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Common Implementation
Strategy for the

Water Framework Directive (2000/60/EC)

Technical Report No. 7

TECHNICAL REPORT ON RECOMMENDATIONS FOR
THE REVIEW
OF ANNEX I AND II OF THE GROUNDWATER
DIRECTIVE 2006/118/EC

December 2011

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**COMMON IMPLEMENTATION STRATEGY
FOR THE WATER FRAMEWORK DIRECTIVE
(2000/60/EC)**

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FOREWORD

The EU Member States, Norway and the European Commission have jointly developed a common strategy for supporting the implementation of the Directive 2000/60/EC establishing a framework for Community action in the field of water policy (hereafter referred to as Common Implementation Strategy (CIS) for the Water Framework Directive (WFD)). The main aim of this strategy is to allow a coherent and harmonious implementation of this Directive. Focus is on methodological questions related to a common understanding of the technical and scientific implications of the Water Framework Directive.

This technical report is one of the outcomes of the CIS activity. Other documents related to this work can be found in the CIRCA website:

http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive&vm=detailed&sb=Title

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1. BACKGROUND

This document describes the work carried out to support the European Commission's review of Annex I and II of the Groundwater Directive (2006/118/EC) (GWD) and to provide input to the development of proposals for the revision of these annexes, as appropriate. Any recommendation made in this report has only been made following consultation with and approval by members of WGC and if it is considered that environmental benefits can be realised as a result of implementation of the proposed changes. Any recommendations, if implemented will therefore not reduce the effectiveness of achieving the environmental objectives of the Groundwater Directive or the Water Framework Directive (2000/60/EC) (WFD).

The specific description of this activity, contained in the WGC Mandate and CIS [Work Programme](#) approved by Water Directors on 30th November 2009 is as follows:

“According to Article 10 of the Groundwater Directive, a review of Annexes I and II of this Directive will be carried out by the Commission before the 16th January 2013, and thereafter every 6 years. WG C will provide support and input into this review, based on the experiences of Member States and based on the outcome of research activities. The findings of WG C shall be supportive and without prejudice for the formal procedure according to the Art. 21 Committee.

As in the past, there will be a close link between WG C and policy oriented research – this link will in particular be established with the FP 7 research project GENESIS which is supposed to provide - among others - the supporting scientific basis for the review of the GWD.

The GENESIS consortium will regularly report on its activities to WG C. In particular, by the end of 2011 recommendations from GENESIS concerning the review of Annexes I and II are expected. The results shall be presented to WG C and discussed at WG C meetings and/or within a workshop.

Referring to the above mentioned science-policy link, WG C will thoroughly take note of, analyse and discuss the outcome of further research projects, in particular with regard to conceptual models and groundwater dependant aquatic and terrestrial ecosystems.”

2. INTRODUCTION

2.1. Groundwater Directive requirements – relevance of Annex I and II

The Groundwater Directive (2006/118/EC) on the protection of groundwater against pollution and deterioration is one of the daughter directives of the Water Framework Directive (2000/60/EC) (WFD). It is commonly referred to as the “Groundwater Directive” (GWD). Its purpose is to establish specific measures to prevent and control groundwater pollution (Article 1). These measures include criteria for: (1) the assessment of good chemical status (2)

the identification and reversal of environmentally significant pollutant trends and (3) preventing or limiting inputs of pollutants into groundwater.

For the purposes of assessing chemical status, Member States are required to use the *groundwater quality standards* defined in Annex I of the GWD and *threshold values* defined following application of the procedure and considerations set out in Annex II.

The threshold values defined for the purpose of determining whether a groundwater body is achieving good chemical status must be established by taking into account all of the requirements of good chemical status, as defined in Annex V (2.3.2) of the Water Framework Directive (2000/60/EC). In particular the potential impact on and interaction with, associated surface water bodies and directly dependent terrestrial ecosystems and wetlands should be taken into account.

The GWD allows threshold values to be established at the national, river basin district or groundwater body scales. The values set must to be published in the river basin management plans along with a summary of the supporting information identified in Annex II (Article 3).

Member States may amend the list of threshold values whenever new information on pollutants, groups of pollutants, or indicators of pollution indicates that a new threshold value is required to ensure that environmental objectives are being met (Article 3 (6)).

Guidance on groundwater status and pollutant trend assessment can be found in the [European Commission's Common Implementation Strategy \(CIS\) Technical Report No. 18 \(2009\)](#)¹.

2.2. Annex I and II of the Groundwater Directive

Annex I and Annex II are two of the supporting Annexes to the GWD. Annex I establishes groundwater quality standards that must be applied as part of the assessment of chemical status for groundwater bodies. Currently Annex I includes quality standards (specified values/concentrations) for nitrate and pesticides (individual and total). For pesticides this also includes relevant metabolites, degradation and reaction products. Additionally Annex I includes reference to the Plant Protection Products, Biocides and Nitrates Directive in terms of ensuring consistency in terminology, definition and application. Annex I also includes provision for establishing more stringent standards (threshold values) on a case-by-case basis to ensure that environmental objectives are achieved.

Annex II establishes the framework for defining and reporting threshold values. Threshold values must be established for all pollutants (and indicators of pollution) which are putting groundwater bodies at risk of failing to meet the objectives for good chemical status. It is divided in to three parts. Part A provides guidelines to establishing threshold values; Part B identifies a minimum list of pollutants (and their indicators) that must be considered when setting threshold values and; Part C identifies the related information that should be reported in the river basin management plans.

2.3. Groundwater Directive requirements – review and revision of Annex I and II

¹ [CIS Guidance Document No. 18 - Guidance on Groundwater Status and Trend Assessment](#)

Provision is made in the GWD requiring the European Commission to review Annex I and II after six years of implementation of the Directive (by 16th January 2013) and then after every six years (Article 10). Where a review indicates that revision of Annex I and/or Annex II is considered necessary then the Commission will develop a legislative proposal for any amendment.

In undertaking the review of Annex I and II all relevant information should be taken into account. This includes:

- the results of Water Framework Directive monitoring programmes,
- the outcomes of European Union Research Programmes and,
- recommendations from:
 - the Scientific Committee on Health and Environmental Risks,
 - Member States,
 - the European Parliament,
 - the European Environment Agency,
 - Non-Governmental European business and environmental organisations.

2.4. WGC Contribution

The approved [CIS Work Programme \(2010-2012\)](#) included a mandate for activities to be carried out by Working Group C - Groundwater (WGC). One of the specific tasks (WGC – Task 2) was to “Contribute to the review of the GWD in 2013” and as part of this to develop recommendations on behalf of WGC following a review of Annex I and II according to Article 10 of the GWD. Once complete these recommendations are to be presented to the European Commission.

This document provides a summary of the review that has been carried out under WGC – Task 2 and the resulting recommendations. In undertaking the review experiences of Member States have been taken into account along with outcomes and recommendations from relevant EU research projects, in particular the [GENESIS project](#)² and representations from the non-governmental European businesses and environmental organisations (NGOs) that are part of WGC. The following activities were carried out to support preparation of this report:

- A review was carried by inviting Member States and other stakeholders to complete a questionnaire relating to their experience of the implementation and application of Annex I/II and to submit proposals for any revisions supported by evidence. This questionnaire (Annex 2) only related to Annex I and II of the Groundwater Directive (2006/118/EC). [March 2011]
- A workshop was held to present the results of the preliminary analysis of the questionnaire, invite additional contributions from stakeholders and research projects, to allow elaboration of some of the proposals and enable wider discussion amongst

² The objective of GENESIS is to integrate pre-existing and new scientific knowledge into new methods, concepts and tools for the revision of the Ground Water Directive and better management of groundwater resources.

WGC participants and attendees. The agenda is shown in Annex 3 and further details of presentations and outcomes can be found on CIRCA³. [April 2011]

- Draft report circulated to WGC participants for review and comments. [September 2011]

3. MEMBER STATE IMPLEMENTATION – FEEDBACK FROM 1ST RIVER BASIN PLANS

3.1. Groundwater Threshold values

In 2010 the European Commission published its first report⁴ on Threshold Values in compliance with Article 3.7 of the GWD. The report indicated that a total of 26 Member States had established threshold values for 158 different pollutants (or indicators). This was in response to the fact that more than 30% of groundwater bodies across Europe were at risk of failing to meet the objectives for good chemical status by 2015 and for a further 45% of bodies there was insufficient data to make a satisfactory assessment of risk.

All of the 26 Member States that provided data reported that they had considered the minimum list of pollutants in Annex II and set threshold values accordingly. Where appropriate additional pollutants (106 in total) were also considered and threshold values set. For each pollutant/indicator a wide range of values has been reported. This reflects a number of factors including the consideration of natural background concentrations in groundwater, risks to groundwater, environmental objectives and the compliance method applied. A number of Member States also established threshold values for the Annex I pollutants (nitrate and pesticides).

3.2. Application of threshold values (compliance regimes)

The method by which threshold values and standards are applied to demonstrate that a groundwater body is achieving good chemical status is known as the compliance regime. The WFD and GWD do not specify a methodology and so CIS guidance was published (CIS Report No. 18⁵). There has not yet been a comprehensive review of the approach adopted by each Member State as there is no specific requirement to report this in the river basin management plans, however there is evidence that different approaches have been used by Member States.

Differences in compliance regime will not necessarily compromise the assessment of status and/or environmental objectives but they may lead to different threshold values. This is because the alternative methodologies will use monitoring data and other information in different ways to assess chemical status of a groundwater body. Therefore comparisons

³ [http://circa.europa.eu/Members/irc/env/wfd/library?l=/working_groups/new_groundwater/03 - meetings/plenary_budapest_2011&vm=detailed&sb=Title](http://circa.europa.eu/Members/irc/env/wfd/library?l=/working_groups/new_groundwater/03_-_meetings/plenary_budapest_2011&vm=detailed&sb=Title)

⁴ http://ec.europa.eu/environment/water/water-framework/groundwater/policy/current_framework/implementation_policy_en.htm

⁵ [CIS Guidance Document No. 18 - Guidance on Groundwater Status and Trend Assessment](#)

between Member States should not only consider threshold values, they must also, and very importantly, consider how they are applied.

An example of observed differences between Member States is where some have compared maximum measured groundwater concentrations against drinking water standards (set as threshold values) whereas others have compared mean (average) groundwater concentrations against a threshold value set at a lower concentration than the drinking water standard (DWS). The adjustment made to take into account the fact the DWS is a maximum allowable concentration (according to Directive 98/83/EC).

4. OPPORTUNITIES AND CHALLENGES FOR REVISION OF ANNEX I/II

4.1. Introduction

The experience of implementing the WFD and the GWD during the first river basin planning cycle has provided an important opportunity to review the effectiveness of Annex I and II of the GWD in achieving the required environmental outcomes. For most Member States, it is the first time that formal quality standards (or threshold values) have applied to groundwater.

The key objective of this review has been to consider the practicalities of Annex I and II and to assess whether the specifications in the Annexes allow Member States to meet the requirements of the WFD and GWD in a consistent way and achieve the necessary outcomes.

4.2. Possible options

At the start of the review, a number of outcomes were considered possible in relation to Annex I and II. These were:

- No changes to Annex I and II
- Additional groundwater quality standards and/or changes to Annex I requirements (Annex I only)
- Modifications to Annex II Part A (threshold value setting criteria) (Annex II only)
- Additions to/reduction of Annex II threshold value ‘minimum list’ – Annex II Part B (Annex II only)
- Changes to reporting requirements specified in Annex II Part C. (Annex II only)

4.3. Relevant research projects

The main European Union project that may potentially contribute to recommendations for amendments to Annex I and/or II is the current FP7 Project: Groundwater and Dependent Ecosystems: New Scientific and Technological Basis for Assessing Climate Change and Land-use Impacts on Groundwater (GENESIS). Other relevant projects, e.g. BRIDGE (Background criteria for the identification of groundwater thresholds) and BaSeLiNe (natural baseline quality in European aquifers: a basis for aquifer management) were completed prior

to the negotiation of the GWD and so have limited additional contribution to make to future recommendations. They were however very important in supporting the development of the guidance to support implementation of the WFD and GWD.

The GENESIS project aims to contribute a scientific background for the update of the Annex I and/or II. Some initial developments were presented at the workshop, as part of this review. These include need to consider:

- Improved pollutants source identification and characterisation
- Improved characterisation of (groundwater) exposure pathways

GENESIS is recommending that some pollutants should be given further consideration for inclusion in Annex II such as Chlorinated aliphatics and petroleum hydrocarbon (chlorinated ethenes , benzene , methyl *tert*-butyl ether (MTBE)) as well as radioactive compounds (radon, tritium, gross alpha and beta activities of water samples). The GENESIS project will continue its work and will submit its recommendations separately.

4.4. Outcome of WGC consultation

A questionnaire (Annex 2) was sent to all WGC participants to gather information and feedback on the implementation of Annex I and II of the GWD and to invite recommendations and proposals for any changes. In total 27 questionnaires responses were received. Of these 22 were official Member State replies, 2 were from NGOs and 3 from other observers on WGC, regional authorities or were unofficial submissions (Table 1). This represented an excellent response and provides a sound basis for development of recommendations.

Member States (22)	NGO (2)	Others (3)
Austria	Eurogypsum	GEUS (Denmark)
Belgium	Euromines	Norway
Cyprus		Romania (unofficial response)
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Ireland		
Italy		
Latvia		
Luxembourg		
Malta		
Netherlands		

Poland		
Portugal		
Slovak Republic		
Spain		
Sweden		
UK		

Table 1. Questionnaire respondees.

The questionnaire contained a series of questions that asked the respondee(s) to indicate whether they considered that changes were necessary to Annex I and/or Annex II of the GWD. Where changes were proposed, a justification or explanation was required. The questions addressed Annex I and Annex 2 (Parts A-C) separately. Questionnaire responses are summarised in Table 2. Individual questionnaire responses can be found on CIRCA⁶.

Should there be additional Groundwater Quality Standards in Annex I?	•No – 23: Yes – 4
Is there a need for clarification of obligations under Annex I?	•No – 15: Yes – 12
Are the guidelines for establishing TVs satisfactory? (Annex II, Part A)	•No – 6: Yes - 21
Should additional substances be added to the "minimum list of pollutants"? (Annex II, Part B)	•No – 17: Yes – 8: Possibly - 2
Should substances be removed from the "minimum list"? (Annex II, Part B)	•No – 19: Yes – 6: Possibly – 2
Are modifications needed to the reporting requirements in Annex II Part C?	•No – 21: Yes – 6
Should there be a need to formally report the compliance regime used with TVs	•No – 19: Yes - 8

Table 2. Summary of questionnaire responses (TV = Threshold Value).

Analysis of the results and comments shows that there are a number of key messages:

- The majority of respondees have indicated that no changes are required to Annex I and/or Annex II.
- Where respondees have suggested changes, there are some common issues but also some conflicting recommendations. The common issues include:
 - The need to recognise the relationship between the GWD and the Environmental Quality Standards and Priority Substances contained in the Surface Water EQS Directive and the Priority Substances contained in Directive 2008/105/EC.
 - Clarification of the definition of 'relevant metabolite' (of pesticides).

⁶ http://circa.europa.eu/Members/irc/env/wfd/library?l=/working_groups/new_groundwater/03_-_meetings/plenary_october_1&vm=detailed&sb=Title

- The purpose and role of the ‘minimum list of pollutants’ in Annex II, Part B.

A summary of the issues and proposals for changes to Annex I and/or II is show in Table 3.

Topic	Issue(s) raised
Annex I – Standards	<ul style="list-style-type: none"> • Additional standards to align with Directive 2008/105/EC. • Additional standards for pollutants commonly detected across Europe to harmonise compliance • Move all Annex II ‘minimum list’ pollutants to Annex I • Modification of pesticide standard to recognise lower drinking water standards for some substances
Annex I – clarification of obligations	<ul style="list-style-type: none"> • Clarification needed on what is meant by ‘relevant metabolite’ in relation to pesticides • Specification of the compliance criteria relevant to the standards, e.g. as maximum or mean concentration • Differentiation of standards depending on receptor risk, e.g. human health, ecosystems or other usage • Need to specify analytical requirements and compliance with Directive 2009/90/EC for any new pollutant • Define specific list of pesticides and associated substances
Annex II – Part A	<ul style="list-style-type: none"> • Clarification of need to re-evaluate threshold values as risk assessments are updated • Clarify how and when minimum list of pollutants should be applied (risk and natural background) • Clarify the need to identify threshold values for additional pollutants depending on outcome of risk assessment • Guidance needed on deriving threshold values related to contaminant plumes from point sources identified under Article 5(5) of the GWD • Guidance needed on deriving threshold values for different receptors
Annex II – Part B	<ul style="list-style-type: none"> • Add to ‘minimum list’ common pollutants for which threshold values have been set a significant number of Member States, e.g. phosphorous, benzene, trichloromethane • Add all or sub-set of priority substances list and other EQS contained in Directive 2008/105/EC • Remove substances not considered to be of widespread European concern, e.g. sulphate, chloride or those for which no threshold value was reported • Clarification needed on the relationship of threshold values to natural background and risk
Annex II – Part C	<ul style="list-style-type: none"> • Amendment to reflect the improved knowledge and priorities resulting

	<p>from the first round of river basin planning (risk assessment, status assessment etc.)</p> <ul style="list-style-type: none"> • Need to recognise that uncertainty will remain with respect to risk characterisation and conceptual models
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Table 3. Summary of issues raised as a result of the consultation.

5. OUTCOMES OF CONSULTATION

5.1. Introduction

WGC has carried out a comprehensive review of Annex I and II by consulting all WGC participants (Member States, stakeholders and observers). The review took the form of briefings, a questionnaire and a workshop. This report summarises the outcomes of this process. In total 27 questionnaire responses were received with 21 of these representing a formal Member State response. This section of the report addresses the main issues raised and presents a number of recommendations for further consideration as part of the European Commission’s formal review of Annex I and II.

5.2. Annex I

The consultation clearly indicated that the majority of respondees (23 out of 27) did not want additional pollutants to be added to the list of Quality Standards. Of those requesting that further pollutants or indicators be added to the list, the substances proposed included priority substances from Directive 2008/105/EC and other EU-wide pollutants for which the same threshold value had been set in all Member States. Further proposals were to move the ‘minimum list of pollutants’ in Annex II into Annex I so that they became Quality Standards with specified concentrations.

In considering these proposals and reviewing available information, there are currently no pollutants with the same threshold value across the whole of Europe. Therefore there are currently no additional Quality Standard candidates for Annex I on this basis. However consideration could be given to testing/using this criterion in future river basin planning cycles if pan-European threshold values emerge.

Considering priority pollutants, the environmental quality standard (EQS) values specified in Directive 2008/105/EC apply to surface waters and not groundwater *per se*. Therefore the direct adoption of these values for groundwater would be inappropriate and not take sufficient account the behaviour of groundwater and the other status criteria relevant to groundwater. If applied directly, the standards could potentially lead to programmes of measures that were disproportionately expensive and/or technically infeasible, for example, where natural background concentrations exceed EQS values.

In terms of upgrading the Annex II pollutants to Annex I, the same points outlined above are relevant. If Annex II is applied in accordance with the GWD then adequate protection for

groundwater bodies will be achieved without compromising the risk-based principles advocated by the WFD and GWD and their environmental objectives.

The area where the greatest number of respondees, but still a minority (12 out of 27), proposed change was with respect to the specific obligations under Annex I. The issue that was most commonly raised was the definition of ‘relevant metabolites’ (of pesticides). The GWD states that a groundwater quality standard of 0.1 µg/l will apply to all active substances in pesticides, including their relevant metabolites, degradation products and reaction products (0.5 µg/l for the sum of all of these detected in groundwater). The difficulty lies in the fact that neither the Pesticide Directive (91/414/EC⁷), the Biocides Directive (98/8/EC) nor the Drinking Water Directive (89/83/EC) provide a formal definition of ‘relevant metabolite’. A possible solution is to include a definition in Annex I, even if this is only applies to the implementation of the Groundwater Directive. However, following discussions at the 21st WGC meeting (13th October 2011) agreement could not be reached on suitable wording for a proposed definition. A number of proposals and also existing EU guidance, e.g. SANCO/221/2000 – rev.10 – final⁸ were considered during discussions.

It was agreed that further consideration should be given to this issue and that any further discussions should involve a wider range of stakeholders as this topic is not only relevant to the Groundwater Directive and the Water Framework Directive.

A further outcome from the discussions was a recommendation for the establishment of a process by which a common list of ‘relevant metabolites’ (for groundwater) can be developed and information and knowledge exchanged on this topic.

LOOK OUT!

There was agreement that a definition of “relevant metabolite” is required, but consensus could not be reached on a proposal. Further consideration is needed to develop a definition that meets the requirements of all relevant European directives. Any discussions on this matter should involve all relevant stakeholders and experts.

Another issue raised was around what metric the quality standards apply to. Currently it is not specified in Annex I whether the values relate to maximum concentrations in groundwater, mean concentrations or some other measure. Uncertainty has arisen because the current standards are the same as the drinking water standards. These are specified as maximum allowable concentrations (MACs)⁹. However the WFD specifies (in Annex V (2.4.5)) that the mean values of the results of monitoring shall be used to demonstrate compliance with good status. For consistency with other Directives it is recommended that clarification is provided in the GWD.

A further recommendation is to consider whether a lower groundwater quality standard is needed for the small number of pesticides (aldrin, dieldrin, heptachlor, heptachlorepoxide)

⁷ Directive 91/414/EC has been replaced by Regulation (EC) No 1107/2009, which provides for a definition of "relevant metabolite" in relation to human toxicology and ecotoxicology. This is setting a legal framework for the interpretation of this term. However, additional guidance might be necessary for the implementation of the mentioned regulation as well as the GWD.

⁸ http://ec.europa.eu/food/plant/protection/evaluation/guidance/wrkdoc21_en.pdf

⁹ Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption

which have a drinking water standard of 0.03 µg/L, c.f. 0.1 µg/L for all other pesticides. Such an assessment should consider both the presence of other existing water quality standards, and the basis on which they have been derived. A decision on lowering the groundwater quality standards for aldrin, dieldrin, heptachlor and heptachlorepoide should also take account of the latest scientific evidence.

5.3. Annex II

The majority of respondees indicated that there should be no change to any of the three parts of Annex II. As with Annex I there were a small number of proposals for revision and of these some common themes.

5.3.1. Annex II – Part A (Guidelines for setting threshold values)

Only 6 of the 27 respondees indicated that they considered that revisions were required to Annex II – Part A. Of the proposals, the main themes were; 1) the need to clarify that threshold values are required for all pollutants putting the groundwater body at risk and not just those in Annex II (Part B), 2) that there should be regular review and amendment following updated risk assessment and 3) clarification of the relationship between natural background concentrations and threshold values.

It is considered that the current text of the GWD and accompanying CIS guidance¹⁰ is adequate. The responses indicate that some are not familiar with the available guidance and the outcomes of European research projects such as BRIDGE¹¹.

5.3.2. Annex II – Part B (Minimum list of pollutants and their indicators)

The majority of respondees indicated that they did not consider that changes were necessary to the current list. The questionnaire addressed both removal and additional of pollutants/indicators to the list.

Although in the minority, a similar number of respondees proposed that additional pollutants/indicators should be added as proposed that some should be removed. Some of the responses suggested that the list should be extended to include the additional pollutants identified in Directive 2008/105/EC. It may therefore be appropriate to make reference to 2008/105/EC and the need to consider priority substances when establishing threshold values. CIS guidance document No. 18 - Guidance on status and trend assessment¹² provides further information on deriving threshold values (from surface water environmental quality standards) to ensure protection of surface water chemistry and ecology.

¹⁰ http://ec.europa.eu/environment/water/water-framework/groundwater/scienc_tec/cis/pdf/gw_trend_assessment.pdf

¹¹ BRIDGE - Background cRiteria for the IDentification of Groundwater thrEsholds – FP6 Policy-oriented research Scientific Support to Policies (Contract No 006538)

¹² http://ec.europa.eu/environment/water/water-framework/groundwater/scienc_tec/cis/pdf/gw_trend_assessment.pdf

Of the other proposals, there was a suggestion that substances be added where they were currently not included in either Annex I or II but threshold values had been established across a significant part of Europe (indicating widespread risk to Europe's groundwater) and similarly substances could be removed if they were not considered to cause widespread risk. Although there may be some merit in this it would not change the way threshold values are established or the GWD implemented.

In terms of the addition or removal of other pollutants (not covered above) from the 'minimum list', it is considered that this is not necessary as the list does not specifically mean that threshold values must be set for all of the identified pollutants/indicators nor does it mean that threshold values should be restricted to those pollutants/indicators on the list. Threshold values are required for "*all pollutants which characterise bodies of groundwater as being at risk...*" (Annex II, Part A.1(c)). Also, if there is no risk to a groundwater body then a threshold value is not required.

5.3.3. Annex II – Part C (Reporting requirements)

As with other questionnaire responses the majority view was for no modification to Part C. Of the minority that made proposals, the main points raised related to: 1) the need to report observed natural background levels – background concentrations can vary across a groundwater body and it is therefore more appropriate to report the range (this is already requested in WISE); 2) there may be duplication in reporting requirements with respect to information on toxicology, eco-toxicology, persistence, bioaccumulation potential and dispersion tendency; and 3) comments were also made about the relationship of threshold values to natural background in geochemically complex and variable systems.

5.3.4. Compliance regime reporting requirement

The GWD does not currently require the methodology to be reported by which threshold values are used to demonstrate good status. As a result, without information on the compliance regime used, there is a risk that it will be difficult to directly compare threshold values between Member States. The questionnaire asked respondents to indicate whether there should be the introduction in to Annex II (Part C) of a formal requirement to report on the compliance regime. The majority (19 out of 27) indicated that this should not be a requirement.

6. RECOMMENDATIONS

A. Annex I

- No new pollutants and associated groundwater quality standards are proposed for Annex I.
- A definition for "relevant metabolite" should be developed in the form of guidance.

- Clarify to what metric groundwater quality standards apply i.e. maximum or mean concentration.
- Consider the need to establish a lower groundwater quality standard for the four pesticides with a drinking water standard (0.03 µg/L) than that generally applied (0.1 µg/L).

B. Annex II

- No change to Annex II (Part A)
- No change to the current “minimum list of pollutants“ in Annex II (Part B)
- Include a requirement (in Annex II (Part B)) to consider Directive 2008/105/EC (priority substances) when setting threshold values for groundwater bodies at risk due to potential impacts on surface water chemistry and ecology.
- No significant change to Annex II (Part C). Change required to clarify need to report the range of natural background concentrations (in d(i)).

ANNEXES

Annex 1 – Questionnaire

Annex 2 – Workshop Agenda

ANNEX 1 – QUESTIONNAIRE

Review of Annex I/II – Groundwater Directive (2006/118/EC)

Member State/Stakeholder Questionnaire

NOTE:

This questionnaire only relates to Annex I and II of the Groundwater Directive (2006/118/EC). The responses will be considered along with all other submissions in developing recommendations (if necessary) for the revision of Annex I and/or II.

The information provided by respondents will be used to inform discussion at workshops and WGC plenary meetings. Any outcomes and recommendations of this work will only be submitted to the SCG, Water Directors and European Commission after endorsement by WGC.

Please return completed questionnaires by **24th March 2011** to:

Rob Ward (WGC-2 Task Leader)

rswa@bgs.ac.uk

Background information	
Member State/Organisation Name:	<Insert Member State Name/Organisation Name>
Are the responses to this questionnaire official response for the Member State/Organisation identified above? :	<Yes/No>
Name and contact details	
<Insert Name, address (including organisation) and email contact details >	
ANNEX I Questions	
1. Do you think that additional Groundwater Quality Standards should be defined in Annex I?	<Yes/No>
2. If so please specify each additional parameter, the proposed standard and a justification for inclusion in Annex I.	
3. Do you consider that further clarification of the obligations under Annex I is required?	<Yes/No>

4. If so what is needed?	
5. Please provide any additional supporting information	
Annex II (Part A)	
1. Do you consider the guidelines for establishing Threshold Values provided to be satisfactory?	<i><Yes/No></i>
2. If not, what additional guidelines are needed?	
Annex II (Part B)	
1. Do you think the additional substance should be included in the “minimum list of pollutants”?	<i><Yes/No></i>
2. If so, what are they? Please provide a justification for inclusion.	
3. Do you think substances should be removed from the “minimum list of pollutants”?	<i><Yes/No></i>
4. If so, what are they? Please provide a justification for removal.	

Annex II (Part C)	
1. Do you think any of the requirements in Part C should be modified?	<i><Yes/No></i>
2. If so, what modifications are required and why?	
3. Do you think that Member States should be formally required to provide a description of the compliance regime for Threshold Values?	<i><Yes/No></i>
Additional supporting information	
1. Who has been consulted in preparation of this questionnaire response?	
2. Would you be prepared to give a brief presentation based on your questionnaire responses at a workshop prior to the next WGC meeting in Hungary?	<i><Yes/No></i>
3. Please provide any additional relevant information	

Please return completed questionnaires by **24th March 2011** to:
 Rob Ward (WGC-2 Task Leader) - rswa@bgs.ac.uk

ANNEX 2 – WORKSHOP AGENDA



EUROPEAN COMMISSION
 DIRECTORATE-GENERAL
 ENVIRONMENT
 Directorate D – Water, Chemicals & Biotechnology
 ENV.D.1 – Water



20TH WORKING GROUP C PLENARY MEETING¹³ **27-28 APRIL 2011**

CONFERENCE ROOM OF THE MINISTRY OF RURAL DEVELOPMENT
1055 BUDAPEST, KOSSUTH LAJOS SQUARE 11

DRAFT Agenda

27 April 2011 (Day 1)

13:00	Registration and Lunch	
SPECIAL SESSION ON GROUNDWATER DIRECTIVE ANNEX I/II REVIEW		
14:00	Welcome	Rob Ward – BGS
14:05	Introduction to the subject	Stéphanie Croguennec – MEDD
14:15	European Commission report on Threshold Values and feedback on relevant groundwater aspects of River Basin Management Plans	Balázs Horváth – European Commission
14:30	Preliminary consultation questionnaire results and emerging key outcomes	Rob Ward – BGS
14:45	Member State/Stakeholder presentations – selected presentations elaborating questionnaire responses and/or case studies (10 mins per presentation plus 5 minutes discussion)	Mario Carere (IT) Hana Prchalaova (CZ) Brigitte Moll (DE)
15:30	BREAK	
16:00	Member State/Stakeholder presentations – selected presentations elaborating questionnaire responses and/or case studies (10 mins per presentation plus 5 minutes discussion)	Matthew Craig (IE) Ruxandra Balaet (RO) Thierry Pichon (Europgypsum)
16:45	Emerging recommendations from GENESIS – specific aspects relevant to GW Quality Standards and Threshold Values	Björn Klöve and Matteo Balderacchi (GENESIS Project)
17:15	Open discussion on possible options for review of Annex I/II and emerging issues	<i>Chaired by Rob Ward – BGS</i>
17:45	Summary of conclusions and follow up actions	Ariane Blum – BRGM
18:00	End of Day 1	

¹³ The meeting was held under the umbrella of the Hungarian EU Presidency.



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