# Water Framework Directive 2000/60/EC (WFD) reporting requirements (Groundwater):

1. Analysis of water body **characteristics, human impacts/pressures** and **economic** analysis
2. Monitoring

* **Chemical status**
* **Quantitative status**

1. **River Basin Management Plan (RBMP)**
2. After submitting RBMP *each 3 years* report on **progress and plan implementations**

**1. Reports required by WFD on analysis of water body characteristics, human impacts/pressure, economic analysis**

**1.1 Initial characterisation:**

* **Water body identification**

Location and boundaries of the groundwater body

* **The pressures:**
* diffuse sources of pollution
* point sources of pollution
* abstraction
* artificial recharge
* **Catchment area**

General character of the overlying strata in the **catchment area,** from which the groundwater body receives its recharge,

* **Ecosystem dependency**

If ground water are **directly dependent on surface water ecosystems** or terrestrial ecosystems

|  |  |
| --- | --- |
| GWB\_GroundWaterBody\* | |
| FK1,I1 | EURBDCode\* |
| U1 | EUGroundWaterBodyCode\* |
|  | GWB\_MS\_CD\* |
|  | LAT\* |
|  | LON\* |
|  | GWB\_NAME |
|  | OUT\_OF\_RBD |
|  | TRANSBOUNDARY |
|  | PROT\_AREA\_ASSOC\* |
|  | METADATA |
|  | URL |

**1.2. Further characterisation for w.b. that are identified as being at risk to not comply with WFD:**

**-geological** characteristics

-**hydrogeological** characteristics of the groundwater body including hydraulic **conductivity, porosity and confinement**,

-**characteristics of the superficial deposits and soils in the catchment** from which the groundwater body receives its recharge, including the thickness, porosity, hydraulic conductivity, and absorptive properties of the deposits and soils

-**stratification characteristics** of the groundwater within the groundwater body,

-an **inventory of associated surface systems**, including terrestrial ecosystems and bodies of surface water, with which the groundwater body is dynamically linked,

-estimates of the **directions and rates of exchange of water** between the groundwater body and associated surface systems

-sufficient data to calculate the **long term annual average rate of overall recharge**

-characterisation of the **chemical composition of the groundwater**, including specification of the contributions from human activity

|  |  |
| --- | --- |
| GWB\_Hydrogeological\_Characteristics | |
| FK1,U1 | EUGroundWaterBodyCode |
|  | Layered |
|  | AREA |
|  | Scale |
|  | ScaleExplanation |
|  | AverageDepth |
|  | AverageThickness |
|  | DepthRange |
|  | LinkSurfaceWaterBodies |
|  | LinkTerrestrialEcosystems |
|  | GeologicalFormation |
|  | VerticalOrientation |
|  | CAPACITY |

**1.3 Review of the impact of human activity on groundwaters for water body identified as being at risk of failing to meet the WFD objectives**

**-** **location of points** in the groundwater body used for the **abstraction** of water

- **annual average rates of abstraction** from such points (only if > 10 m3 /day)

- **chemical composition**

- **location of points in the groundwater body into which water is directly discharged**

- **rates of discharge** at such points

-**chemical composition** of discharges

-**land use in the catchment** or catchments from which the groundwater body receives its recharge and pollutant inputs and anthropogenic alterations

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| --- | --- |
| GWB\_Pressures | |
| FK1,I1 | EUGroundWaterBodyCode |
|  | SignificantPresureTypes |

**1.4 Review of the impact of changes in groundwater levels**

-surface water and associated terrestrial ecosystems

-water regulation, flood protection and land drainage

-human development

|  |  |
| --- | --- |
| GWB\_Impacts | |
| FK1,I1 | EUGroundWaterBodyCode |
|  | SignificantImpactTypes |

**1.5 Review of the impact of pollution on groundwater quality for w.b. where groundwater is so polluted that achieving good groundwater chemical status is infeasible or disproportionately expensive**

-not specified

|  |  |
| --- | --- |
| GWB\_Pressure\_Impact\_Other | |
| FK1,U1 | EUGroundWaterBodyCode |
|  | OtherPressureDescription |
|  | OtherImpactDescription |

**1.6 Economic analysis**

- make the relevant calculations for recovery, costs of water services and long term forecasts of supply:

* estimates of the volume, prices and costs associated with water services
* estimates of relevant investment including forecasts of such investments

-make judgments about the most cost-effective combination of measures

**2. Reports on monitoring**

**2.1 Monitoring quantitative status**

**-** Groundwater level regime

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| --- | --- |
| GWB\_Quantitative\_Status\* | |
| FK1,U1 | EUGroundWaterBodyCode\* |
|  | QuantitativeStatusValue\* |
|  | CommentQuantitativeStatusValue |
|  | GoodQuantitativeStatusExemptionComment |

**2.2 Monitoring chemical status**

Parameters:

1. Conductivity
2. Conc. Of pollutants (priority substances - *heavy metals and PAHs*)

|  |  |
| --- | --- |
| GWB\_Chemical\_Status\* | |
| FK1,U1 | EUGroundWaterBodyCode\* |
|  | ValueChemicalStatus\* |
|  | CommentChemicalStatusValue |

***Update from Directive on the protection of groundwater against pollution and deterioration 2006/118/EC***

***(The new Groundwater Directive)***

**2.3 Monitoring chemical status - Identification of significant upward (/reversal) trends**

* M.S. should identify any significant upward(/reversal) and sustained trend in conc. of pollutions and this should be summarized in RBMP

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| GWB\_TrendReversal\* | |
| FK1,U1 | EUGroundWaterBodyCode\* |
|  | TrendReversal\* |
|  | TrendReversalComment |

|  |  |
| --- | --- |
| GWB\_UpwardTrend\* | |
| FK1,U1 | EUGroundWaterBodyCode\* |
|  | UpwardTrend\* |
|  | UpwardTrendComment |