“OVERVIEW OF THE GROUNDWATER STATUS ASSESSMENT IN THE WATER FRAMEWORK DIRECTIVE”.

Aim: *To introduce in the legal and regulatory framework, main documents and overall procedure*
INDEX

1. LEGAL AND REGULATORY FRAMEWORK

2. GW GUIDANCES AND REFERENCES

3. OVERALL PROCEDURE TO ASSESS THE GROUNDWATER STATUS
Overview of the groundwater status assessment in the WFD

1. **LEGAL AND REGULATORY FRAMEWORK**
The groundwater status assessment must be understood in the following legislative context:

The article 8 and the Annex V.2 of the WFD (Water Framework Directive) and the articles 3, 4 and 5 and Annex II, III and IV of the GWD (Groundwater Directive) require the Commission to the determination of threshold values for groundwater bodies and assessment of quantitative and chemical status.

- **Art 8 of the WFD**: Monitoring of surface water status, groundwater status and protected areas; **requires**:
  - *Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district.*
The definition of good quantitative status is set out in WFD Annex V 2.1.2. As noted in this Annex, good groundwater quantitative status is achieved when:

- The level of groundwater in the groundwater body is such that the available groundwater resource is not exceeded by the long term annual average rate of abstraction. Accordingly, the level of groundwater is not subject to anthropogenic alterations such as would result in:
  - failure to achieve the environmental objectives specified under Article 4 for associated surface waters.
  - any significant diminution in the status of such waters; and
  - any significant damage to terrestrial ecosystems which depend directly on the groundwater body.

- and alterations to flow direction resulting from level changes may occur temporarily, or continuously in a spatially limited area, but such reversals do not cause salt water or other intrusion, and do not indicate a sustained and clearly identified anthropogenically induced trend in flow direction likely to result in such intrusions.
The definition of good chemical status is set out in WFD Annex V 2.3.2. It states that good groundwater chemical status is achieved when:

- The chemical composition of the groundwater body is such that the concentrations of pollutants:
  - as specified below, do not exhibit the effects of saline or other intrusions,
  - do not exceed the quality standards applicable under other relevant Community legislation in accordance with
  - are not such as would result in failure to achieve the environmental objectives specified under Article 4 for associated surface waters nor any significant diminution of the ecological or chemical quality of such bodies nor in any significant damage to terrestrial ecosystems which depend directly on the groundwater body.

- Changes in conductivity are not indicative of saline or other intrusion into the groundwater body
Also Article 3 of the GWD lays down criteria for assessing groundwater chemical status:

- For the purposes of the assessment of the chemical status of a GWB [...] Member States shall use the following criteria:
  
  - (a) groundwater quality standards as referred to in Annex I do not exceed the quality standards applicable under other relevant Community legislation in accordance with...
  
  - (b) threshold values to be established by Member States in accordance with the procedure set out in Part A of Annex II [...]”.

In accordance with the GWD, status assessment only needs to be carried out for groundwater bodies identified as being at risk of not meeting WFD Article 4 objectives in relation to the receptor and each of the pollutants which contribute to the GWB being so characterised (Annex III 1 GWD). This applies to those groundwater bodies identified as at risk to meet WFD Article 5 requirements and also any subsequently identified following work to update the risk assessment using new monitoring data. Groundwater bodies not at risk are automatically classified as being of good status.
Reference European Directives to establish the groundwater status are listed below:


Other legal documents to establish the groundwater status are listed below:

- TS 266 “Regulations concerning the quality of the water intended for consumption”
- By-Law on Surface Water Quality for transposing the EQS Directive.
- Spanish Royal Decree 60/2011, of 21 January, for environmental quality standards in the field of water policy.
- Spanish Royal Decree 140/2003, of 7 February, establishing health criteria for the quality of water for human consumption.
Overview of the groundwater status assessment in the WFD

2. GW GUIDANCES AND REFERENCES
The groundwater status assessment must be understood in the context of the following documents:

**METHODOLOGICAL UNDERSTANDING AND ESTABLISHMENT OF THRESHOLD VALUES**

- “YASGEP” (Methodology to determine the source of contamination of groundwater) August 2015
The groundwater status assessment must be understood in the context of the following documents:

**METHODOLOGICAL UNDERSTANDING AND ESTABLISHMENT OF THRESHOLD VALUES**

- Questionnaire on MS Threshold Value (TV) methodologies and Groundwater Associated Aquatic Ecosystems (GWAAE). (2015)
- Determination of EQSs for relevant substances. “Activity 3.4.1:. Technical Assistance for the conversion of River Basin Action Plans into River Basin Management Plans” (May 2016)
2. GW GUIDANCES AND REFERENCES

DEFINE GROUNDWATER DEPENDENT TERRESTRIAL AND ASSOCIATED AQUATIC ECOSYSTEMS

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- Identification and characterization of the relationship between groundwater, river courses, springs, wet areas and other natural water ecosystem of special interest. Geological and Mining Institute of Spain (IGME): (2007).
- Ecosystem-Based Adaptation in Groundwater Management. IGRAC, INEP, IWMI; N. Ansems et al. (July 2014)
Overview of the groundwater status assessment in the WFD

2. GW GUIDANCES AND REFERENCES

- Groundwater Surface water interaction in GDE. GENESIS

- Groundwater Dependent Ecosystems, the challenge of balanced assessment and adequate conservation S. Foster et All. (2002-2006)


DRINKING WATER PROTECTED AREAS

3. **OVERALL PROCEDURE TO ASSESS THE GROUNDWATER STATUS**
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In accordance with the GWD, status assessment only needs to be carried out for groundwater bodies identified as being at risk and in relation to the receptor and each of the pollutants which contribute to the GWB being so characterised (Annex III 1 GWD). Groundwater bodies not at risk are automatically classified as being of good status.
3. OVERALL PROCEDURE TO ASSESS THE GROUNDWATER STATUS

The achievement of good status in groundwater involves meeting a series of conditions which are defined in the WFD/GWD. In order to assess whether those conditions have been met, a series of classification tests (for both quantitative and chemical status) has been developed in the Guidance.
3. Overall procedure to assess the groundwater status

The five chemical and four quantitative tests have been carried out independently and, according to the Guidance 18, the worst case classification from the relevant chemical tests has been reported as the overall chemical status of the groundwater body, and the worst case classification from the relevant quantitative tests has been reported as the overall quantitative status. If any of the tests results in poor status (chemical or quantitative), then the overall classification of the body will be poor. All relevant tests have been completed for each groundwater body.
Q&A

THANK YOU FOR YOUR ATTENTION

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