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EEB preliminary comments on

Commission's groundwater issue paper from 06 Nov 01 presented at first Expert Advisory Forum on groundwater 23 Nov 01

06 December 2001

Introduction

The EEB welcomes the early consultation and the establishment of an Expert Advisory Forum. This will be a useful tool to overcome some of the obstructions faced during the WFD development and will help to work towards a sound proposal of a daughter Directive on groundwater.

The Commission's issue paper is a good start for the first meeting of the EAF on November 23 and useful for a conceptual discussion of a future Groundwater WFD Daughter Directive. We especially welcome that the issue paper outlines a wider conceptual approach for groundwater protection. In the light of the importance of groundwater for the environment and mankind and its specific characteristics (see box below) only a wide approach will make it possible to overcome the serious shortcomings of the Water Framework Directive. Currently the WFD is far from giving groundwater the same attention than surface waters.

Despite the broader conceptual approach of the issue paper, some issues are not appropriately or not at all addressed. This is the case of **prevention of input pollutants and appropriate emission controls**. The WFD pollution prevention obligations fall far behind the existing 1980 Groundwater Directive and therefore have to be fully addressed and made operational in future WFD follow up legislation. There is an urgent need to focus on appropriate emission controls. The most important pressures on our groundwater are from agricultural sources, which are not at all addressed beyond the limited scope of the WFD.

Some crucial differences of groundwater:

- The average residence time of a water drop in actively renewed aquifers is 330 years, as compared to 12 days in surface waters, i.e. 10,000 times longer. This means that natural restoration will take in average many centuries to improve a polluted groundwater body to an unpolluted state, and hence that prevention should be the rule, not restoration
- The link between the qualitative dimension (groundwater chemical, physical and bacteriological status) and the quantitative dimension (mean annual natural renewal rate, sustainable groundwater recovery or over-extraction, variable exchanges rates with surface waters and other groundwater bodies or leakage,…) is of high importance.
- There is a huge lack of monitoring data, due to the indirect way of survey and monitoring in the subsurface, and the complexity of the interaction with the geologic structures / aquifers and the long time-scales involved (x 10,000, cfr supra). Therefore great importance has to be devoted to (a) to increase the survey and monitoring programmes (including piezometric time series, as a complement to the chemical ones) and its consistency and (b) to implement a precautionary approach as long as sufficient data are not available.

Positive points of the issue paper

Especially the following issues are going in the right direction and are supported:

1. New groundwater status class for unpolluted groundwater (pristine conditions) in order to make the non-deterioration obligation meaningful;
2. Action values for trend reversal (Double background concentrations for naturally occurring substances or double detection limit for synthetic substances); and
3. GW trend reversal action values (derived from DW standards and taking into account interaction with surface waters).

Shortcomings of the issue paper

Some issues are not appropriately or not at all addressed:

1. **Prevention of input of pollutants and emission controls [relevant for case I, II and III]**

The issue paper assumes that the WFD provides sufficient tools for preventing pollution. This is obviously not the case. Article 11 only prohibits input of pollutants directly into groundwater without soil passage (but gives at the same time as many exemptions as real possibilities exist). The EEB believes that the 1980 Groundwater Directive is a baseline, which should not be weakened. A generic approach, similar to the hazardous substance definition in Article 2(29) or very high concern substances of the new chemicals strategy, should be developed taking specifically account of the vulnerability of groundwater. In the light of the specialities of groundwater a strong focus must be given on properties like persistency and mobility. Such substances must be strictly prevented to enter groundwater in any case. Sufficient regulative measures have to proposed and provided for.

For case III, as laid out on page 8, the right concept is applied by setting up emission controls for contaminated sites or other point sources. In this case it should be clear that the emission control should be applied for the zone where the pollutants enters the groundwater body. The derivation of emission limit values should be based on the substance properties (in case hazardous than emission limit is zero) and for other substances on the action values and trend reversal obligations or locally applied standards (not waiting until whole groundwater body is deteriorated).

2. **Trend reversal is not operational to prevent increasing concentrations or to avoid filling up [relevant for case II]**

The paper falls short in developing concepts to avoid that the restoration target becomes a value for topping up and that lengthy trend identification delays action. The Austrian-lead CIS working group has shown that based on WFD minimum requirements (once a year) a **minimum of 8 yrs** are needed to detect 30% increase of concentrations with 90% security and a **minimum of 14 yrs** for confirming trend reversal. As a principle there should not be any allowance to let trends develop in case of dangerous substances. Individual monitoring points have to be considered. Intra-annual and intra body aggregation has to be opened up to allow sufficient protection.

For almost all groundwater, allowance of 8 years of continuing pollution before implementing trend reversal is not in tune with a preventive approach (due to long residence times in groundwater), and certainly not with a precautionary approach (not knowing the potential negative effects of such long long-lasting impacts).

3. Groundwater quality standards for all groundwater, not only where drinking water is abstracted [relevant for case II and III]

The issue paper only mentions quality standards or trend reversal end points in cases where drinking water is abstracted. This is absolutely incompatible with sustainable development principles to assume that a specific groundwater body will never be used for drinking water abstraction and can therefore be polluted. The consequence of such an incomplete approach would be that the no-deterioration obligation would be limited to areas where drinking water is abstracted.

Further to that it would also mean that in substance specific cases end target values would be much higher than action values. It seems to be much more appropriate to set trend reversal end targets at the action value level.

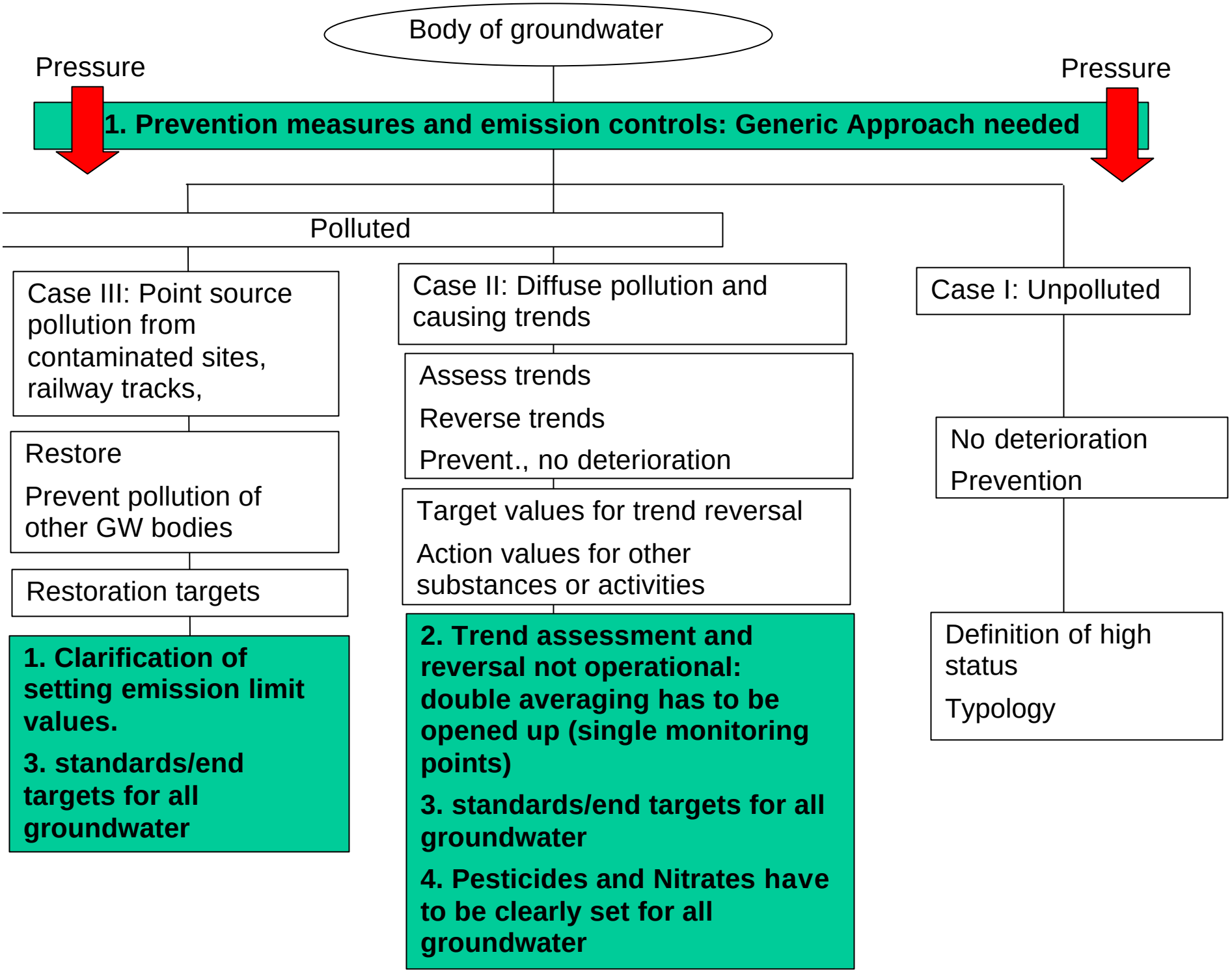
4. Pesticide and Nitrate [relevant for case II]

The issue paper claims that the problem of pesticides and nitrates in groundwater is sufficiently addressed by current provisions of the WFD. This is not the case. For pesticides, the reference to 91/414 is not equivalent to a true limit value for such substances in groundwater. Hence, this reference should be replaced by an explicit groundwater limit for all pesticides of 0.1 micrograms per litre as a precondition for achieving good status.

Secondly, the Nitrate Directive does not act as a sufficient protection of groundwater since it is limited to sensitive areas. 50 milligrams of nitrate per litre should therefore become a maximum value for all groundwater, and a precondition for achieving good groundwater status, independent of its use or its vulnerability. Stricter nitrate values should apply for groundwater bodies in need of more protection, and the trigger value for trend reversal be much lower than 37.5 milligrams per litre (75%).

5. Interaction between ground and surface waters

The WFD obliges Member States to prevent the deterioration of surface waters due to polluted groundwater, but does not provide sufficient tools. The issue paper does not sufficiently cover this aspect. This obligation has to be put in practice, by ensuring that any groundwater standards (Nitrate, Pesticides and standards derived from Drinking Water standards) have to be readjusted according to the risk of failing to prevent deterioration of surface waters. Depending on the local situation for more parameters groundwater standards have to be developed derived from the protection needs of the relevant surface waters.


Body of groundwater
Pressure
Pressure
1. Prevention measures and emission controls: Generic Approach needed
Polluted
Case III: Point source pollution from contaminated sites, railway tracks,
Case II: Diffuse pollution and causing trends
Case I: Unpolluted
Restore
Prevent pollution of other GW bodies
Assess trends
Reverse trends
Prevent., no deterioration
No deterioration
Prevention
Restoration targets
Target values for trend reversal
Action values for other substances or activities
Definition of high status
Typology
1. Clarification of setting emission limit values.
3. standards/end targets for all groundwater
2. Trend assessment and reversal not operational: double averaging has to be opened up (single monitoring points)
3. standards/end targets for all groundwater
4. Pesticides and Nitrates have to be clearly set for all groundwater