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EVALUATION

Evaluation of the Nitrates Directive (Council Directive 91/676/EEC)

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1. COHERENCE WITH WATER FRAMEWORK DIRECTIVE

1.1 Links between the Water Framework Directive and Nitrates Directive

The Water Framework Directive (WFD) and the Nitrates Directive (ND) are intricately linked and work together to achieve water quality objectives in the EU. The integration and synergy between these directives highlight their mutual dependability in achieving both overarching and specific water quality targets within the EU.

Here are some key points regarding their interlinkages:

- Complementary role: The WFD provides an overarching framework for water protection. It sets comprehensive environmental water quality objectives, including on chemicals and biology and deadlines for achieving these objectives that the Nitrates Directive supports through its specific focus on reducing nutrient pollution from agriculture.
- Conditional achievement of objectives: The achievement of the environmental objectives of the WFD is conditional on the full implementation of other EU directives, including the Nitrates Directive, as confirmed by the 2019 fitness check of the WFD. The WFD does not replace the Nitrates Directive. The latter is crucial for achieving good chemical status in groundwater bodies where nitrates concentrations are one of the key parameters. It is also relevant for achieving good ecological status of surface waters as **eutrophication**¹ remains one of the most significant water quality problems and obstacles in reaching good status in surface waters. The ND defines eutrophication and includes the requirement for Member States of reviewing every four years whether natural freshwater lakes, other freshwater bodies, estuaries, coastal waters and marine waters are found to be eutrophic or in the near future may become eutrophic if no measures are taken.
- Integration of the ND into the WFD Framework: There are several references in the WFD to the ND and nitrate pollution, interlinked concepts and methodologies. The most relevant interlinkage is within the Programme of Measures. The WFD requires Member

¹ 'Eutrophication' means the enrichment of water by nitrogen compounds, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned (Art. 2, Nitrates Directive).

States to develop and implement River Basin Management Plans (RBMPs) that include measures to tackle pollution from agricultural sources. The measures implemented under the Nitrates Directive serve as **basic measure** within the WFD's **Programmes of Measures**, reflecting the ND's fundamental role in reaching the WFD's objectives of good chemical status of groundwater and good ecological status of surface waters, by contributing to reducing diffuse nutrient pollution from agriculture. Also, both directives have specific requirements for monitoring water quality. The results from the monitoring under the ND can be used to assess pressures and impacts in the context of the WFD and the other way around. (See table 1 Below) Nevertheless, 25 years on, the integration of the ND and the WFD, especially in the preparation and design of the national measures in the NAP remains generally incomplete and uneven among Member States, although there has been a significant acceleration in the 3rd RBPM report. With the approaching 2027 deadline under the WFD, the interlinkages between the two directives become more prominent.

- **Flexibility:** The broad flexibility of national implementation under both the ND and the WFD creates important differences of approaches between Member States. As an illustration, reporting under the ND and the WFD shows that many Member States do not have a complete view on the nutrient load reductions required in the different catchments, watercourses and estuaries to reach good ecological status, nor on how much the measures under the ND would contribute to these load reductions. As a result, the measures under the ND may not be sufficiently targeted or in line with the nutrient load reductions required to ensure that the good status of waterbodies are achieved by 2027 and is not hampered by nutrient pollution from agriculture in areas draining into them.
- **Supplementary directives:** The Groundwater Directive (GWD) complements the WFD by defining specific groundwater quality standards that depend on the measures of the ND to reduce nitrates pollution in groundwater. Other water related directives also have close tights and interactions with the ND as reflected in table 2.

The following **Table 1** summarises the intersections between the Water Framework and the Nitrates Directives. It looks at parallelism and complementarities. The left column cites specific articles and annexes of the WFD, and the right one shows how the WFD specific elements contribute to the ND and its effectiveness.

Table 1 Intersections between the WFD and the ND.

Water Framework Directive and Groundwater Directive	Nitrates Directive
Art. 1. Purpose of the WFD: Sets the ultimate goal of water protection and sustainable approach to water management.	The article reinforces the implementation of the Nitrates Directive by promoting the long-term protection of water resources.
Art.2. Definitions: Provides the definitions of the key terms used in the Directive.	Several terms are common and key to both directives: types of water bodies, pollution/pollutant... Many WFD definitions provide clarifications to terms used in the ND.
Art. 4. Objectives: Sets out the environmental objectives for Member States, requiring them	The WFD sets overarching objectives covering all water bodies, i.e. to achieve good status of all water bodies by

to prevent the deterioration of water bodies and ensure they achieve ‘good status’.	2027. These objectives enhance the implementation of the ND by ensuring that agricultural nitrate pollution is considered within the broader environmental objectives for water. It enhances policy coherence.
Art. 6. Register of protected areas (also in Annex IV): Sets the obligation for MS to make a register of protected areas. The register should include, among other, Nitrates Directive nutrient-sensitive areas.	This triggers knowledge improvement between the link of protected areas and water bodies. It helps improving coordination among competent authorities and aligning the objectives of the Nitrates Action Programme (NAP) with other environmental goals from other EU directives, such as those related to biodiversity, ecosystem health and drinking water.
Art. 8. Monitoring: requires Member States to establish monitoring programs for surface water, groundwater, and protected areas.	The monitoring required under the ND informs and complements the one under the WFD. This improves overall data collection and analysis. The broader information gathered under the WFD helps identifying and differentiating pollution sources essential for a proper ND implementation (see full analysis of monitoring requirements and synergies on tables 2 and 3).
Art. 10. Combined approach for point and diffuse sources: establishes that MS require a combined approach to control pollution impacting water bodies.	This article connects achieving the objective of good status with the control of diffuse sources under the ND aligning knowledge on different pressures.
Art. 11. Programme of measures: mandates the establishment of ‘programmes of measures’ for each river basin to achieve good water status. Art. 11(3) refers specifically to ‘basic measures’. This article also addresses transboundary aspects as Member States may adopt coordinated measures and plans applicable to international river basin districts.	The Nitrates Directive serves as basic measure (minimum requirements to be complied with), i.e. measures to prevent diffuse pollution of nutrients. This requires that MS take into account WFD objectives when designing their NAP. This promotes the interconnection of measures leading to more effective planning, targeted actions and optimisation of resources The ND includes provisions for the Commission to support Member States in specific transboundary pollution cases (art 3 (3)). Transboundary pollution aspects should also be covered by the river basin management approach under the WFD supported by the common standards and intercalibration developed to define good ecological status. This allows to address transboundary cases in a coordinated and integrated way.
Art. 13. River basin management plans (RBMPs): mandates the development of plans that outline actions, known as a ‘programme of measures’, needed to achieve good status for all water bodies.	Specific measures under the ND are essential to address diffuse pollution of nutrients and achieve good status of water bodies. This also provides the opportunity for the ND to access a broader picture and identify technical measures, many of which could complement good agricultural practices. RBMPs and NAPs work jointly

	towards the common goal of water protection, and the NAP is part of the programme of measures to achieve good status.
Art 14. Public information and consultation. Addresses early and broad public participation in planning. It is dedicated to public information and consultation related to the RBMPs and their updates.	This has ensured public participation and stakeholder involvement and led to greater awareness and cooperation among farmers, policymakers, and the public regarding nitrate pollution and the overall link with water policy. These exchanges have had a positive impact on the understanding of ND goals and their implementation.
Art. 15. Reporting: requires MS to submit information every 6 years on the implementation of the measures and progress to improve and protect water quality.	The monitoring and reporting required under the ND complements the one under the WFD (see below full analysis of monitoring requirements and synergies on tables 2 and 3).
Annex II. provides specific criteria to characterise water body types and their status and identify pressures.	This annex provides detailed descriptions of water body types useful when monitoring and assessing nitrates pollution and reporting results.
Annex IV. Protected areas: refers to the types of protected areas MS need to include in the register required under Article 6.	Among other, this annex refers to nutrient-sensitive areas, including areas designated as vulnerable zones under the ND (NVZ). It promotes policy coherence and links the ND to protected areas and water protection.
Annex V. Describes quality elements for the classification of ecological status in surface waters and for quantitative status for ground waters. It specifies how surveillance and operational monitoring should be addressed.	Under the WFD, Nitrate is a core parameter to monitor in surveillance monitoring in groundwater. This is essential to validate risk assessments and track trends in water bodies. The ND specifies a maximum concentration of 50 milligrams per Liter (mg/L) of nitrates in groundwater and surface waters. Waters exceeding this concentration are regarded as polluted or at risk of pollution
Annex VI. Refers to the list of measures to be included within the Programme of Measures.	(ix) Measures required under the ND. (See benefits listed under Art. 11).
Annex VIII. Provides an indicative list of main pollutants. MS must identify pressures impacting water bodies, coming e.g. from substances which contribute to eutrophication (in particular, nitrates and phosphates).	This allows gathering relevant information for the ND implementation and eutrophication assessment (e.g. the role of phosphates, nutrient limitation levels, synergistic effects of N and P)

GWD Art. 3. Sets the criteria required for MS to assess groundwater chemical status. GWD Art. 4. Sets the procedure required for MS to assess groundwater chemical status. GWD Art. 5. Describes the need for MS to identify upward trends of pollutants and define points to reverse these.	The measures under the ND are essential to reduce nitrates pollution from agriculture. These are needed to meet WFD's environmental objectives for groundwater quality. The GWD complements the WFD by laying down criteria and procedures for assessing groundwater chemical status and trends, including the EU groundwater quality standard for nitrate. The WFD/GWD provide key information for understanding nutrients and other pollutants interaction, and design measures that address the root causes of eutrophication.
GWD Annex I. provides EU-wide groundwater quality standards for nitrates and pesticides (individual and total). It establishes 50 mg/l as the EU groundwater quality standard for assessing groundwater chemical status.	Reinforces the implementation of the Nitrates Directive by using the same maximum concentration at EU level. The ND uses the 50 mg/l nitrate value as a criterion for identifying waters affected by pollution or at risk.

1.2 How the WFD has impacted the implementation and results of the ND

The WFD and the ND are two directives that aim to improve water quality, but they target issues from slightly different angles. The impact of the WFD on the Nitrates Directive's implementation and results can be understood through several dimensions:

- **Integrated Approach:** The WFD promotes an integrated approach to water management across entire river basins, which has enhanced the implementation of the Nitrates Directive by ensuring that agricultural nutrient pollution is considered within the broader context of water management. This holistic approach encourages coordination among different policy measures and stakeholders, and should lead to more effective planning and targeted actions.
- **Monitoring and Assessment:** The WFD has introduced comprehensive monitoring and assessment requirements, which have improved the data collection and analysis related to water quality, including nitrate levels and eutrophication. This enhanced understanding has helped in identifying pollution sources more accurately and in evaluating the effectiveness of measures taken under the Nitrates Directive.
- **Synergies with Other Environmental Objectives:** By encouraging the integration of various environmental policies, the WFD has helped align the objectives of the ND with other environmental goals, such as those related to biodiversity and ecosystem health. This alignment has led to more cohesive strategies that address multiple environmental challenges simultaneously, improving overall water quality.
- **Increased Stakeholder Involvement:** The WFD emphasises public participation and stakeholder involvement, which has led to greater awareness and cooperation among farmers, policymakers, and the public regarding nitrate pollution. This increased

engagement is essential for the successful implementation of measures required by the ND.

- **Enhanced Legal and Institutional Framework:** The WFD has reinforced the legal and institutional framework for water protection in the EU, providing additional support for the implementation of the ND. This has included more stringent reporting and compliance mechanisms, which have encouraged Member States to effectively implement action programs to control nitrate pollution.
- **Focus on Achieving Good Status and its deadline:** The WFD's goal of achieving good status for all waters has provided a clear target that complements the ND's aim of reducing and preventing water pollution from nitrates of agricultural origin. The WFD's aim was to achieve this status by 2015. Extensions were allowed to **2027** under certain conditions, as detailed in WFD article 4(4), including technical feasibility, disproportionate costs, or natural conditions that require more time for recovery. Thus, 2027 is the final deadline for Member States to put in place the measures necessary to ensure that all EU water bodies will achieve good status². Under the ND, there are no specific deadlines as in the WFD. Instead, the ND focuses on recurring cycles of designation and action (NVZs, NAPs). This shared end goal of protecting waters in both directives has fostered greater alignment and prioritization of measures aimed to reduce nitrate levels.

Overall, the WFD has had a significant positive influence on the implementation and results of the ND by promoting an integrated approach to water management, improving monitoring and data analysis, fostering stakeholder collaboration, and strengthening the legal framework for addressing water pollution in the EU.

The existing legal framework is coherent and complementary, and the WFD and 'daughter directives' do not substitute the more focused approach of ND on the nutrients pollution originating from agricultural pressures.

1.3 Coherence of Monitoring and reporting

The following **Table 2** and **Table 3** offer an overview on the main overlaps regarding monitoring and reporting between water related directives (not only WFD) and the ND. The information is presented per water type. The table shows important overlaps among directives. For example, both directives require monitoring of water bodies, focusing on establishing baseline conditions, validating risk assessments, and assessing long-term trends. Nitrates is a core parameter to monitor under both directives. Under the WFD and MSFD, eutrophication caused by nutrients, including nitrates, is monitored to assess ecological status. This aligns with ND's focus on identifying waters affected by nitrates from agricultural sources.

However, there are also important differences on focus, frequency and specific methodologies. The ND targets nitrate pollution from agricultural sources, while the WFD has a broader scope (all types of pressures). The WFD guidance documents provide detailed methodologies to monitor eutrophication, which are lacking in the ND.

² The deadline can still be extended where natural conditions do not allow timely improvement in the status of a water body (WFD Art. 4(4)(c)). Also, not reaching the objective by 2027 can be justified under the provisions of WFD article 4(5), given that all feasible and not disproportionately costly measures have been implemented

Overall, EU water policies provide important flexibility on methodologies, thresholds and number of monitoring sites, which allow local adaptation. This flexibility has led to large variations on how MS have approached monitoring and data reporting. These variations may hamper for instance comparability efforts, but should not hinder the proper implementation of the directives and achievement of water protection objectives.

Table 2 Overview of main overlaps in the ND's and the water acquis' approach to monitoring and reporting

Monitoring of nitrates concentrations in groundwaters	
Other water acquis	ND
• WFD/GWD: Nitrates one of the core parameters to be monitored in selected groundwater bodies under surveillance monitoring. Moreover, nitrates are listed as pollutant in WFD Annex VIII, No. 11, which means they are a parameter for the determination of groundwater chemical status (WFD Annex V, No. 2.3.1). • Surveillance monitoring sites for groundwaters are generally set up across a broad range of locations. The requirement states that sufficient monitoring sites shall be selected for bodies identified as being at risk and bodies which cross a Member State boundary. • Under the WFD, the operational monitoring of groundwaters shall be undertaken in the periods between surveillance monitoring programmes in order to establish the chemical status of all groundwater bodies or groups of bodies determined as being at risk, and to establish the presence of any long-term anthropogenically induced upward trend in the concentration of any pollutant. It thus aims to supplement and validate the impact assessment procedure carried out in accordance with Article 5 and Annex II, and to provide information for use in the assessment of long-term trends both as a result of changes in natural conditions and through anthropogenic activity. • DWD: Monitoring is laid out in Article 13 and in Annex II. The DWD monitoring is directed at the entire water supply chain, including the abstraction area – which can include groundwater and surface water. The obligations in Article 4 include concentration requirements for nitrates, determined in Annex I (Art. 4 (1)). Moreover, MS shall ensure that measures taken in the DWD do not have the effect of allowing any deterioration of the present quality of water intended for human consumption or any increase in the pollution of waters. Hence, this includes eutrophication processes and nitrate concentration.	• The ND's monitoring has the purpose of allowing Member States to correctly identify waters affected by nitrate pollution, waters which could be affected if no action is taken and, where relevant, to correctly designate and revise the designation of Nitrate Vulnerable Zones. • Article 6 requires that groundwaters be sampled for their nitrate concentrations, over a period of one year, at sampling stations representative of the groundwater aquifers of Member States, at regular intervals. This one-year monitoring programme should be repeated at least every four years. For those sampling stations for which the nitrate concentration in all previous samples has been below 25 mg/l and no new factor has appeared that is likely to increase the nitrate concentration, the programme need be repeated only every eight years. • Trends are to be calculated based on the averages of the annual means for the entire reporting period. In addition to the comparison with the previous reporting period, reports may include comparisons with earlier reporting periods to assess longer-term trends. The Article 10 reports should provide the percentage of stations with strong decrease, weak decrease, stable, weak increase or strong increase in nitrate concentrations.
Monitoring of nitrates concentrations in inland surface waters	
Water acquis	ND
• WFD: The surveillance monitoring of surface waters aims to provide an overall picture of water status, to establish long-term trends, and to validate risk assessments. It is typically used to assess the impacts of human activity and natural conditions on water status over time, and to gather data that helps in the design of future monitoring programs. Surveillance monitoring sites are generally set up across a broad range of locations to establish baseline conditions. • The objective of the surveillance monitoring of surface waters is to provide information for (1) supplementing and validating the impact assessment procedure detailed in Annex II, (2) the efficient and effective design of future monitoring programmes, (3) the assessment of long-term changes in natural conditions, and (4) the assessment of long-term changes resulting from widespread anthropogenic activity. • Nutrients are to be measured as part of the assessment of ecological status (based on biological quality elements plus physico-chemical supporting elements, with nutrients as part of the latter), Nitrates are not always monitored for this purpose, nor	• The ND monitoring of surface waters takes place at sampling stations (1) used or intended for use in the abstraction of drinking water and/or (2) other sampling stations representative of surface waters. The ND's monitoring has the purpose of allowing Member States to correctly identify waters affected by nitrate pollution due to agricultural sources, waters which could be affected if no action is taken and where relevant to correctly designate and revise the designation of Nitrate Vulnerable Zones. The correct identification of these waters requires a monitoring network that is generally representative of the waters in the MS. The link to agricultural sources can in practice mean that monitoring networks are more dense in agricultural areas. • The monitoring requirements for surface waters are that Member States shall monitor the nitrates concentrations at the surface water sampling stations (used or intended for use in the abstraction of drinking water and/or other sampling stations representative of surface waters) at least monthly and more frequently during flood periods, over a period of one year. • Trends are to be calculated based on the averages of the annual

are they monitored as part of chemical status assessments (which is on the basis of priority substances). Member States decide which nutrient parameters to measure (which can include Total P, soluble reactive P, Total N, ammonia, nitrates, and nitrites). According to European Commission, JRC (2024), under the WFD most but not all Member States measure nitrates for rivers, approximately half measure nitrates for lakes. Total Nitrogen (TN) is measured by almost all countries. • DWD: Monitoring is laid out in Article 13 and in Annex II. The DWD monitoring is directed at the entire water supply chain, including the abstraction area – which can include groundwater and surface water. The obligations in Article 4 include concentration requirements for nitrates, determined in Annex I (Art. 4 (1)). Moreover, MS shall ensure that measures taken in the DWD do not have the effect of allowing any deterioration of the present quality of water intended for human consumption or any increase in the pollution of waters. Hence, this includes eutrophication processes and nitrate concentration.	means for the entire reporting period (winter means for surface waters when relevant). In addition to the comparison with the previous reporting period, reports may include comparisons with earlier reporting periods to assess longer-term trends. The Article 10 reports should provide the percentage of stations with strong decrease, weak decrease, stable, weak increase or strong increase in nitrate concentrations.
Monitoring of eutrophication in inland surface waters	
Water acquis • WFD: The surveillance monitoring of surface waters aims to provide an overall picture of water status, to establish long-term trends, and to validate risk assessments. It is typically used to assess the impacts of human activity and natural conditions on water status over time, and to gather data that helps in the design of future monitoring programs. Surveillance monitoring sites are generally set up across a broad range of locations to establish baseline conditions. • The objective of the surveillance monitoring of surface waters is to provide information for (1) supplementing and validating the impact assessment procedure detailed in Annex II, (2) the efficient and effective design of future monitoring programmes, (3) the assessment of long-term changes in natural conditions, and (4) the assessment of long-term changes resulting from widespread anthropogenic activity. • The WFD's evaluation assessment of ecological status includes an assessment of eutrophication. WFD Eutrophication Guidance states that being worse than good ecological status for algal and plant quality elements due to nutrient enrichment implies a eutrophication issue.. The Member States BQE methods have been developed and intercalibrated to address eutrophication pressure. For each of the 440 BQE methods currently in use, pressure(s) addressed have been defined and included in the intercalibration reports, 370 methods address eutrophication pressure, many of them are used specifically for eutrophication (for details see Poikane et al., 2020; Nikolaidis et al., 2024). Member States monitor a series of biological and physico-chemical parameters which are related to eutrophication pressure (<u>and to other pressures</u>). • It is possible to use WFD data to determine eutrophication status of water bodies, following the WFD Guidance on eutrophication³ and the information on assessment methods provided by Member States. The majority of MS have established links between the WFD BQE methods and eutrophication (nutrients) (information in the intercalibration reports). To streamline ND and WFD assessments, it would be necessary to hold a coordination exercise to discuss and agree on the approaches used for eutrophication assessment.	ND • The ND's monitoring has the purpose of allowing Member States to correctly identify waters affected by nitrate pollution due to agricultural sources, waters which could be affected if no action is taken and to correctly designate and revise the designation of Nitrate Vulnerable Zones. The correct identification of these waters requires a monitoring network that is generally representative of the waters in the MS. The link to agricultural sources can in practice mean that monitoring networks are more dense in agricultural areas. Monitoring requirements for inland surface waters - Eutrophication: Member States shall review the eutrophic state of their fresh surface waters, estuarial and coastal waters every four years. No detail is provided regarding the methodology to be used However ND Guidelines and WFD Eutrophication guidance both recommend the use of a specific methodology (eutrophic = less than good status according to algal and plant elements), supported by nutrient conditions.
Monitoring of eutrophication in transitional, coastal and marine waters	

³ Guidance Document No. 23: Guidance Document on Eutrophication Assessment in the Context of European Water Policies. Common Implementation Strategy for the Water Framework Directive. Technical report 2009-030.

Water acquis	ND
• WFD: See above, monitoring of eutrophication in inland waters. • MSFD: Under the MSFD, monitoring programmes are intended to provide the data needed to assess whether in the relevant coastal or other marine waters a good environmental status (GES) has been achieved or maintained or not, the distance from and progress towards a GES and to assess progress towards achieving environmental targets that the MS have defined individually (see Art. 9 and 10 MSFD). • Monitoring programmes serve: - o For the ongoing assessment of the environmental status of marine waters, on the basis of the ‘indicative list of ecosystem elements, anthropogenic pressures and human activities relevant to the marine waters’ in Annex III; ♣ Relevant biotic and abiotic elements ♣ Dominant pressures and activities (MSFD Annex III) in order to quantify pressures associated with activities and assess effectiveness of measures in relation to the targets set; ♣ Monitoring should provide the data in support of the relevant criteria and indicators of the COM Decision 2010 (now 2017) - o To identify suitable indicators for the environmental targets. - o To assess the effectiveness of measures. - o Monitor/assess activities regarding restoration of good environmental status. - o Monitor/assess chemical contaminants in species for human consumption from commercial fishing areas - o monitor/assess activities regarding corrective measures as well as side effects’ • There are overlaps with the ND’s monitoring of eutrophic status in surface water (ecosystem impacts): - o Overlap for coastal water since under the MSFD and the Commission Decision 2017/848, human induced eutrophication is one of the 11 descriptors of the GES-assessment. The Decision states that eutrophication assessment in coastal waters should use the threshold values set in accordance with the WFD, and in marine waters values consistent with those for coastal waters under the WFD. - o Overlap for marine waters since ND Annex I refers to analysis of “marine waters” when assessing “pollution” of waters that are within the scope of the ND (Coastal waters, estuaries).	• The ND’s monitoring has the purpose of allowing Member States to correctly identify waters affected by nitrate pollution due to agricultural sources, waters which could be affected if no action is taken and to correctly designate and revise the designation of Nitrate Vulnerable Zones. The correct identification of these waters requires a monitoring network that is generally representative of the waters in the MS. The link to agricultural sources can in practice mean that monitoring networks are more dense in agricultural areas. Monitoring requirements for surface, estuarial and coastal waters - Eutrophication: Member States shall review the eutrophic state of their fresh surface waters, estuarial and coastal waters every four years. No detail is provided regarding the methodology to be used. However, ND Guidelines and WFD Eutrophication guidance both recommend the use of a specific methodology (eutrophic = less than good status according to algal and plant elements), supported by nutrient conditions.

Source: Ecorys. Complementary study to provide specific elements for the evaluation of the Nitrates Directive (Council Directive 91/676/EEC), February 2025.

Table 3 Overview of relevant differences in the ND’s and the WFD/GWD’s approach to monitoring and reporting

WFD/GWD approach	ND approach
General differences (applicable to all types of water bodies)	
• Monitoring: The WFD’s monitoring aims to establish a coherent and comprehensive overview of water status within each river basin district. The WFD is thus tasked with monitoring impacts due to a variety of pressures affecting a water body’s quality (e.g. urban areas, point sources, background concentrations). This can have implications for the geographic location and the types of water	• Monitoring: The ND’s monitoring has the purpose of allowing Member States to correctly identify waters affected by nitrate pollution due to agricultural sources, waters which could be affected if no action is taken and to correctly designate and revise the designation of Nitrate Vulnerable Zones. The correct identification of these waters requires a monitoring network that is generally

bodies chosen for monitoring points (e.g. monitoring sites shall be representative of the quality of the relevant water body/bodies in operational monitoring). • Monitoring (applied to groundwater): Surveillance monitoring should be carried out at water bodies identified as being at risk following the characterisation exercise undertaken in accordance with Annex II. Operational monitoring, on the other hand, shall be undertaken in the periods between surveillance monitoring programmes in order to establish the chemical status of all groundwater bodies or groups of bodies determined as being at risk. • Reporting: The monitoring under the WFD refers to the water status at the water body level. The monitoring data of several monitoring sites within one water body (whose boundaries are defined by the Member State) are aggregated to a single assessment for the water body. • Reporting: The WFD's reporting cycle is a six-year one.	representative of the waters in the MS. The link to agricultural sources can in practice mean that monitoring networks are more dense in agricultural areas. • Monitoring: The ND only defines one type of monitoring. • Reporting: The monitoring outcomes under the ND are reported per monitoring station (e.g. as yearly/winter averages). • Reporting: The ND's Article 10 reports have to be submitted by MS every four years.
Differences in groundwater monitoring and reporting	
• Reporting: Per groundwater body the outcome of chemical status assessment is reported (good chemical status / not of good chemical status), as well as results of trend and trend reversal assessments. Additional information related to nitrates varies in its degree of detail, but as a minimum, water bodies that fail to meet good status due to nitrates concentrations will be reported as such. • Reporting: Under the GWD, trends and trend reversal are to be established using recognised statistical trend assessment techniques. The use of statistical methods allows for evaluations of the level of confidence associated with a trend or trend reversal. • Reporting: The GWD (as the ND) defines the quality standard for nitrates at 50 mg/l. The GWD defines starting points for trend reversal by default at 75% for its quality standards/threshold values. This threshold for trend reversal (trigger for action) is thus defined at 37.5 mg/l for nitrates. Methodology for trend assessment is elaborate and robust.	• Reporting: Per monitoring station the monitoring outcomes are reported as concentration values in mg/l of nitrates (typically in yearly averages). Values for concentration trends (over consecutive monitoring periods) and maxima are reported. • Reporting: Under the ND, trends are calculated by comparing the average of annual means over the four-year reporting period with the same average of one (or more) preceding reporting period(s). • Reporting: The ND (as the GWD) defines the quality standard for nitrates at 50 mg/l. Waters at risk of short-term overstepping of the 50 mg/l standard are those between 40 mg/l and 49.99 mg/l (i.e. waters which could be polluted if action is not taken, trigger for action). It should be noted that this threshold is not defined in the legal text but part of the non-binding "Guidelines for reporting under Article 10".
Differences in surface water monitoring and reporting	
• Reporting: Per surface water body the outcome of the overall ecological status assessment is reported as one of five classes (high/good/moderate/poor/bad), based on the monitoring of biological quality elements and supporting physico-chemical quality elements, following the one-out-all-out principles. Nitrates are measured as part of physico-chemical quality elements 'nutrient conditions', and reported as either high, good, or less than good.	• Reporting: Per monitoring station the monitoring outcomes are reported as concentration values in mg/l of nitrates (typically in yearly averages). Values for concentration trends (over consecutive monitoring periods) and maxima are reported.
Differences in eutrophication assessment	
• Reporting: Strictly speaking there is no eutrophication assessment under the WFD, but the WFD's biological boundary good/moderate status is linked to the ND's non-eutrophic status as explained in CIS Guidance No. 23. Under the WFD, for a surface water body to achieve the policy objective of Good Ecological Status (GES), the assessment is based on biological parameters and supporting physico-chemical quality elements, following the one-out-all-out principle. Nutrients are part of supporting physico-chemical elements. Member States have to establish nutrient boundary thresholds, typically chosen to correlate with the biological boundary between good/moderate ecological status.	• Reporting: The eutrophication assessments under the ND are based on a combination of physico-chemical and biological criteria (with a handful of MS only using physico-chemical and one MS using only biological criteria). In the majority of Member States these thresholds are defined in terms of <i>inter alia</i> nitrates (NO₃⁻) or nitrates as nitrogen (N-NO₃⁻). Surface water bodies in these MS thus often have to meet nitrate threshold values under the ND, in addition to the ND's 50 mg/l nitrates concentration threshold.

Source: Adapted from Ecorys. Complementary study to provide specific elements for the evaluation of the Nitrates Directive (Council Directive 91/676/EEC), February 2025.

Differences and approaches to address challenges

Nitrates concentration

For groundwater chemical status under the WFD/GWD, nitrate concentrations are assessed against the EU groundwater quality standard of 50 mg/l established in the GWD. The assessment is carried out at groundwater-body level and is supported by groundwater monitoring designed to provide a coherent and comprehensive overview of chemical status and to detect long-term anthropogenically induced upward trends. Exceedances at individual monitoring points do not automatically determine the final status classification of a groundwater body, but Member States must explain how such exceedances have been considered in the final assessment.

Under the Nitrates Directive, groundwater nitrate monitoring serves to identify waters affected by pollution or at risk of pollution from agricultural sources, support the designation or revision of Nitrate Vulnerable Zones, and assess the effectiveness of Nitrates Action Programmes. Therefore, while the same monitoring data may often be used under both frameworks, the assessment scale and conclusions can differ.

The ND requires regular and consistent monitoring of nitrate concentrations in both surface and groundwater in all waters, and annual reviews. Monitoring is often more focused and frequent in agriculture areas or within Nitrate Vulnerable Zones (NVZs) to assess compliance with established limit values and effectiveness of action programs. Furthermore, the ND includes requirements related to the concentration of nitrates in groundwater and surface waters, which are linked to the 50 mg/L maximum admissible concentration for nitrates in drinking water (human health protection goal). Information reported by Member States includes concentration classes and calculations of trends (based on a comparison between monitoring periods). This leads to more differentiated results than those reported under the WFD and provides the possibility of showing more subtle changes (e.g. when improvements happen at a slow pace).

Efforts are on-going to increase exchanges among EU technical groups on reporting data, methodologies and results. This enhanced understanding should help in identifying nitrates trends more accurately and in evaluating the effectiveness of measures taken under both Directive.

Specifically for groundwater, the monitoring of nitrate concentrations required by the ND can be very relevant for groundwater quality assessment. Most Member States use partially overlapping data and data processing methods under the ND and WFD/GWD, although the situation varies among MS. Consultations of Member States experts in the ND and Ground Water working groups in 2025, showed a very diverse approach among Member States and challenges in streamlining approaches, nevertheless Member States acknowledged potential for better alignment. The consultations highlighted that:

- The overlap between monitoring stations (WFD/GWD and ND) varies across MS. The design and use of monitoring networks also varies (e.g. WFD/GWD often track multiple pressures), which questions the potential comparability of results between MS. Nevertheless, Member States see the potential to align monitoring networks: either as having the ND network as a sub-network of the WFD/GWD network focused on agriculture or even using the same monitoring networks.

- Most Member States see potential for harmonisation of data collection and processing between directives. Data are in most Member States fully or partially collected by the same teams or authorities under both WFD/GWD and ND.
- Regarding assessment, MS see room for harmonisation specially in case of using the same threshold value for identification waters at risk of being polluted, using the same aggregation periods or the same trend assessment.
- Most MS see potential in aligning the monitoring and reporting cycle to match exact same years of GWD/WFD cycle. However, under the GWD/WFD Member States have a margin of freedom for the assessment periods which results in differences in data used for an assessment. This would complicate the aligning the cycles at EU level.
- MS also expressed concerns regarding the complexity of aligning assessments and reporting or combining data and resources. There are differences in objectives, monitoring strategies and national approaches, which make it difficult to harmonise status/trend assessments, evaluation units, and reporting requirements. Bringing together monitoring efforts and merging ND and WFD/GWD assessments could be demanding and might make it more burdensome.

Ecological status and eutrophication

The WFD's evaluation assessment of ecological status also involves assessment of eutrophication. The WFD Eutrophication Guidance states that being worse than good ecological status for algal and plant quality elements due to nutrient enrichment implies a eutrophication issue. The Member States use BQE intercalibrated methods to address eutrophication pressure. Thus, Member States monitor a series of biological and physico-chemical parameters which are related to eutrophication pressure (and to other pressures). The nutrient concentrations of nitrogen and/or phosphorus and their thresholds for supporting good ecological status is part of the analysis. The WFD does not specify which nutrients should be used. Member States establish nutrient boundary thresholds, typically chosen to correlate with the biological boundary between good/moderate ecological status. Thresholds are established at the national level by each Member State (and present wide variations). MS might report results based on concentrations of N and P both dissolved and total fractions. Boundaries of Biological Quality Elements (BQEs) are compared and harmonised through an intercalibration process but there are no European wide nutrient targets per water body types.

The ND does not provide detail on how the eutrophication assessment should be performed, allowing Member States to establish their own eutrophication criteria and thresholds⁴. The nitrates threshold for surface water set in the Nitrates Directive to meet drinking water standards (50 mg nitrate/L) is inappropriate to assess eutrophication, as the more ecologically relevant criteria for nutrients concentrations, necessary for achieving good ecological status for the WFD, would be much lower. However, the WFD CIS guidance on eutrophication

⁴ Nikolaidis, N., Poikane, S., Bouraoui, F., Salas Herrero, M.F., Free, G., Varkitzi, I. and Van De Bund, W., Comparison and harmonization of eutrophication assessment criteria under the WFD and the Nitrate Directives, Publications Office of the European Union, Luxembourg, 2024, <https://data.europa.eu/doi/10.2760/23475>, JRC137238.

assessment provides recommendations for a methodology⁵, and the ND Guidelines recommend assessing eutrophication in line with this Guidance document⁶.

The 2019 WFD fitness check noted: *The main challenge regarding the interaction between the WFD and the Nitrates Directive lies in implementing the legislation rather than in the legislative framework itself. While Member States can in theory adopt compulsory measures outside the NVZs and deadlines in order to meet the WFD objective, in practice this is not often done. Furthermore, there is also some inconsistency between the designation of NVZs (and sensitive areas under the UWWTD) and the assessment of ecological status. This is because not all Member States link the assessment of ‘eutrophication’ required by the Nitrates Directive with WFD ecological status and related quality elements. To improve coherence and consistency, a CIS guidance document was published in 2009 on the assessment of eutrophication. Nonetheless, reporting under the Nitrates Directive in 2016 showed that the methodologies used to assess eutrophication still varied widely among Member States and often were not well linked to the WFD quality. Efforts are continuing to improve coherence and synergies at Member State and EU levels*⁷.

Additional efforts have been invested and are on-going for comparing and harmonising eutrophication assessment criteria under the WFD and ND (JRC, 2024 report⁸). While the report recommends that Member States use the WFD ecological status assessment for determining eutrophication under the Nitrates Directive, inconsistent criteria and thresholds between the WFD and ND in the classification of water bodies regarding eutrophication persist. It is also the case that countries with higher percentages of agriculture tend to use higher values for nutrient thresholds, providing less adequacy with biological quality elements⁹.

Discussions are on-going on how to better harmonise eutrophication relevant definitions, criteria (parameters, metrics and thresholds) and the possibilities to report data in a disaggregated way. This would streamline approaches and provide better water quality information, which in turn would contribute to address current and future water protection and management challenges. Also, a specific task for the 2025-2027 work programme on harmonisation of eutrophication criteria under WFD and Nitrates Directive has been setup in the Working Group ECOSTAT. ECOSTAT is working under the WFD Common Implementation Strategy on the harmonization of the assessment of ecological status across Europe.

⁵ The CIS guidance states that “eutrophic status” under the ND corresponds to “Worse than Good ecological status for the algal and plant quality elements” (supported by nutrient conditions) under the WFD (Tables 4 -7): European Commission: Directorate-General for Environment, Guidance document on eutrophication assessment in the context of European water policies. Guidance document No 23, Publications Office, 2009, <https://data.europa.eu/doi/10.2779/49795>

⁶ ‘Guidelines for reporting under Article 10 of the Nitrates Directive’, v.3.0, 2024

⁷ European Commission, Commission Staff working document fitness check of the Water Framework Directive, Groundwater Directive, Environmental Quality Standards Directive and Floods Directive, SWD (2019) 439 final.

⁸ European Commission, Joint Research Centre, Nikolaidis, N., Poikane, S., Bouraoui, F., Salas Herrero, M.F., Free, G., Varkitzi, I. and Van De Bund, W., Comparison and harmonization of eutrophication assessment criteria under the WFD and the Nitrate Directives, Publications Office of the European Union, Luxembourg, 2024, <https://data.europa.eu/doi/10.2760/23475>, JRC137238.

⁹ Nikolaidis *et al.* Comparison of eutrophication assessment for the Nitrates and Water Framework Directives: Impacts and opportunities for streamlined approaches, Ecological Indicators, v 177, 2025.

Strengthening coordination mechanisms between the directives can mitigate overlap issues. Regular discussions and agreements on methodologies should promote coherence in monitoring practices.

Streamlining of reporting

Reporting cycles under WFD and ND are set to converge end of 2027, aligning strategic water quality goals. From that moment, there is scope to coordinate reporting processes better and improve communication of the results to the public. However, there are many practical challenges that will need to be examined with the Member States in view to maximise the benefits in improved coherence and burden reduction:

- There are limits on how far reporting can be streamlined, given the differences in reporting cycles and reporting periods used for data among the MS under the WFD.
- Less frequent reporting under the ND could lead to reduced information benefits and could jeopardise the Directive's correct application and enforcement.
- Better streamlining in monitoring and assessments is necessary but requires addressing related technical challenges and a certain level of harmonisation
- If the underlying monitoring and assessments are not sufficiently streamlined for nitrate concentrations in groundwater and eutrophication in surface waters, the coordination of reporting processes may have limited added value and low simplification potential, and might even increase the burden on Member State authorities having to two sets of reporting at the same time.

As a response to these existing challenges, and the objective to streamline processes and foster simplification, cooperation with the Member States has been reinforced in the working groups under the ND and the WFD/GWD and WFD/ECOSTAT. The aim is to investigate these issues and assess the best way forward which would combine simplification in monitoring and reporting and increased coherence in the national implementations.

In addition, the Commission published an amendment of the WFD/GWD/EQSD in 2026 ¹⁰It includes changes on the data reporting and its frequency, and simplifications (integration of data flows and increased digitalisation). The amendment aims to streamline monitoring and reporting obligations, and includes interim reporting for biological quality and chemical quality data (which will be reported respectively every three and two years). These changes could in turn increase the knowledge of nutrients pollution, existing risks and pressures, facilitate the exchanges between both directives and ultimately the implementation of the ND.

Concluding remark

The WFD and the ND are interdependent, intricately linked and complement each other to achieve water protection objectives. The legal framework is coherent, provides compatible objectives and should allow Member States to achieve objectives in a coordinated way. The integration of the ND as a basic measure in the WFD makes that achievement of the WFD objectives critically dependent on the effective implementation of the ND. Nevertheless, 25 years on, the integration of the ND and the WFD, especially in the preparation and design of the national measures in the NAP remains generally incomplete and uneven among Member

¹⁰ Directive - EU - 2026/805 - EN - EUR-Lex

States, although there has been a significant acceleration in the 3rd RBPM report and in the approaching 2027 deadline. The flexibility provided to MS allows adapting the directives implementation to local conditions, although this has also translated into large discrepancies in monitoring networks, reporting data and status assessment. There is room for improvement in the coordination, information exchange and streamlining of efforts among competent authorities dealing with the implementation of both directives.

2. COHERENCE WITH NECD

The evaluation of the NECD published in December 2025 analysed the coherence with the ND, based on an analysis of the NAP measures in all Member States. The evaluation concluded that Nitrates Directive and the NECD are mostly coherent. Only a few marginal measures from either the Nitrates Directive or the NECD have been identified as having unintended negative effects on the other.

Table 4 Links with NECD (From the Evaluation of the NECD)

Nitrates Directive	<i>Links between the policies</i> The Nitrates Directive requires Member States to designate Nitrate Vulnerable Zones, to establish Codes of Good Agricultural Practice to be followed on a voluntary basis, and to establish Nitrate Action Programmes (NAPs), to be followed within Nitrate Vulnerable Zones. As explained in the AAQD Fitness Check, “Although it does not apply specifically to air emissions, the Nitrates Directive has an indirect impact on air quality. It aims to protect water quality across Europe by preventing nitrates from agricultural sources to pollute both ground and surface waters and by promoting the use of good farming practices. Since manure and fertilisers are also sources of air emissions (in particular nitrogen oxides (NO_x) and ammonia (NH₃); both are precursors of particulate matter), preventing water pollution with nitrates from agriculture can have an impact on air emissions.” A technical report analysing NAPs and their interactions with policies and measures in NAPCPs submitted by Member States, was published in 2020¹¹. At the time of the drafting of this technical report (2019), 20 Member States had submitted their first NAPCP. The support study added further elements for a detailed analysis of coherence between NECD and Nitrates Directive¹². Looking at impacts of measures included in NAPs on pollutants covered by the NECD, some NAP measures were identified as representing a <i>potential</i> conflict (notably measures increasing manure storage periods), which <i>could</i> result in increases of NH₃ emissions. However, exact impacts on NH₃ are highly dependent on the manure collection and storage systems in which those measures are implemented. Regarding other NAP measures, they were either synergetic with or neutral towards the NECD. Regarding NECD measures that potentially impact on Nitrates Directive objectives, these were all found to be supporting those objectives or to have limited or no impact. The support study provides a detailed
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¹¹ Tzilivakis, J., Green, A., Warner, D.J and Lewis, K.A. (2020), [Identification of approaches and measures in action programmes under Directive 91/676/EEC](#). Report prepared for Directorate-General Environment, European Commission.

¹² See support study for the NECD evaluation section 3.4.2.

	mapping of measures across the two Directives and all Member States in Tables 3-14 to 3-17. <i>Coherence between the policies</i> The Nitrates Directive and the NECD are mostly coherent. Only a few marginal measures from either the Nitrates Directive or the NECD have been identified as having unintended negative effects on the other. <i>Change in coherence over time</i> No changes observed over the NECD evaluation period.
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