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GUIDANCE DOCUMENT

ON ENVIRONMENTAL OBJECTIVES AND EXEMPTIONS

USAID GOVERNING FOR GROWTH (G4G) IN GEORGIA

27 September 2018

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ENVIRONMENTAL OBJECTIVES AND EXEMPTIONS

USAID GOVERNING FOR GROWTH (G4G) IN GEORGIA

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ACRONYMS

AWB	Artificial Water Body
CBA	Cost benefit analysis
CEA	Cost effectiveness analysis
CIS	WFD Common Implementation Strategy (Documents)
DrWPA	Drinking water Protected Areas
EQR	Ecological Quality Ratio
EQS	Environmental Quality Standard
EU	European Union
G4G	Governing for Growth in Georgia
GD	Guidance Document
GEP	Good Ecological Potential
GES	Good Ecological Status
GIS	Geographic Information System
HES	High Ecological Status
HMQE	Hydromorphological Quality Elements
HMWB	Heavily Modified Water Body
MEP	Maximum Ecological Potential
NVZ	Nitrate Vulnerable Zone
RBD	River Basin District
RBMP	River Basin Management Plan
USAID	United States Agency for International Development
UWWT	Urban Waste Water Treatment Directive
WFD	Water Framework Directive

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TERMS AND DEFINITIONS

The following terms and definitions have been used when drafting this Guidance Document.

Artificial Water Body (AWB) - Body of surface water created by human activity e.g. a canal.

Chemical Status - Chemical Status describes whether waters contain safe levels of certain chemicals that have been identified as of significant risk to or via the aquatic environment at an European Union (EU) level.

Classification System - A technical procedure for assessing the status of a water body in accordance with the requirements of the Water Framework Directive (WFD).

Ecological Potential - Is the status of a *heavily modified or artificial waterbody*.

Ecological Quality Ratio (EQR) - The relationship between the values of the biological parameters observed for a given body of surface water and the values for those parameters in the reference conditions applicable to that body. The ratio is to be expressed as a numerical value between zero and one, with high ecological status represented by values close to one and bad ecological status by values close to zero

Ecological Status - An expression of the quality of the structure and functioning of aquatic ecosystems associated with a surface water body. Biological as well as supporting hydromorphological and physico-chemical quality elements are to be used in the assessment of ecological status.

Environmental Objectives are defined by the WFD mainly in Article 4 §1.

Environmental Quality Standard (EQS) - Specifies the absolute compliance concentration or range for a water quality element in the environment failure of which will be reported to the European Commission.

Exemptions are an integral part of the environmental objectives set out in Article 4 and the planning process.

Good Ecological Potential - Is the required status of a *heavily modified or an artificial water body*.

Good Status - The status achieved by a surface waterbody when both its *ecological status* and its *chemical status* are at least 'Good'.

Ground water status is the general expression of the status of a body of ground water, determined by the poorer of its quantitative status and its chemical status.

Good ground water status means the status achieved by a ground water body when both its quantitative status and its chemical status are at least good

Heavily Modified Water Body (HMWB) - Body of *surface water*, which is substantially changed in character as a result of human activity.

High Status - The status achieved by a *surface water* body when there are no, or only very minor, *anthropogenic* alterations to the values of the *physico-chemical* and *hydromorphological* quality elements and the *biological quality elements* show no or only very minor evidence of distortion.

Less stringent objective represents the nearest quality one can get to "good status" given the impacts that are either infeasible or disproportionately expensive to address.

Maximum Ecological Potential (MEP) - The state where "the values of the relevant biological quality elements reflect, as far as possible, those associated with the closest comparable surface water body type, given the physical conditions which result from the artificial or heavily modified characteristics of the water body."

Normative Definitions - of ecological status classifications - The general definitions of high, good and moderate ecological status provided for the various quality elements in Annex V of the *Water Framework Directive* that together define surface water ecological status.

River Basin District (RBD) - The area of land and sea, made up of one or more neighbouring river basins, together with their associated ground waters and coastal waters, as the main unit for management of river basins.

Surface Water - Means all inland waters, except ground water, and includes transitional waters and coastal waters; territorial waters are included as surface waters for the purposes of the Directive insofar as chemical status is concerned

Surface Water Status - Is the status of a surface water body, determined by the poorer of the ecological status and the chemical status.

Water body - is a coherent sub-unit (delineated water body) in the river basin (district) to which the environmental objectives of the directive must apply. Hence, the main purpose of identifying “water bodies” is to enable the status to be accurately described and compared to environmental objectives.

EXECUTIVE SUMMARY

The Water Framework Directive (WFD) establishes a range of different environmental objectives for the water environment. For river basin management planning, an objective setting process is required to enable decisions to be made about which of these environmental objectives are applicable to particular water bodies. The flexibility to apply different objectives allows improvements to the water environment to be prioritized over successive river basin management planning cycles whilst ensuring that the needs of water users and other stakeholders are properly taken into account in the decision making process.

This guidance document sets out some principles and tests for the objective setting approach. It focuses on the WFD provisions for extending the 1st river basin management plan (RBMP) cycle (2015) deadline for achieving “good status” (Article 4.4), for setting a less stringent objective than “good status” (Article 4.5), for extended deadlines due to natural causes or “force majeure” situations (Article 4.6) and due to new modifications and development structures (Article 4.7).

In this context, some cases are presented to illustrate the triggering of the paragraphs of the Article 4 of the WFD.

INTRODUCTION

The environmental objectives of the WFD are the core of the water related EU legislation providing for long-term sustainable water management on the basis of a high level of protection of the aquatic environment. Inevitably, the achievement of these objectives will have enormous benefits for the protection of human health and environment. However, there are also social and economic consequences and implications to consider, both positive and negative.

It is not always allowed to achieve a WFD default objective of “good status” by the end of the first RBMP cycle. Therefore, alternative objectives can be set, if measures to achieve “good status” would be technically infeasible or disproportionately expensive. The WFD is the first EU directive to allow an approach that is truly based on risk, and where action can be taken in proportion to what it can achieve and what it will cost.

This guidance document (GD) describes principles and approach to set the alternative objectives to achieve the “good status” under the RBMP cycles as defined by the WFD. This GD is based on the WFD requirements and CIS Guidance Document No. 20 - *Guidance Document on Exemptions to the Environmental Objectives (2009)*, CIS Guidance Document No. 36 - *Exemptions to the Environmental Objectives according to Article 4(7) (2017)* and experience from the setting environmental objectives in the EU Member states.

TO WHOM IS THIS GUIDANCE DOCUMENT ADDRESSED?

This document aims at guiding experts and stakeholders in the implementation of the WFD. It focuses on the setting of the Environmental Objectives of the WFD, with special emphasis on the socio-economic aspects of them (extended deadlines exemptions, economic assessments, etc). This GD will assist decision makers and water management experts from:

- Ministries with competencies in water management;
- Agencies conducting the process of development the RBMPs;
- River basin authorities;
- Water users;
- Water protected areas agencies (National Parks, Wildlife Services, Water Supply services and etc.);
- Water sector economy.

WHAT CAN BE FOUND IN THIS GUIDANCE DOCUMENT?

The content of this document is focussing on:

- Common understanding of concepts and terms in the field of the Environmental Objectives as part of the RBMPs;
- Principles and methods for setting of the default and alternative objectives;
- Specific objectives for protected areas;
- Overview for extended deadlines and less stringent objectives;
- Several cases to illustrate the triggering the paragraphs of the Article 4 of the WFD.

BACKGROUND

The environmental objectives and the exemptions are set under Article 4 of the WFD. Furthermore, Guidance Document No. 20 on exemptions to the environmental objectives recalls the requirements of the WFD related to the environmental objectives and the exemptions, including key issues for the interpretation of the exemptions.

Article 4 of the WFD sets out the "environmental objectives" mainly in Article 4.1. As per CIS Guidance Document No. 20, the main environmental objectives in the Directive are manifold and include the following elements (for details see Article 4.1, (a) surface waters, (b) ground waters, and (c) protected areas) as default objectives:

- No deterioration of status for surface and ground waters and the protection, enhancement and restoration of all water bodies;
- Achievement of "good status" by the end of the first RBMP cycle, i.e. good ecological status (or Potential) and good chemical status for surface waters and good chemical and good quantitative status for ground waters;
- Progressive reduction of pollution of priority substances and phase-out of priority hazardous substances in surface waters and prevention and limitation of input of pollutants in ground waters;
- Reversal of any significant, upward trend of pollutants in ground waters;
- Achievement of standards and objectives set for protected areas in Community legislation.

It is important to note that where more than one of the objectives relates to a given body of water, the most stringent shall apply (Art. 4.2), irrespective of the fact that all objectives must be achieved.

Article 4 of the WFD also sets the deadlines for achieving objectives and exemptions (time derogation and less stringent objectives). As mentioned, it is possible to adopt exemptions for the environmental objectives only when justified. According to the WFD, there are four types of exemptions leading to alternative objectives (see Annex 1 of this Guidance Document).

- First, the extension of the deadline (WFD 4.4). This allows EU member states to achieve the "good status" of a water body by 2021 (the second RBMP cycle) or 2027 (the third RBMP cycle) or as soon as it is possible (due to natural conditions) instead of the end of the first RBMP cycle. The WFD 4.4 defines the reasons and conditions to justify this exemption:
 - a) The "good status" of water bodies cannot reasonably be achieved within the timescale for reasons of technical feasibility (no technical means exist to achieve the objective or there is no information on the cause of the problem; hence a solution cannot be identified); disproportionately expensive (the cost of a project, or group of measures, that should be implemented to achieve "good status" is considered as disproportionately costly) or natural conditions (the natural environment response time is such that the deadline cannot be met);
 - b) The justification must be included in the RBMP;
 - c) The extension of the deadline is limited to a maximum of two further updates of the river basin management plan, except the timing determined by natural conditions;
 - d) The RBMP must include a detailed programme of the measures and the expected timetable for their implementation.
- A second option is to define less stringent environmental objectives (WFD 4.5). This is allowed under certain conditions (when they are so affected by human activity, or their natural condition is such that the achievement of these objectives would be infeasible) and there are strict conditions to be met and a justification to be included in the RBMP:
 - a) The environmental and socioeconomic needs served by such human activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs;

- b) Ensure for surface water, the highest ecological and chemical status possible is achieved, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;
 - c) Ensure for ground water, the least possible changes to good ground water status, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;
 - d) No further deterioration occurs in the status of the affected body of water;
 - e) The reasons of these less stringent objectives must be mentioned in the RBMP and be reviewed every six years.
- The third possibility is to adopt temporary deterioration of the status in case of circumstances of natural causes or “force majeure” (WFD 4.6). This exemption is quite different from the first one (also time derogation), since this case considers the events which "could not reasonably have been foreseen" (extreme floods, prolonged droughts and the result of circumstances due to some accidents) and the first one considers reasons of technical feasibility, disproportionately expensive or natural conditions.
 - The last cause of exemption is due to new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of ground water, or as result of new sustainable human development activities (WFD 4.7). The WFD forces to meet four conditions: all measures to mitigate the adverse impact on the status of the body of water are taken; the reasons are explained in the RBMP and are of overriding public interest; and the objectives served by those modifications cannot be achieved by other means.

Finally, as per Guidance Document No. 4 *Identification and Designation of Heavily Modified and Artificial Water Bodies: It may be efficient to undertake the designation process (of the HMWB) at the same time as the setting of less-stringent environmental objectives (Art. 4(5)) for both natural and HMWB which include similar tests (e.g. consideration of disproportionate costs).*

Article 4 (3) of the WFD prescribes that the designation of an artificial or heavily modified water body is presented and justified in the RBMP required under Article 13. The final designation of these heavily modified water bodies must be carried out in the first RBMP and reviewed every six years.

IDENTIFICATION AND DESIGNATION OF HEAVILY MODIFIED OR ARTIFICIAL WATER BODIES

As per CIS Guidance Document No.4: Identification and Designation of Heavily Modified and Artificial Water Bodies (EC, 2003-4):

For surface waters, the overall goal of the Water Framework Directive (WFD) is to achieve "good ecological and chemical status" in all bodies of surface water by the end of the 1st RBMP cycle. Some water bodies may not achieve this objective for different reasons. Under certain conditions, the WFD permits to identify and designate artificial water bodies (AWB) and heavily modified water bodies (HMWB) according to Article 4(3) WFD.

HMWB are bodies of water which, as a result of physical alterations by human activity, are substantially changed in character and cannot, therefore, meet "good ecological status" (GES). AWB are water bodies created by human activity. This Guidance interprets an AWB "as a surface water body which has been created in a location where no water body existed before and which has not been created by the direct physical alteration or movement or realignment of an existing water body". Instead of "good ecological status", the environmental objective for HMWB and for AWB is good ecological potential (GEP), which has to be achieved by the end of the 1st RBMP cycle.

Article 4(3)(a) lists the following types of activities which were considered likely to result in a water body being designated as a HMWB or as an AWB:

- *Navigation, including port facilities, or recreation;*
- *Activities for the purposes of which water is stored, such as drinking-water supply;*
- *Power generation or irrigation;*
- *Water regulation, flood protection, land drainage;*
- *Other equally important sustainable human development activities.*

Key principles highlighted in CIS GD No. 4 underpinning the approach developed and applied in this Guidance Document includes:

- Designation is intended to be applied to major infrastructural projects associated with the listed specified uses;
- Water bodies must be substantially changed in character because of hydromorphological alteration. The change in character must be extensive/widespread or profound;
- Temporary or intermittent substantial hydrological changes are not to be interpreted as substantial changes in character;
- Typically, hydromorphological alteration means hydrological and morphological change;
- The substantial change in character must be the result of specific uses listed in the WFD.

The designation of HMWBs is an iterative process. Suspected HMWB and AWB which were, possibly, mistakenly not designated in the first RBMP can be put through the designation tests for the second cycle, provided they have not deteriorated. Similarly, in future planning cycles existing HMWB and AWB can be "de-designated".

The first part of the iterative process is focused on the identification of the "Candidate HMWB/AWB) and is summarized in following scheme:

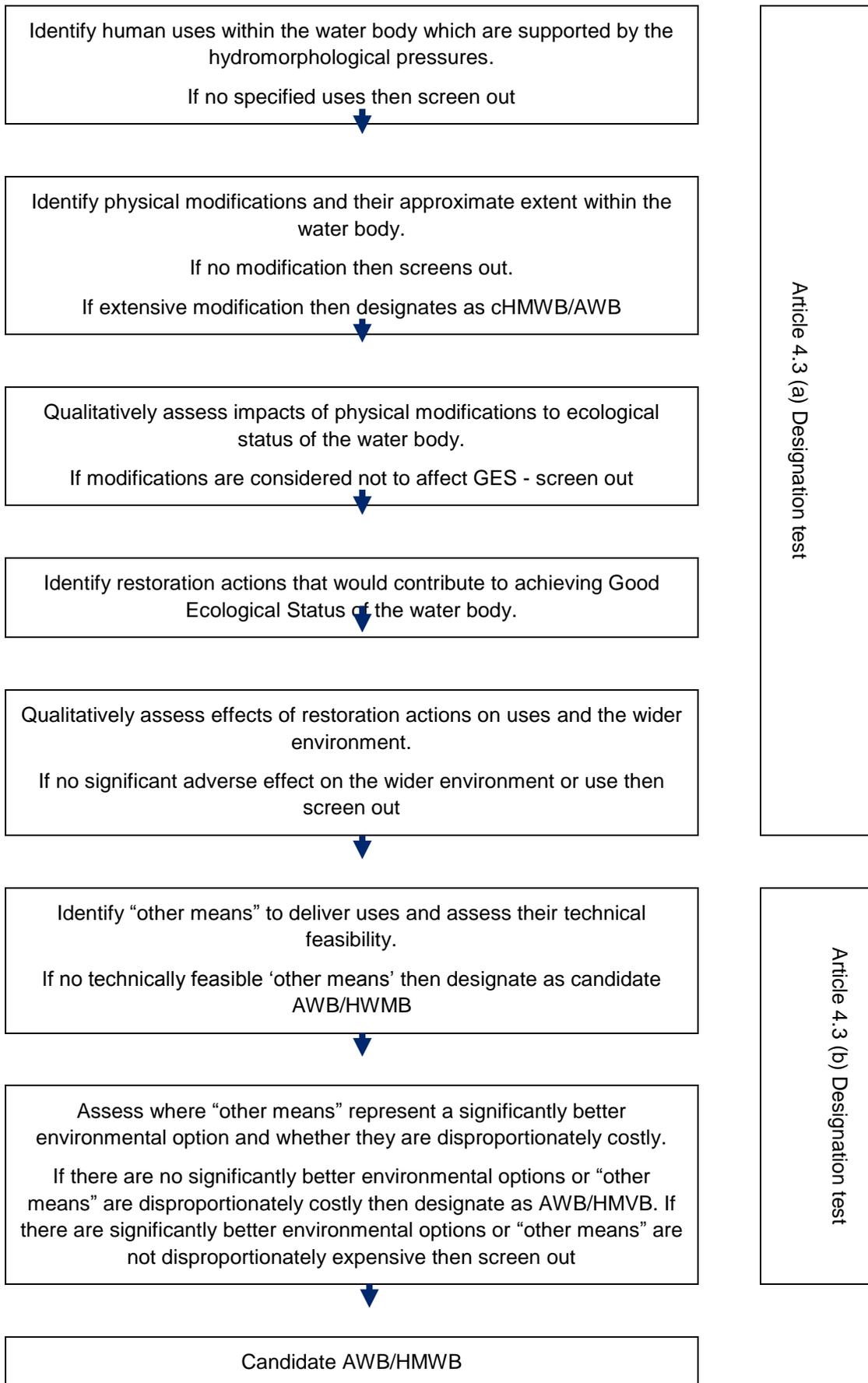


Figure 1: Steps leading to the identification of HMWB and AWB. (Based on CIS GD No.4, 2003).

Note: If there are no significant adverse effects upon the specified use or the wider environment, the provisional HMWB should be regarded as a natural water body and restoration measures should be undertaken to ensure that the GES can be reached. In some circumstances, Article 4(4) or 4(5) derogations will be appropriate and less stringent environmental objectives may be set.

The AWB or HMWB will be identified in accordance with the mentioned criteria in Table 5 via the steps indicated in the previous figure.

For the AWB, it will be assigned one of the following categories for surface water bodies:

- Canals built for the purposes of navigation, for hydropower uses and for irrigation and drainage, which meet the conditions defined by the WFD;
- Lakes formed in pits, quarries and open-cast mines, ponds;
- Impounded reservoirs and artificial storage basins fed by transferred water;
- Docks.

The all surface water bodies under significant morphological pressures should be assessed.

Pressure	Threshold values	
	Significant	Provisional HMWB
Water regulation (flow manipulation)	All without functioning fish bypass facility/fish migration aid	More than three artificially placed structures
Bed and bank reinforcement	>15% of either bank affected	>60% of bank affected
River straightening and channelling	≥ 500 m and more than 20% of total length of water body affected	>50% of river length affected
Dredging	>15% of channel length affected	>30% of channel length affected
Impounding	Main channel free of impoundments; if tributary channels impounded, <10% of water body area affected	Major impoundment present on water body
Intensive use	>70% natural/near-natural buffer zones	>70% natural/near-natural buffer zones
Flood modification (presence and extent of flood banks)	<15% of floodplain active	<5% of floodplain active
Constructions	All when causing barriers of diversification effect	>50% of area affected by structures.

Table 5: Criteria proposed to create the list of provisional designated HMWBs (based on threshold values for morphological pressures).

After identification of the “Candidate HMWB” the examination of test cases followed the steps set out in CIS GD No. 4 (as **Step 7 and 8**) with application of the two designation tests. The following questions will be asked of each test pHMWB and pAWB to decide on final List of HMWB and AWB in the River Basin Districts:

Step 7: Restoration Measures Test
7.1 Identification of “restoration measures” to achieve GES. Is the physical alteration connected to a current “specified use”?
7.2 Would the restoration measures have significant adverse effects on the “specified uses”?
7.3 Would the “restoration measures” have significant adverse effects on the wider environment?

Given surface water body is designated as HMWB or AWB when responses on above mentioned questions are YES.

Example 1: Significant adverse effect on purpose

The height of a lake outflow has been artificially raised by a small impounding works. Water is abstracted from the lake to provide a drinking water supply. The impounding works were built with the intention of supplying a far greater volume of water than is currently supplied by the lake. The effects of the impounding works are sufficient to prevent the lake achieving good ecological status. The removal of the impounding works would have a significant adverse impact on drinking water supply. This is because due to fact that natural volume of water in the lake would not be able to meet the supply demands placed on it.

Example 2: Effects on the wider environment

A redundant reservoir has become an important roosting site for wild birds. This has led to its designation as a Special Protection Area under the Birds Directive. Removing the impounding works would drain the reservoir and hence undermine the conservation interest of the site.

Step 8: Alternative Means Test

8.1 Are there “other means” of providing the beneficial objectives served by the physical alteration?

8.2 Are these “other means” technically feasible?

8.3 Are these “other means” a better environmental option?

8.4 Are these “other means” disproportionately costly?

8.5 Will the “other means” allow the achievement of GES?

Is the failure to achieve GES caused by physical alterations?

Firstly, "other means" to achieve the beneficial objective (e.g. replacement of surface water for drinking water supply with ground water) are to be considered. Then, it has to be assessed whether the "other means" are

- a) Technically feasible;
- b) A better environmental option; and
- c) Not disproportionately costly.

If any of the sub-tests a), b) or c) are negative, the water bodies may be designated as heavily modified. If either the mitigation measures have no significant adverse effects (**see step 7**) or if "other means" can be found that fulfil the criteria a), b) or c) (**see step 8**), the water body must not be designated as heavily modified and the relevant environmental objective would be GES or a less stringent objective.

THE ENVIRONMENTAL OBJECTIVES SETTING

There are two groups of environmental objectives as defined by the WFD:

- **The default objectives** for the river basin planning cycle to prevent deterioration in status (or ecological potential for heavily modified or artificial water bodies) and protect, enhance and restore all water bodies with the aim of achieving “good” status (or “potential”) for all water bodies not already at “good” or better by the first RBMP cycle, as soon as practicable.
- **The alternative objectives** which are set using the exemptions referred to in Articles 4.4, 4.5, 4.6 or 4.7 of the WFD.

The process of the environmental objectives setting can be summarized in the following scheme.

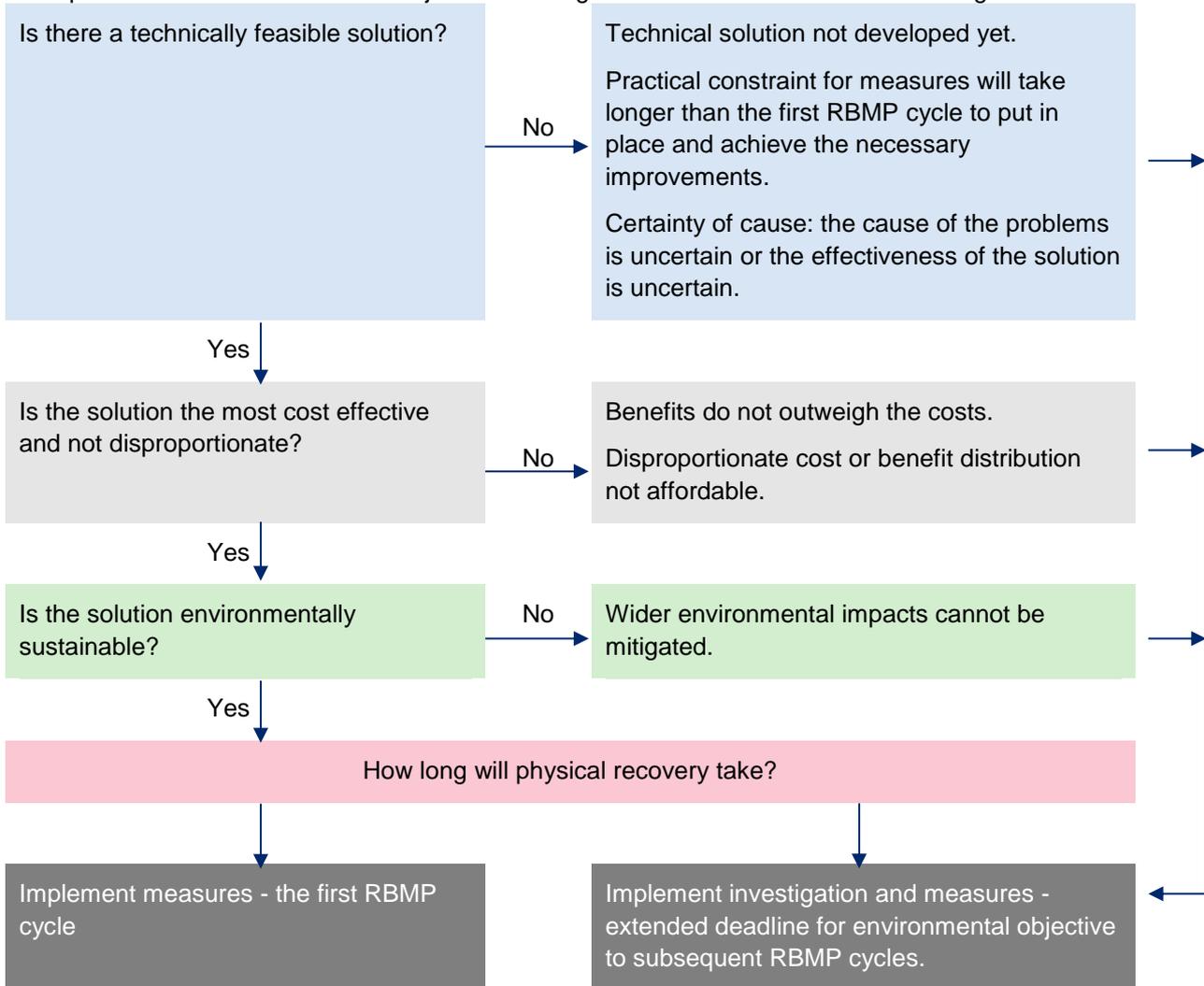


Figure 1: The Environmental Objective Setting Decision Scheme

In the text below, setting both default and alternative objectives are described.

DEFAULT OBJECTIVES

The main (default) environmental objectives in the WFD are manifold and include the elements defined in the Article 4.1 for surface waters, ground waters and protected areas. They are focusing on: **no deterioration of status** for surface and ground waters and protection, enhancement and restoration of all water bodies, **achievement of “good status”** by the 1st RBMP cycle, progressive **reduction of pollution** of priority substances and phase-out of priority hazardous substances, reversal of any significant **trend of pollution ground waters** and achievement of **standards and objectives set for protected areas** in EU legislation.

OBJECTIVES PREVENTING DETERIORATION AND “GOOD STATUS” ACHIEVEMENT

In fact, **preventing deterioration** (that is deterioration from one status class to a lower one) is a key WFD objective with few and limited exceptions.

For a water body classified as being in “good status,” where any of the quality elements are consistent with a “high” status classification, those quality elements may be allowed to deteriorate to “good” status. This does not apply to morphological conditions which must not deteriorate from “high”. Hydrological conditions must remain consistent with at least a “good” status classification and meet any requirements of a protected area that relate to hydrological conditions.

For ground water, measures must be taken to reverse any environmentally significant deteriorating trend, whether or not it affects status.

The baseline for the assessment of deterioration is the current reported status class. For the period of the first RBMP cycle is one year before RBMP was approved.

The WFD requires that where more than one of its environmental objectives relates to a given water body, the most stringent applies. For example, in some circumstances, the objective for a Protected Area may be the most stringent objective if the achievement of that objective requires:

- A more stringent standard for a particular parameter to be met in a water body, or in part of a water body than would be required to prevent deterioration in status; or, as relevant, achieve “good status” by the end of the first RBMP cycle or by an extended deadline, or achieve a less stringent objective than “good status” for the water body;
- An earlier deadline for achieving a particular standard;
- A more stringent control on a pressure affecting a water body, or part of a water body than would be required to prevent deterioration in status; or, as relevant, achieve “good status” by the end of the first RBMP cycle or by an extended deadline, or achieve a less stringent objective.

Note: Each use of Article 4.7 to justify water body deterioration must be reported in the next update of the RBMP. A change in the classification of a water body resulting from the introduction of a revised standard should be reported as a revised classification, not as a deterioration.

PROTECTED AREAS OBJECTIVES

The Water Framework Directive specifies that areas requiring special protection under other EC Directives and waters used for the abstraction of drinking water are identified as protected areas (Annex IV WFD, see annex 3 in this document). These areas have their own objectives and standards. Article 4 of the WFD requires to achieve compliance with the standards and objectives set for each protected area by the end of the first RBMP cycle, unless otherwise specified in the Community legislation under which the protected area was established.

Article 6 of the WFD requires to establish a register of protected areas. The types of protected areas that must be included in the register are:

- Areas designated for the abstraction of water for human consumption (Drinking Water Protected Areas);
- Areas designated for the protection of economically significant aquatic species (Freshwater Fish and Shellfish);
- Bodies of water designated as recreational waters, including areas designated as Bathing Waters;
- Nutrient-sensitive areas, including areas identified as Nitrate Vulnerable Zones under the Nitrates Directive or areas designated as sensitive under Urban Waste Water Treatment Directive (UWWTD);
- Areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection including relevant Natura 2000 sites.

It is generally understood that the exemptions in Article 4.4 and 4.5 and 4.6 are applicable to all environmental objectives in Article 4.1, thus also to Article 4.1(c), which describes the objectives for protected areas. **But Article 4.9 is clear in its obligation that when applying the exemptions of Article 4, the same level of protection should be given as in existing Community legislation. This means that exemptions from the WFD environmental objectives cannot be used to deviate from objectives and obligations set by other pieces of EU legislation.**

For example, a new development is proposed that would cause deterioration of status and a failure to achieve the objectives for a Natura 2000 site. In such a case, in order to fulfil both the WFD and the Habitats Directive:

The relevant conditions set out in Article 4.7 of the WFD for allowing deterioration of status would have to be met to the extent that it is a water body;

The conditions set out in Article 6 of the Habitats Directive (92/43/EEC) for allowing a failure to achieve a Natura 2000 site's objective would have to be met.

DRINKING WATER PROTECTED AREAS

The objectives for Drinking Water Protected Areas (DrWPAs) are to:

- Ensure that, under the water treatment regime applied, the drinking water produced meets the requirements of the national legislation and Drinking Water Directive when transposed in the national legislation;
- Ensure necessary protection in the DrWPA with the aim of avoiding deterioration in water quality in order to reduce the level of purification treatment required in producing drinking water.

The first objective will be achieved by meeting the requirements of the Drinking Water Directive (the environmental standards (parameters) see in Annex 2) and any Georgian legislation requirements to ensure drinking water is free from contamination that could constitute a danger to human health.

The second objective will be achieved by putting in place actions that aim to ensure that there is no deterioration in water quality at abstractions used for drinking water supply.

Note: It may be distinguished between approach to drinking water protected areas for surface water bodies and for ground water bodies. Furthermore, authorities should ensure that drinking water protected areas safeguard zones are applied to both public and, where appropriate, private drinking water supplies.

ECONOMICALLY SIGNIFICANT SPECIES (FRESHWATER FISH WATERS)

The objective for freshwater fish waters designated under the Freshwater Fish Directive is:

- To protect or improve the quality of running or standing freshwaters to enable them to support fish belonging to:
 - Indigenous species offering a natural diversity; or
 - Species the presence of which is judged desirable for water management purposes by the competent authorities on the national level.

This objective will be achieved by meeting the imperative standards and endeavouring to respect the guideline standards of the Freshwater Fish Directive.

ECONOMICALLY SIGNIFICANT SPECIES (SHELLFISH WATERS)

The objective for shellfish waters designated under the Shellfish Water Directive is:

- To protect and, where needed, improve the quality of shellfish waters in order to support shellfish (bivalve and gastropod molluscs) life and growth, and thus contribute to the high quality of shellfish products directly edible by man.

RECREATIONAL WATERS (BATHING WATERS)

The objective for bathing waters designated under the current Bathing Waters Directive (2006/7/EC) is:

- To preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC.

This objective will be achieved by meeting the “sufficient” quality standards of the Bathing Waters Directive (see Table below); and by taking such realistic and proportionate measures considered appropriate with a view to increasing the number of bathing waters classified as “excellent” or “good”.

Table 1: The quality standards for bathing waters based on Bathing Waters Directive (2006/7/EC).

Parameter	Values	Unit
Turbidity	<1	*NTU
Transparency	1 (90%tile as guide value)	m
Light penetration	2 (95%tile mandatory value)	m
Dissolved oxygen (saturation)	≥ 80	%
pH	6–9	
Escherichia coli (colony/100 ml) (*)	250 (95 percentile guide value)	**CFU/100 ml
	500 (95 percentile mandatory value)	CFU/100 ml
	500 (90 percentile sufficient value)	CFU/100 ml
Intestinal enterococci (colony/100 ml) (*)	100 (95 percentile guide value)	CFU/100 ml
	200 (95 percentile mandatory value)	CFU/100 ml
	185 (90 percentile sufficient value)	CFU/100 ml

** NTU - Nephelometric Turbidity Unit; *CFU - colony forming unit

NUTRIENT SENSITIVE AREAS (NITRATE VULNERABLE ZONES)

The general objective of the Nitrates Directive is to:

- Reduce water pollution caused or induced by nitrates from agricultural sources; and
- Prevent further such pollution.

This objective will be achieved through designating nitrate vulnerable zones (NVZs) and action programmes being implemented within them. NVZs comprise all land draining to “polluted waters” as defined by the Directive. A Code of Good Agricultural Practice has also been published, which provides advice to all farmers on how to reduce nitrate losses to the environment.

NUTRIENT SENSITIVE AREAS (URBAN WASTE WATER TREATMENT DIRECTIVE)

The general objective of the Urban Waste Water Treatment Directive (UWWTD) is:

- To protect the environment from the adverse effects of urban waste water discharges and waste water discharges from certain industrial sectors.

A sensitive area in the UWWTD is a water body identified as affected by eutrophication or having a surface water abstraction affected by elevated nitrate concentrations. Designating sensitive areas is a trigger for action to reduce or prevent further pollution caused by nutrients. The general objective for sensitive areas will be achieved by ensuring discharges from relevant urban waste water treatment plants meet the appropriate emission standards set out in the Directive.

NATURA 2000 PROTECTED AREAS

The objective for Natura 2000 Protected Areas identified in relation to relevant areas designated under the Habitats Directive is to:

- Protect and, where necessary, improve the status of the water environment to the extent necessary to achieve the conservation objectives that have been established for the protection or improvement of the site's natural habitat types and species of Community importance in order to ensure the site contributes the maintenance of, or restoration to appropriate conservation status.

The objective for Natura 2000 Protected Areas identified in relation to relevant areas designated under the Birds Directive is to:

- Protect and where necessary improve the water environment to the extent necessary to achieve the conservation objectives that have been established for the protection or improvement of the site in order to ensure that the site contributes to the conservation (survival and reproduction in their area of distribution) of bird species listed in Annex I of the Birds Directive.

Where a Natura 2000 Protected Area forms part of a water body or where a water body lies within a Natura 2000 Protected Area, the Water Framework Directive status objectives apply in addition to the requirement to maintain at favourable conservation status or restore it to that status.

Note: Although the objective to restore or maintain favourable conservation status in Natura 2000 sites is mandated by the EC Habitats and Birds Directives, there is no specific date for achieving it. The Water Framework Directive introduces the end of the first RBMP cycle deadline, which applies to the Natura 2000 Protected Areas.

ALTERNATIVE OBJECTIVES

When discussing exemptions, it should be taken into account that the WFD is an environmental directive and exempting from its objectives should not be the rule but exceptional. It is important that before considering the application of exemptions for a certain water body, all relevant requirements from existing EU legislation for the protection of water have to be fulfilled. Nevertheless "exemptions" are an integral part of the environmental objectives set out in Article 4 and the planning process.

Use of the alternative objectives is the mechanism which the WFD provides for:

- Considering, amongst other things, environmental, social and economic priorities alongside water management priorities;
- Prioritising action over successive river basin management planning cycles.

The types of alternative objective are as follows:

- An extended deadline (WFD Article 4.4 (see Annex 1));
- A less stringent objective (WFD Article 4.5 (see Annex 1)).

The provisions in Article 4.6 may be used as a defence to justify cases where an objective in a RBMP has not been met as a result of a **temporary deterioration** in status due to *natural causes* or *force majeure* and all the conditions set out in Article 4.6 (see Annex 1) are met.

The provisions in Article 4.7 (see annex 1) can be used as a defence where:

- A failure to achieve a status objective or to prevent deterioration is due to *new modifications* to the physical characteristics of a water body;
- Deterioration from high status to "good status" is the result of new sustainable development activities;
- All the conditions set out in article 4.7 are met.

The following clarifications have been provided on the way in which compliance with the WFD environmental objectives should be interpreted in the assessment of new developments (Article 4.7 of the WFD):

a) consent for the development must not be granted by an authorising authority where the project may cause a deterioration in the status of a body of surface water or where it compromises the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down in the directive, unless a derogation is granted;

b) “deterioration of the status” of the relevant body of surface water includes a fall by one class of any element of the “quality elements” within the meaning of Annex V of the WFD even if the fall does not result in a fall of the classification of the body of surface water as a whole;

c) if the quality element is already in the lowest class, any deterioration of that element represents deterioration of status within the meaning of WFD Article 4(1)(a)(i).

”Guidance Document No. 36 - Exemptions to the Environmental Objectives according to Article 4(7)”(2017).

The possibility of extending the first RBMP cycle deadline (Article 4.4 of the WFD) for achieving “good status” (References to “good status” mean: for surface water bodies that are not designated as artificial or heavily modified, good ecological status and good surface water chemical status; for surface water bodies that are designated as heavily modified or artificial, good ecological potential and good surface water chemical status; and, for bodies of ground water, good ground water chemical status and good ground water quantitative status) in order to phase the necessary environmental improvements over successive planning cycles should be explored first before considering the application of a less stringent objective (Article 4.5) than “good status” (see Figure 2).

Can “good status” be achieved by the end of the 1 st RBMP cycle?	Yes	Objective of “good status” by the end of the 1 st RBMP cycle
No		
Except for those dependent on the timescale of natural processes, can the improvements necessary to enable “good status” to be achieved be made by the end of the 1 st RBMP cycle?	Yes	Objective of “good status” as soon as natural conditions permit after by the end of the 1 st RBMP cycle
No		
Can “good status” be achieved before the end of the 2 nd RBMP cycle or can all the necessary improvements be made by the end of the 2 nd RBMP cycle except for those dependent on natural processes?	Yes	Objective of “good status” by the end of the 2 nd RBMP cycle or as soon as natural conditions permit after the end of the 2 nd RBMP cycle
No		
Can “good status” be achieved before the end of the 3 rd RBMP cycle or can all the necessary improvements be made by the end of the 3 rd RBMP cycle except for those dependent on natural processes?	Yes	Objective of “good status” by the end of the 3 rd RBMP cycle or as soon as natural conditions permit after the end of the 3 rd RBMP cycle
No		
Set a less stringent objective		Less stringent objective by the end of the 1 st RBMP cycle
Review less stringent objective by the end of the 1 st RBMP cycle	Can we move closer to, or achieve, “good status” before the end of the 2 nd RBMP cycle?	Yes “good status” or new less stringent objective by the end of the 2 nd RBMP cycle

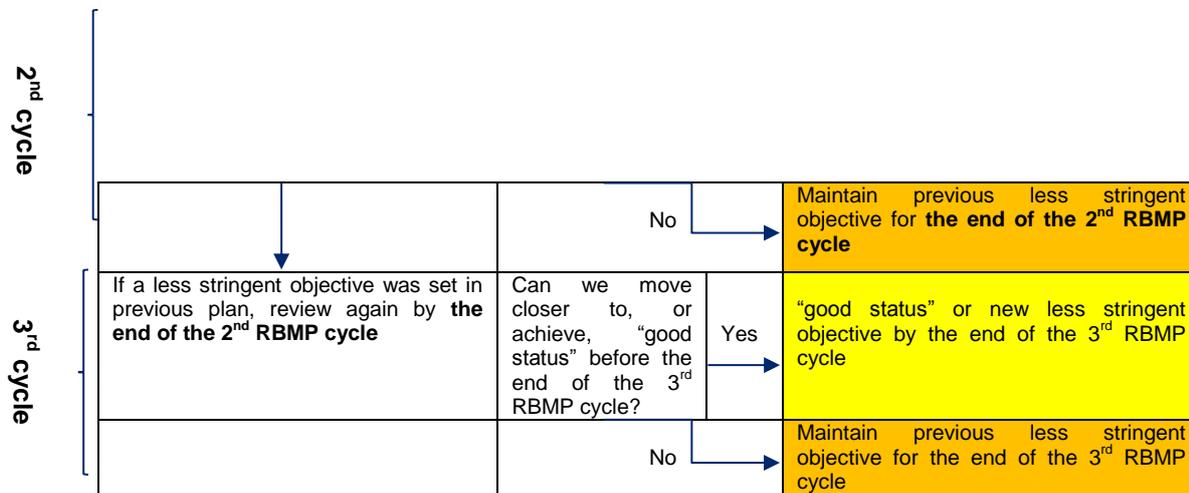


Figure 2: Stepped approach to setting improvement objectives (Based on CIS GD No. 20, 2009)

Where less stringent objectives than “good status” are set, they must be reviewed every six years. The reviews may identify improvements that would enable water bodies for which less stringent objectives have been set in previous planning cycles to achieve “good status” or to move closer to achieving “good status”.

THE TESTS FOR EXTENDED DEADLINES AND LESS STRINGENT OBJECTIVES

In principle, a technical nature (technical infeasibility test) and disproportionate costs should be taken into account with extending the deadlines or applying a less stringent objective for achieving “good status”.

THE TECHNICAL FEASIBILITY TEST

An extended deadline up to the end of the 3rd RBMP cycle or a less stringent objective may be set where the measures required to achieve “good status” by the end of the 1st RBMP cycle would be (technically) unfeasible or disproportionately expensive (Article 4.4 (a)(i) and (ii) and of Article 4.5).

The technical feasibility of achieving “good status” by the relevant deadline should be explored first before undertaking assessments of whether achieving “good status” would be disproportionately expensive.

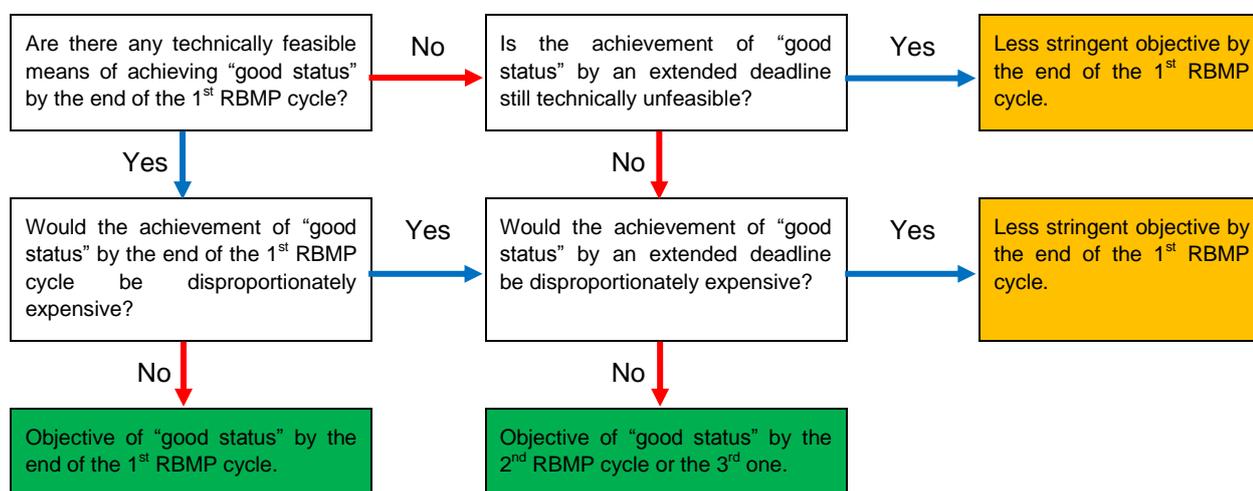


Figure 3: Stepped approach to use of extended deadlines and less stringent objectives

Achieving “good status” should be considered technically unfeasible if:

- No technique necessary to do so exists and cannot be developed in time;
- Existing technique necessary to do so cannot be used to have effect in the time available within the relevant planning cycle, or planning cycles in the case of decisions on extended deadlines;
- There is inadequate technical capacity that can reasonably be made available to implement the necessary measures;
- There is no information to indicate what the cause of the failure to achieve “good status” may be and therefore what technique may be needed to aim to achieve “good status”;

- There is large uncertainty about the effectiveness of a technique and therefore about whether “good status” can be achieved by the required deadline.

Note: Where the uncertainty about the effectiveness is high, setting a less stringent objective is recommended to avoid raising false expectations among stakeholders.

THE DISPROPORTIONATELY EXPENSIVE TEST

Extended deadlines or less stringent objectives may also be set if the measures needed to achieve “good status” by the end of the 1st RBMP cycle are disproportionately expensive (Article 4.4 (a)(ii) and 4.5).

This provision provides a means of deferring from the aim of achieving good surface water status by the end of the 1st RBMP cycle or good ground water status by the end of the 1st RBMP cycle in those circumstances where achieving these objectives would be clearly unreasonable.

Assessment methods

*The assessment of **disproportionality builds on the definition of the objective status and measures** and leads to the screening of the actions needed to achieve economically feasible objectives. This goes through two parallel pathways for costs and benefits. On one side, cost estimation entails the establishment of a set of measures, followed by the calculation of the cost and, based on this, on the revision of the set of measures up until the point at which no cost improvement was possible. On the other hand, the value of benefits is calculated, based on a classification of the positive effects of the achievement of objectives.*

Cost effectiveness analysis (CEA) and cost benefit analysis (CBA) are the two main methods adopted for economic assessment of disproportionality. CEA usually compares monetary costs and physical benefits (for example, the ratio between the restoration costs and the level of pollutant abatement). CBA, for its part, compares monetarily valued costs and benefits (the ratio between direct or indirect monetary benefits due to the level of abatement and recovery costs). CEA avoids the controversial monetization of intangible assets, such as the environment, and is usually designed for the comparative assessment of alternative measures, rather than for a clear-cut judgment on the feasibility of a project/policy. CBA is designed to assess the viability of the intervention, as it requires an estimation of costs and both tangible and intangible benefits. All of the previously mentioned methods assess cost disproportionality.

The effort involved in estimating the potential costs and benefits of achieving “good status” should depend on the evidence needed to justify the application of an extended deadline or a less stringent objective.

The assessment of whether achieving “good status” would be disproportionately expensive should be also based on an assessment of whether a combination of these additional measures judged to be most cost-effective at achieving “good status” would be disproportionately expensive. *For example, where different pressures contribute to a particular impact:*

- *The balance between point and diffuse source controls on nutrient concentrations;*
- *The balance between controls on different point source discharges into a water body;*
- *The balance between controls on abstractions (lowering the quantity of water available to dilute pollutants) and discharges.*

FUNDING INSTRUMENTS

It is evident that the assessment of the proportionality (or disproportionality) of costs may be dependent on the funding options. In this regard, the possibility to use national budget funds, EU funding instruments and water uses financial means will influence the discussion and decision-making in Georgia. It will need to be identified which measures required by the river basin management plan (which includes the programme of measures) are eligible for any of these funds.

THE APPLICATION OF EXTENDED DEADLINES

Article 4.4 of the WFD provides for the phased achievement of “good status”. The provision effectively extends the planning horizon by up to 12 years. However, where natural conditions are the limiting factor, no deadline need be established for achieving “good status”.

An extended deadline may be applied under following conditions:

- Natural conditions prevent the timely achievement of “good status”; or
- It is technically unfeasible or disproportionately expensive to achieve “good status” by the 1st RBMP cycle; but
- Technically feasible and not disproportionately expensive to achieve “good status” before the end of the 3rd RBMP cycle.

NATURAL CONDITIONS (SEE ARTICLE 4.4(A)(III) OF THE WFD)

If the measures necessary to achieve “good status” require the assistance of a natural process to make them effective the achievement of “good status” can be extended until such time as those natural processes have occurred. No maximum time limit is imposed by the WFD in such cases.

For example:

Once those measures that are technically feasible and not disproportionately expensive have been taken, a series of flood events may still be required to restore the morphological conditions in a river water body necessary to support good ecological status.

Once those measures that are technically feasible and not disproportionately expensive have been taken, natural attenuation processes may still be required for a water body to recover from pollution. The attenuation rate is a natural condition controlling recovery time once further pollutant inputs have been controlled.

Once water quality has been improved in a polluted water body (e.g. nutrient concentrations in a lake have been restored to those necessary to support “good status”), the natural processes of colonisation and establishment of the flora and fauna associated with good status may take many years.

TECHNICAL UNFEASIBILITY AND DISPROPORTIONATE EXPENSE (SEE ARTICLE 4.4(A)(I) & (II) OF THE WFD)

Although an extended deadline must apply to the objectives for a specific water body, the decision whether an extended deadline is applicable may be applied to either:

- The measures required to bring a specific body of water to “good status”; or
- The Programme of Measures required to bring several or all bodies of water to “good status”.

This enables consideration to be given to the technical feasibility and the overall costs and benefits of a particular programme designed to improve a number of water bodies. *For example, achieving “good status” by the end of the 1st RBMP cycle in all the water bodies in a set of water bodies may be unfeasible because the technical capacity that can be made available is insufficient. The technical capacity that can be made available may be used to achieve “good status” in a prioritised smaller group of the water bodies. The achievement of “good status” in the other water bodies is technically unfeasible in the first planning cycle and would be deferred to subsequent planning cycles.*

TECHNICAL FEASIBILITY AND NOT DISPROPORTIONATE EXPENSE

It can be found that the achievement of “good status” may be disproportionately expensive by the 1st RBMP cycle extended deadline was implemented. However, it is forecast that conditions during the subsequent RBMP cycles may allow the implementation of the measures over the longer period (two RBM cycles - 12 years) significantly reduces the costs of those measures and also a new technology is available to be applied as measures. In such a case, the disproportionate expense test should enable the river basin management planning process to take account of the effect of phasing spend over a longer period on the affordability of that spending.

THE APPLICATION OF LESS STRINGENT OBJECTIVES

A “less stringent objective” does not mean that

- The other quality elements are permitted to deteriorate to the status dictated by the worst affected quality element;
- The potential for improvement in the condition of other quality elements can be ignored.

The achievement of a so called “less stringent objective” may require the implementation of measures that are as stringent, if not more so, than the measures that are required for water bodies for which the objective is “good status”.

For example, a water body has a less stringent objective set because of a significant abstraction that is disproportionately expensive to reduce. Achieving an EQS for a pollutant in such a water body may require more stringent discharge controls than would the achievement of the same EQS in a water body not subject to such an abstraction.

SOME CONSTRAINTS ON THE USE OF EXTENDED DEADLINES AND LESS STRINGENT OBJECTIVES

There are a number of constraints to the application of extended deadlines and less stringent objectives. An extended deadline or a less stringent objective cannot be set if:

Doing so would compromise the achievement of a more stringent objective required under Article 4.2 of the WFD. *For example, if setting a less stringent objective affected a no deterioration in status objective, a Protected Area objective or a trend reversal objective for ground water.*

Deterioration in the status of the affected water body would result (see Article 5.4 and 5.5(c) of the WFD). *For example, if setting a less stringent objective or an extended deadline would leave the water body in condition in which it was vulnerable to deterioration in status (e.g. no reserve carrying capacity to cope with uncontrolled inputs of pollutants), the less stringent objective or the extended deadline could not be applied.*

The achievement of the objectives of the WFD in other water bodies would be permanently excluded (see Article 4.8 of the WFD: “When applying paragraphs 3, 4, 5, 6 and 7, a member state shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation”). *The practical effect of this requirement may be limited in the context of extended deadlines and less stringent objectives since both are time limited exemptions and are unlikely to make the potential for improvements to other water bodies permanently worse.*

The achievement of the objectives of the Directive in other water bodies would be compromised (see Article 4.8 of the WFD). *For example, if setting an extended deadline or a less stringent objective for a water body would compromise the ability to prevent deterioration in the status of any other water body, the extended deadline or the less stringent objective could not be applied.*

Extending the deadline or setting a less stringent objective would be inconsistent with the implementation of other Community legislation (see Article 4.8 of the WFD). *For example, if the objectives or measures required by other Community legislation, including the legislation establishing Protected Areas, would be compromised by the application of extended deadlines or less stringent objectives, the application of such objectives would not be permitted.*

The level of protection provided by existing Community legislation would not be guaranteed (see Article 4.9 of the WFD: “Steps must be taken to ensure that the application of the new provisions, including the application of paragraphs 3, 4, 5, 6 and 7, guarantees at least the same level of protection as the existing Community legislation.”). *For example, if the achievement of the standards and objectives for a Protected Area would be compromised by the setting of an extended deadline or a less stringent objective, the extended deadline or the less stringent objective could not be applied.*

COMBINATIONS OF MEASURES AND OBJECTIVE SETTING

The tests for whether achieving “good status” would be disproportionately expensive or technically unfeasible apply to the set of measures necessary to achieve “good status”.

Before a less stringent objective or an extended deadline can be applied, the most cost-effective combinations of measures that would fully address each impact should be identified (e.g. pollution impacts, water resource impacts, habitat impacts). In some cases, a measure may contribute to addressing more than one impact (e.g. improved habitat may also improve pollutant mixing and breakdown).

Each of the impacts preventing the achievement of “good status” must be addressed to achieve “good status”. A less stringent objective or an extended deadline would be justified if the implementation of one of the cost-effective combinations of measures identified in relation to one of the impacts would be disproportionately expensive.

The cost-effective combinations of measures to address one of the impacts preventing the achievement of “good status” may include measures that need to be taken by different sectors or different water users within a sector (i.e. a measure taken by one sector would not resolve the impact unless another sector also took measures). River basin management may therefore require the development of some form of effective intra-sector and inter-sector planning and cooperation.

THE CASES FOR EXTENDED DEADLINES

In this chapter some cases for extended deadlines are presented for:

- Morphology - physical modification;
- Wastewater treatment plant discharges;
- Mines and contaminated lands - discharge to ground water;
- Agriculture - phosphorus losses from agriculture to surface waters by runoff;
- Chemical pollution and chemical status failures - priority substances and specific pollutants.

One example also illustrates the case, when the overall ecological status of the water body can be deteriorated due to a new modification and therefore triggering an Article 4.7 test.

CASE 1 - MORPHOLOGY - PHYSICAL MODIFICATION

Pressure/Reason

Physical modification (channelisation risks)

The type of exemption being sought

Extended deadline: Physical recovery - research and monitoring data indicates status recovery extends beyond the 1st RBMP cycle.

The specific reasons the exemption is being proposed

Water bodies with channelization risks and good macroinvertebrate status but known poor fish status (indicating impact) have been identified for possible enhancement. Where impact is suspected but fish status is not available to confirm this, investigation is required. Research to date has demonstrated that certain forms of river enhancement works on drained channels can significantly improve fish life. The enhancement works introduce more in-stream physical diversity, mimicking a more natural channel form with a resultant positive ecological impact. Fish populations will take time to recover post river enhancement.

The quality elements thought likely to fail

Fish

Date

End of the 3rd RBMP cycle.

Conclusion

The objective deadlines for relevant surface water bodies were extended to allow time for the measures to be implemented and recovery to take place.

CASE 2 - WASTEWATER TREATMENT PLANT DISCHARGES

Pressure/Reason

Waste water discharge from waste water treatment plant.

The type of exemption being sought

Extended deadline: Technical constraint – practical constraint.

The specific reasons the exemption is being proposed

Wastewater treatment plant upgrades have been prioritised on the basis of compliance with the urban wastewater treatment regulations requirements, operational problems (overloading and insufficient assimilative capacity), known impacts in receiving water quality and discharges in designated sensitive areas. The time required to plan and design upgrades to treatment plants and to achieve approvals and permit means it is not technically possible to achieve “good status” by the end of the 1st RBMP cycle.

The quality elements thought likely to fail

Macroinvertebrates community and mainly phosphorus levels and oxygen conditions supporting ecological status.

Date

End of the 2nd RBMP cycle.

Conclusion

The relevant objective deadlines for receiving water body were extended on the basis that there are practical constraints preventing “good status” being achieved by the end of the 1st RBMP cycle.

CASE 3 - MINES AND CONTAMINATED LANDS (GROUDWATER DISCHARGES)

Pressure/Reason

Ground water pollution sources risks (mines and contaminated lands).

The type of exemption being sought

Extended deadline: Physical recovery - research and monitoring data indicates status recovery extends beyond the 1st RBMP cycle.

The specific reasons the exemption is being proposed

Site specific surveys and restoration programmes are needed for waters impacted by contaminated land and mine sites. Where substantial impact has taken place (polluted ground waters below historical contaminated lands and/or mining activities), literature data indicates that status recovery may take a significant number of years, possibly more than three planning cycles (18 years). There may be a requirement **to develop also less stringent objectives for waters** as it may not be possible for this recovery to take place within three planning cycles or a disproportionate cost analysis (evaluating environmental benefits) may indicate that the required measures (which may be very costly) would not be economically justified.

The quality elements thought likely to fail

Chemical status and supporting elements affecting ecological status.

Date

End of the 3rd RBMP cycle.

Conclusion

The relevant objective deadlines for receiving water body were extended on the basis that there are practical constraints preventing “good status” being achieved by the end of the 1st RBMP cycle.

CASE 4 - AGRICULTURE: PHOSPHORUS LOSSES

Pressure/Reason

Phosphorus losses from agriculture to surface waters by runoff.

The type of exemption being sought

Extended deadline: Physical recovery - research and monitoring data indicates status recovery extends beyond the 1st RBMP cycle.

The specific reasons the exemption is being proposed

In some areas it is projected that it will take time for high soil P nutrient levels to reduce even after changing agricultural practices in compliance with the GAP regulations and therefore nutrient losses to waters may persist (an average recovery time of seven to 15 years is expected). The surface water body is covered predominantly by wet and clay soils with the slow P desorption rate. Lake catchments that include river water bodies with slow recovery rates and are impacted by elevated nutrient concentrations and/or eutrophication have also been identified.

The quality elements thought likely to fail

Phosphorus level as supporting elements affecting ecological status.

Date

End of the 2nd RBMP cycle.

Conclusion

The objective deadlines for relevant water bodies were extended to allow time for recovery following implementation of the GAP regulations.

CASE 5 - CHEMICAL POLLUTION AND CHEMICAL STATUS FAILURES

Pressure/Reason

Failures of chemical status by priority substances (mainly polyaromatic hydrocarbons PAH based on the limited dataset currently available) in all surface water bodies and chemical pollution (from specific pollutants) in transitional and coastal waters.

The type of exemption being sought

Extended deadline: Technical constraint - certainty of cause of problem or benefit of solution.

The specific reasons the exemption is being proposed

The national monitoring programme has been recently expanded to include a much boarder range of substances. However, more time is needed to determine the extent of chemical status noncompliance in surface waters and the extent of chemical pollution in transitional and coastal waters. Longer timescales are also required to identify the causes and sources of exceedances (for example PAH) and to investigate and implement measures.

The quality elements thought likely to fail

Priority substances, specific pollutants.

Date

End of the 2nd RBMP cycle.

Conclusion

The objective deadlines for relevant surface water bodies were extended to allow the sources and solutions for these chemical non-compliances to be investigated.

CASE 6 - DETERIORATION OF OVERALL STATUS (A NEW MODIFICATION)

Pressure/Reason

Deterioration of the overall status due to a proposed new modification to the physical characteristics of the surface water body.

Starting point

Overall ecological status determined by quality element in worst condition (in this case moderate).

Effect due to modification

Overall status may deteriorate due to deterioration of individual quality elements (in this example benthic invertebrate and fish fauna as an effect of deterioration of morphology), therefore triggering an Article 4(7) test. The example includes in this case a change in overall status of the water body from moderate to poor (Adapted from *CIS Guidance Document No. 36 - Exemptions to the Environmental Objectives according to Article 4(7)* (2017).).

Quality element	Biological quality elements	Hydromorphological quality elements	Physico-chemical quality	Overall ecological
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							elements		status
	Aquatic flora	Benthic invertebrates	Fish fauna	Hydrology	Morphology	Continuity	GP*	SpS**	
Starting point	2	2	3	2	2	2	2	2	3
Effect of modification	2	3	4	2	2	2	2	2	4

*GP - general physico-chemical parameter; **Specific substances

FURTHER READINGS AND REFERENCES

EU Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive).

The Common Implementation Strategy (C.I.S.) “Guidance Document No 4 Identification and Designation of Heavily Modified and Artificial Water Bodies (2003)”

The Common Implementation Strategy (C.I.S.) “Guidance Document No. 20 – Guidance Document on Exemptions to the Environmental Objectives (2009) “.

The Common Implementation Strategy (C.I.S.)”Guidance Document No. 36 - Exemptions to the Environmental Objectives according to Article 4(7)”(2017).

UK TAG on WFD. Guidance Paper on Identification of Ground water Bodies that require Less Stringent Objectives (2005).

LIST OF FIGURES AND TABLES

Figure 1: The Environmental Objective Setting Decision Scheme

Figure 2: Stepped approach to setting improvement objectives (Based on CIS GD No. 20, 2009)

Figure 3: Stepped approach to use of extended deadlines and less stringent objectives

Table 1: The quality standards for bathing waters based on Bathing Waters Directive (2006/7/EC).

ANNEX 1. THE ARTICLE 4 OF THE WFD RELATED TO ALTERNATIVE OBJECTIVES

Art 4.4

The deadlines established under paragraph 1 may be extended for the purposes of phased achievement of the objectives for bodies of water, provided that no further deterioration occurs in the status of the affected body of water when all of the following conditions are met:

(a) Member states determine that all necessary improvements in the status of bodies of water cannot reasonably be achieved within the timescales set out in that paragraph for at least one of the following reasons:

- (i) The scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;
- (ii) Completing the improvements within the timescale would be disproportionately expensive;
- (iii) Natural conditions do not allow timely improvement in the status of the body of water.

b) Extension of the deadline, and the reasons for it, are specifically set out and explained in the RBMP required under Article 13.

(c) Extensions shall be limited to a maximum of two further updates of the river basin management plan except in cases where the natural conditions are such that the objectives cannot be achieved within this period.

(d) A summary of the measures required under Article 11 which are envisaged as necessary to bring the bodies of water progressively to the required status by the extended deadline, the reasons for any significant delay in making these measures operational, and the expected timetable for their implementation are set out in the river basin management plan. A review of the implementation of these measures and a summary of any additional measures shall be included in updates of the river basin management plan.

Art 4.5

Member states may aim to achieve less stringent environmental objectives than those required under paragraph 1 for specific bodies of water when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive, and all the following conditions are met:

(a) The environmental and socioeconomic needs served by such human activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs;

(b) Member states ensure:

- For surface water, the highest ecological and chemical status possible is achieved, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;
- For ground water, the least possible changes to good ground water status, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution.

(c) No further deterioration occurs in the status of the affected body of water;

(d) The establishment of less stringent environmental objectives, and the reasons for it, are specifically mentioned in the river basin management plan required under Article 13 and those objectives are reviewed every six years.

Art 4.6.

Temporary deterioration in the status of bodies of water shall not be in breach of the requirements of this Directive if this is the result of circumstances of natural cause or force majeure which are exceptional or could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, or the result of circumstances due to accidents which could not reasonably have been foreseen, when all of the following conditions have been met:

- (a) All practicable steps are taken to prevent further deterioration in status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances;
- (b) The conditions under which circumstances that are exceptional or that could not reasonably have been foreseen maybe declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;
- (c) The measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstances are over;
- (d) The effects of the circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and, subject to the reasons set out in paragraph 4 (a), all practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable; and
- (e) A summary of the effects of the circumstances and of such measures taken or to be taken in accordance with paragraphs (a) and (d) are included in the next update of the river basin management plan.

Art 4.7.

Member states will not be in breach of this Directive when:

- Failure to achieve good ground water status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or ground water is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of ground water, or
- Failure to prevent deterioration from high status to “good status” of a body of surface water is the result of new sustainable human development activities and all the following conditions are met:
 - (a) All practicable steps are taken to mitigate the adverse impact on the status of the body of water;
 - (b) The reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;
 - (c) The reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and
 - (d) The beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

Art 4.8.

When applying paragraphs 3, 4, 5, 6 and 7, a member state shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.

Art 4.9.

Steps must be taken to ensure that the application of the new provisions, including the application of paragraphs 3, 4, 5, 6 and 7, guarantees at least the same level of protection as the existing Community legislation.

ANNEX 2. EQS FOR WATER INTENDED FOR HUMAN ABSTRACTION

Legislation to achieve in water abstraction protected areas (Based on the proposal for a Directive of the European Parliament and of the Council on the quality of water intended for human consumption).

Parameter	Value	Unit	Note
Microbiological parameters			
<i>Clostridium perfringens</i> spores	0	Number/100 ml	
Coliform bacteria	0	Number/100 ml	
Enterococci	0	Number/100 ml	
<i>Escherichia coli</i> (<i>E. coli</i>)	0	Number/100 ml	
Heterotrophic plate counts (HPC) 22°C	No abnormal change		
Somatic coliphages	0	Number/100 ml	
Turbidity	<1	NTU	
Chemical parameters			
Acrylamide	0,1	µg/l	Note 1
Antimony	5,0	µg/l	
Arsenic	10,0	µg/l	
Benzene	1,0	µg/l	
Benzo(a)pyrene	1,0	µg/l	
Bisphenol A	0,01	µg/l	
Boron	1,0	mg/l	
Bromate	10,0	µg/l	
Cadmium	5,0	µg/l	
Chlorate	0,25	mg/l	
Chlorite	0,25	mg/l	
Chromium	25,0	µg/l	Note 2

Copper	2,0	µg/l	
Cyanide	50,0	µg/l	
1,2-dichloroethane	3,0	µg/l	
Epichlorohydrin	0,1	µg/l	Note 3
Fluoride	1,5	µg/l	
Haloacetic acids (HAAs)	80,0	µg/l	Note 4
Lead	5,0	µg/l	Note 5
Mercury	1,0	µg/l	
Nickel	20,0	µg/l	
Nitrate	50,0	mg/l	Note 6
Nitrite	0,50	mg/l	Note 7
Nonylphenol	0,3	µg/l	
Pesticides	0,10	µg/l	Note 8
Pesticides - total	0,50	µg/l	Note 9
PFAS	0,10	µg/l	Note 10
PFAS - total	0,50	µg/l	Note 11
Polycyclic aromatic hydrocarbons	0,10	µg/l	Note 12
Selenium	10,0	µg/l	
Tetrachloroethene and Trichloroethene	10,0	µg/l	Note 13
Trihalomethanes — Total	100,0	µg/l	Note 14
Uranium	30,0	µg/l	
Vinyl chloride	0,50	µg/l	Note 15

Note 1. The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water.

Note 2. The value shall be met, at the latest, by (10 years after the entry into force of this Directive). The parametric value for chromium until that date is 50 µg/l.

Note 3. The parametric value refers to the residual monomer concentration in the water as

calculated according to specifications of the maximum release from the corresponding polymer in contact with the water.

Note 4. Sum of the following nine representative substances: monochloro-, dichloro-, and trichloro-acetic acid, mono- and dibromo-acetic acid, bromochloroacetic acid, bromodichloroacetic acid, dibromochloroacetic acid and tribromoacetic acid.

Note 5. The value shall be met, at the latest, by (10 years after the entry into force of this Directive). The parametric value for lead until that date is 10 µg/l.

Note 6. Member states shall ensure that the condition $[\text{nitrate}]/50 + [\text{nitrite}]/3 \leq 1$, where the square brackets signify the concentrations in mg/l for nitrate (NO₃) and nitrite (NO₂), is complied with and that the value of 0,10 mg/l for nitrites is complied with ex water treatment works.

Note 7. As Note 6.

Note 8. Pesticides' means: organic insecticides, organic herbicides, organic fungicides, organic nematocides, organic acaricides, organic algicides, organic rodenticides, organic slimicides, related products (*inter alia*, growth regulators) and their relevant metabolites (as defined in Article 3(32) of Regulation (EC) No. 1107/2009).

The parametric value applies to each individual pesticide.

In the case of aldrin, dieldrin, heptachlor and heptachlor epoxide, the parametric value is 0,030 µg/l.

Note 9. 'Pesticides — Total' means the sum of all individual pesticides, as defined in the previous row, detected and quantified in the monitoring procedure.

Note 10. 'PFAS' means each individual per- and polyfluoroalkyl substance (chemical formula: C_nF_{2n+1}-R).

Note 11. 'PFAS' total means the sum of per- and polyfluoroalkyl substance (chemical formula: C_nF_{2n+1}-R).

Note 12. Sum of concentrations of the following specified compounds: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, and indeno(1,2,3-cd)pyrene.

Note 13. Sum of concentrations of specified parameters.

Note 14. Sum of concentrations of the following specified compounds: chloroform, bromoform, dibromochloromethane, bromodichloromethane.

Note 15. The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water.

ANNEX 3. THE ANNEX V THE WFD RELATED TO PROTECTED AREAS

PROTECTED AREAS

1. The register of protected areas required under Article 6 shall include the following types of protected areas:

(i) areas designated for the abstraction of water intended for human consumption under Article 7;

(ii) areas designated for the protection of economically significant aquatic species;

(iii) bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;

(iv) nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and

(v) areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under Directive 92/43/EEC (1) and Directive 79/409/EEC (2).

2. The summary of the register required as part of the river basin management plan shall include maps indicating the location of each protected area and a description of the Community, national or local legislation under which they have been designated.

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