	8	0.005	0.03	µg/l	4	110	2	3	51	2
Synthetic	Benzo(b)fluoranthene	2	0.1		µg/l	2	36		1	31	
Synthetic	Benzo(g,h,i)perylene	2	0.01	0.1	µg/l	2	33		1	29	
Synthetic	Benzo(k)fluoranthene	2	0.05	0.1	µg/l	2	34		1	29	
Synthetic	Benzol	1	1		µg/l			1			1
Synthetic	Bromodichlorometane	1	0.17		µg/l	1	0		1	1	
Synthetic	BTEX	2	10	100	µg/l	1	2				1
Synthetic	Carbon tetrachloride	3	2	4	µg/l	2	29	1			3
Synthetic	Chlorinated benzene	1	1		µg/l	1	1		1	1	
Synthetic	Chlorinated phenol	1	1		µg/l	1	1		1	1	
Synthetic	Chlorobenzene	2	3	40	µg/l	1	0	1			1
Synthetic	Dibenzo(a,h)anthracene	1	0.01		µg/l	1	0				
Synthetic	Dibromochlorometane	1	0.13		µg/l	1	0		1	1	
Synthetic	Dichloromethane	4	2	20	µg/l	2	28	2			4
Synthetic	Dichlorophenol	1	2.7		µg/l	1	1		1	1	
Synthetic	Ethylbenzene	3	1	300	µg/l	3	7		1	5	1
Synthetic	Fluoranthene	2	0.1	0.58	µg/l	2	83		1	29	1
Synthetic	Hexachlorobutadiene	1	0.05	0.15	µg/l	1	0				
Synthetic	Hydrocarbons	1	100		µg/l	1	1		1	1	
Synthetic	Hydrocarbons (total)	2	100	350	µg/l	1	0	1			1
Synthetic	Indeno(1,2,3-cd)pyrene	2	0.1		µg/l	2	33		1	29	
Synthetic	Mono basic phenols	1	1		µg/l	1	0		1	1	

Group	Parameters/Indicators	Nominated MS	Range		Unit	at risk		not at risk MS	poor status		no poor status MS
			from	to		MS	GWBs		MS	GWBs	
Synthetic	Monochlorophenols	1	0.05		µg/l			1			1
Synthetic	MTBE	2	7.5	15	µg/l	2	25		2	15	
Synthetic	Naphthalene	3	0.1	13.3	µg/l	3	81		2	27	1
Synthetic	Nitrobenzene	1	3.5		µg/l	1	0				
Synthetic	Oil fractions (C10-40)	1	50		µg/l	1	3				1
Synthetic	PAHs	4	0.075	0.3	µg/l	3	10		3	3	
Synthetic	PAHs (Benzo(a)pyrene, Fluoranthene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene, Indeno(1,2,3cd)pyrene)	1	0.1		µg/l			1			1
Synthetic	PAHs (DW-D: Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene, Indeno(1,2,3-cd)pyrene)	3	0.05	0.1	µg/l	2	9		1	2	1
Synthetic	PCB	2	0.01	0.5	µg/l	2	1				1
Synthetic	PCBs (sum of 7 congeners: 28, 52, 101, 118, 138, 153, 180)	1	0.015		µg/l	1	1				1
Synthetic	Pentachlorobenzene	3	0.007	5	µg/l	1	0	2			2
Synthetic	Petroleum hydrocarbons	1	300		µg/l						
Synthetic	Petroleum products	1	20		µg/l	1	0		1	1	
Synthetic	Phenol	3	7.5	10	µg/l	2	52		1	1	1
Synthetic	Sum of highly volatile halogenated hydrocarbons	1	10		µg/l			1			1
Synthetic	Sum of tri-, tetra- and pentachlorophenol	1	5		µg/l	1	4		1	3	
Synthetic	Sum PCDD, PCDF	1	0.000004		µg/l	1	0				
Synthetic	Surfactants-anionic	1	500		µg/l						
Synthetic	Surfactants-anionic and nonionic	1	500		µg/l						
Synthetic	TAME	1	60		µg/l	1	5		1	3	
Synthetic	Tetrachloromethane	1	2		µg/l			1			1
Synthetic	Toluene	4	12	700	µg/l	4	61		1	5	2
Synthetic	Trichlorobenzenes	2	0.4	2.5	µg/l	1	0	1			1
Synthetic	Trichloromethane	5	0.15	100	µg/l	3	27	1	1	5	3
Synthetic	Trihalomethane (total)	3	30	100	µg/l	2	14	1			3
Synthetic	Vinyl Chloride	4	0.15	0.5	µg/l	3	3	1	2	4	1
Synthetic	Volatile halogenated hydrocarbons (VHH)	1	20		µg/l	1	16		1	2	
Synthetic	Xylene	4	10	500	µg/l	4	60		1	3	2

1.2.1. Level of TV establishment

Table 16: Number of pollutants/indicators per Member State for which threshold values have been established at the respective levels.

Member State	Admin. region	Regional, GWB	GWB	GWB, RBD	Member State	RBD	Member State, GWB	Total number of TVs
Austria					21			21
Belgium		20						20
Bulgaria			3	9		7		19
Cyprus			9					9
Czech Republic					25			25
Germany	9		1		1		7	18
Denmark								
Estonia			6					6
Spain			20					20
Finland					42			42
France					29	3	1	33
Greece								
Hungary			4		2			6
Ireland					40			40
Italy					52			52
Lithuania					6		2	8
Luxembourg						6	2	8
Latvia				10				10
Malta			6		5			11
Netherlands			6					6
Poland					52			52
Portugal								
Romania			9					9
Sweden					14			14
Slovenia					7			7
Slovak Republic			20					20
United Kingdom			62					62

Note: grey Member States: all threshold values established at the same level.

1.2.2. Consideration of Annex II Part B pollutants/indicators

Table 17: Consideration of GWD Annex II Part B substances per Member State. Indication whether a single threshold value or a range has been established. If no threshold value has been established, the reason for is listed.

Parameters/ Substances	Value / Range / no *	Reason for 'no'	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total	
1. Substances or ions or indicators which may occur both naturally and/or as a result of human activities																															
Arsenic	Value		X	X	X	X					X		X		X	X		X	X	X			X		X			X		14	
	Range			X				X		X										X	X				X			X		7	
	no	no risk													X									X		X				2	
		no significant pressure not evident							X																						1
Cadmium	Value		X	X	X	X				X			X					X	X		X		X		X					11	
	Range			X				X		X					X			X						X		X		X	X	8	
	no	no risk											X											X		X				3	
		no significant pressure no reason provided not evident							X						X						X										1
Lead	Value		X	X	X	X				X			X					X	X	X	X		X		X					12	
	Range			X				X		X					X			X						X			X	X		8	
	no	no risk											X											X		X				3	
		no significant pressure not evident							X						X																1
Mercury	Value		X	X	X	X				X	X		X		X			X	X				X		X	X		X		14	
	Range			X				X							X												X			4	
	no	no problem																				X								1	
		no risk													X						X				X		X				3
	no significant pressure													X																1	
	no reason provided not evident							X													X									1	

Parameters/ Substances	Value / Range / no *	Reason for 'no'																Total											
			AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT		LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK
Ammonium	Value		X		X	X	X			X	X	X				X	X		X		X			X			X		14
	Range			X			X					X	X				X					X				X			7
	no	no anthropogenic origin no risk not evident							X											X			X						1 2 1
Chloride	Value		X				X			X				X			X				X		X						7
	Range			X	X	X	X		X	X	X	X		X		X	X	X	X			X		X		X	X		15
	no	no risk no significant pressure										X										X			X				2 1
Sulphate	Value		X				X		X	X	X		X	X	X	X					X		X						10
	Range			X	X	X	X		X		X		X		X		X					X		X		X	X		11
	no	no reason provided high natural background no risk																X											1 1 2
2. Man-made synthetic substances																													
Tetrachloroethylene	Value		X				X				X	X	X								X		X		X	X			9
	Range								X																				1
	no	no problem no risk no reason provided not evident			X					X										X			X	X					1 3 1 1
Trichloroethylene	Value		X				X				X	X	X								X		X		X	X			9
	Range								X																				1
	no	no problem no risk no reason provided not evident			X					X										X			X	X					1 3 1 1
Sum of Trichloro-	Value		X		X		X		X		X	X		X	X		X				X		X					9	

Parameters/ Substances	Value / Range / no *	Reason for 'no'	AT BE BG CY CZ					DE DK EE ES FI					FR GR HU IE IT					LT LU LV MT NL					PL PT RO SE SI					SK UK		Total
ethylene & Tetra- chloroethylene																														
	Range													X											1					
3. Parameters indicative of saline or other intrusions (With regard to saline concentrations resulting from human activities, Member States may decide to establish threshold values either for sulphate and chloride or for conductivity)																														
Conductivity	Value		X											X						X	X				4					
	Range			X	X	X		X		X				X	X				X					X	X	10				
	no	no reason provided							X		X								X							3				
		no risk												X					X								5			
		not relevant																					X				1			
	TV for Cl																									1				
	TVs for Cl and SO4																						X			1				

Note: * Value...single threshold value, Range...range of threshold values within the Member State, No...no threshold value established. A reason was requested.

2. ANNEX 2 EMPTY QUESTIONNAIRE

2.1. Structure of the questionnaire

The questionnaire comprised two parts and requested Member States to provide information on national level. Part one covers the summary of the process of establishing threshold values, in line with the WISE reporting sheets for the 2010 reporting:

Brief description of the methodology for TV establishment used, considering the way the procedure set out in Annex II Part A of the GWD has been followed (in particular the types of TVs e.g. for protecting drinking water use, protecting aquatic and/or terrestrial ecosystems, saltwater intrusion etc.). This explanation could have also included information about the types of TVs (e.g. related to ecosystems or related to uses).

Summary of the relationship between threshold values and background levels for naturally occurring substances

Summary of the relationship between TVs and environmental quality objectives and other standards for water protection that exist at national, Community or international level.

Part two asked for the threshold values which were established. The following elements/fields were requested:

Parameters/Substances: The template was already prefilled with the substances contained in Part B of Annex II of GWD (which had to be considered) and other individual substances/parameters for which TVs have been established had to be insert in the list."Please consider the substances contained in Part B of Annex II of GWD.

Threshold value/quality standard (or range) ('No'+justification/Value/Range): Insertion of one value or a range of TVs if different TVs are applied within the MS. The range represents the lowest (different than 0) and highest TVs established. In order to appropriately consideration the substances contained in Part B of Annex II of GWD, in case of no TV established, the insertion of 'no' and a justification for not establishing a TV was requested (e.g. 'absence of identified risk', 'no pressure').

Unit: Unit of the TV (e.g. mg/l; µg/l etc.)

Level on which the TV is established (Member State/RBD/GWB or groups of): Insertion on which level(s) the TV is established. For example, if a TV has been established at RBD level in RBD1 and at GWB or group of GWBs level in RBD2, the correct entry reads: 'RBD, GWB'.

WFD-Codes of RBD(s) for which TV has (have) been established: All WFD-Codes (as reported in WISE) of the RBDs, for which TV(s) has (have) been established at RBD or (group of) GWB level. The codes were listed in an extra datasheet attached to the template (RBDs_F1v3). This field does not need to be filled in case TVs have been established at national level and therefore apply to all RBD. Codes of GWBs were NOT requested.

Is the parameter responsible for a GWB being at risk (yes/no): According to the GWD, threshold values have to be established for the pollutants causing a GWB to be at risk of not meeting the WFD Article 4 objectives.

If yes, how many GWBs are at risk due to this parameter: Number of GWBs being identified at risk (according to the latest available information).

Is the parameter responsible for poor status of a GWB (yes/no): Is the parameter responsible for one or more GWB(s) being of poor status or not. The status assessment should refer to the latest available information.

If yes, how many GWBs are at poor status due to this parameter: Number of GWBs being identified at poor status (according to the latest available information).