

ADVISORY LETTER

To the Minister of Infrastructure and Water
Management
Mr M.G.J. Harbers
PO Box 20901
NL-2500 EX The Hague

Date: 11 May 2023
Reference: Rli-2023/80
Cc:
Re: Advisory letter "Good Water, Good Policy"

Enclosure(s):

Dear Minister Harbers,

The quality and quantity of surface water and groundwater in the Netherlands are under pressure. Although much has already been achieved, the objectives the Netherlands has to achieve by 2027 under the European Water Framework Directive (WFD)¹ are still out of reach. Problems that urgently need to be addressed include hydromorphology (river dynamics, bank characteristics, etc.), concentrations of nutrients and chemicals in groundwater and surface water, and water shortages during dry periods.

An adequate supply of good-quality water is important for health, nature, drinking water production, industry (and the food industry in particular) and agriculture. In addition, failure to achieve the WFD objectives in a timely matter could mean that numerous activities in the Netherlands – both in agriculture and in the rest of the economy – are forced to come to a halt, as is the case in the nitrogen issue.² This could include a ban on starting, expanding or continuing activities involving discharges to the sewer system or surface water or the extraction of groundwater for drainage or sprinkling purposes. There is also a risk that if the Netherlands fails to meet the WFD objectives, it could face fines from the European Union. So there is every reason to speed up. The WFD objectives must be met by 2027. Although there are exemption clauses, it is doubtful whether the Netherlands will be able to invoke them.

Against this background, in this advisory letter we focus on answering the question: what government policy is needed to achieve the WFD objectives as quickly as possible and then consolidate the objectives achieved?

¹ Directive 2000/60/EC of the European Parliament and of the Council (European Community, 2000).

² The water issue is not comparable with the nitrogen issue in all respects. Problems relating to water systems, for example, are more site-specific than problems relating to nitrogen deposition. But the WFD regulations, like the nitrogen regulations, do come into play for almost all activities subject to licensing.



Based on the analysis we conducted for this advisory letter, we conclude that with current Dutch policy, the WFD objectives cannot reasonably be met by 2027. We also note that the implementation of that policy is being hampered by a number of factors, to such an extent that the WFD objectives are unlikely to be achievable beyond 2027 without the policy approach being tightened up. We would therefore urge you to take a bolder approach in this pressing issue.

In this advisory letter, we make five recommendations for strengthening Dutch WFD policy. If these changes are made by 2027, we expect that the achievement of the WFD objectives will be sufficiently well guaranteed, albeit later than 2027. In this way, the WFD objectives will be achieved as early as possible, restoring the sustainable use of water and protecting nature. This will mitigate the risks mentioned above.

Because we believe that an effective approach to the water issue can only be optimal with the involvement of your state secretary and your fellow ministers in the policy areas of Agriculture, Nature and Food Quality (LNV), Housing and Spatial Planning (VRO) and Nature and Nitrogen Policy (N&S), we also commend this advisory letter to them. We also commend the advisory letter to the presidents of the Senate and House of Representatives.

Our findings in brief

The three main factors that hamper the achievement of WFD objectives are: (1) an insufficient sense of urgency, (2) too much discretion in the choice and use of available policy instruments, and (3) poor definition and implementation of tasks and responsibilities. We explain these three factors briefly below. We will discuss them in more detail in the explanatory note to this advisory letter.

An insufficient sense of urgency. Almost everyone in the Netherlands is familiar with the climate emergency and nitrogen problems, but society is much less aware of the problems surrounding Dutch surface water and groundwater. In recent decades policymakers, both in The Hague and in municipalities, provinces and water boards, were also not sufficiently aware of the urgency of addressing the problems that have persisted in our aquatic ecosystem in recent decades, firstly because of its importance, but also to be able to meet the 2027 deadline.

Too much policy discretion. Achieving the WFD objectives requires the commitment of various government ministers, provinces, municipalities and water boards. In recent years, their commitment has been laid down in administrative agreements, but these agreements are not legally binding. Even the policy letters³ recently issued by the government containing additional measures to address WFD challenges do not contain concrete, legally binding statements explaining how the water quality and quantity problems in the Netherlands will be solved. As a result, it remains unclear whether the proposed measures will achieve the WFD objectives.

Whether these policies, as initiated and planned, will be adequate is really difficult to assess because activities in a variety of sectors (industry, construction, infrastructure, agriculture) affect the quality and quantity of groundwater and surface water. This means that policies in all these "adjacent" policy areas are important for achieving the WFD objectives. However, there is insufficient provision within the laws and regulations to make clear that the WFD objectives and standards also entail legal obligations for decision-making in policy areas other than water management. The generic follow-through of the WFD objectives and standards in policy areas other than water policy is limited

³ These are the letters titled "Water and soil as guiding factors" (IenW, 2022a), "Progress of the National Rural Areas Programme" (N&S, 2022a), "Progress of integrated approach to rural areas and follow-up to Council of State ruling on Porthos" (N&S, 2022b) and "Future of agriculture" (LNV, 2022) (including underlying documents).

to the joint signature of strategic plans by the Ministers of Agriculture, Nature and Food Quality, for Nature and Nitrogen Policy and for Housing and Spatial Planning. In actual practice, this is not enough. For example, the current general rules on fertilisers, plant protection products and the discharge of hazardous substances are not sufficient to meet WFD objectives.

The amount of discretion in the policy for implementing the WFD may become even greater with the entry into force of the new Environment and Planning Act, as a number of activities with an impact on water systems will then no longer need to be licensed.

Poor definition and implementation of tasks and responsibilities. Municipalities, provinces, water boards and the government each have individual tasks and responsibilities that are important for achieving healthy water systems. We note that some of these tasks are currently not being fully performed, that tasks are sometimes not being properly allocated and that responsibilities are not being fully addressed. For example, Rijkswaterstaat and the water boards are lagging behind with the implementation of hydromorphological measures, a number of water boards are not going far enough with the mandatory removal of nutrients in sewage treatment plants, in several provinces the legal updating of licences for activities that have an impact on water quality and quantity is unsatisfactory, the supervision and enforcement of these activities are often inadequate, authorities address each other about shortcomings in spatial planning without effect, and provinces, water boards and municipalities are still barely fulfilling their statutory duty of care for the protection of drinking water sources.⁴

Our recommendations in brief

In light of current and announced policies, we do not expect the Netherlands to meet the WFD objectives. We therefore make five recommendations to the government. We summarise them below; they are explained in more detail in the explanatory note.

Recommendation 1. Improve the way the WFD follows through into all relevant policy areas and take mandatory measures to this end

Meeting the WFD objectives at national level is a *joint* responsibility of the government and not just a responsibility of the Minister of Infrastructure and Water Management (IenW). After all, it is as an EU member state that the Netherlands can ultimately be held accountable for meeting the WFD objectives. It must ensure that the WFD objectives and associated standards explicitly and bindingly follow through into legislation, regulations and decision-making in *all* policy areas that contribute to the WFD objectives being met. These policy areas belong not only to the portfolio of the Minister and State Secretary for Infrastructure and Water Management, but also to those of the Minister of Agriculture, Nature and Food Quality, the Minister for Nature and Nitrogen Policy and the Minister for Housing and Spatial Planning.

To further promote the follow-through of the WFD in government policy, we believe the so-called *water test* should be given more weight. Currently, the Dutch Water Assessment [in Dutch: watertoets] (a formal advisory instrument to facilitate the integration of spatial planning and water management) is carried out by the water authority prior to the adoption of spatial plans by other authorities to determine the likely impact of those plans on the water system. Even with the entry into force of the Environment and Planning Act, the water test will continue to be required, but will then be called "weighting of the water interest". We recommend applying the water test more

⁴ The Dutch Drinking Water Act gives water companies and local authorities a general duty of care to protect drinking water sources and the drinking water infrastructure.

strictly for *all* spatial plans and decisions that affect or are likely to affect the water system. To this end, we recommend making it compulsory to amend spatial plans and decisions if they result in a deterioration of the current status of the water system.

We further recommend improving the implementation of the mandatory updating of licences for activities impacting water systems. We have found that this process is currently not working well and that there are major backlogs. We think only fixed-term licences should be granted and open-ended licences should be phased out. In addition, we recommend that all notifications of activities impacting water systems and all licences issued for such activities be included in a public register to provide an overview of all licences issued for water abstractions and discharges of the various substances.

Following on from the previous point, we would draw your attention to the situation that will arise under the new Environment and Planning Act. Soon, fewer activities will be subject to licensing, both inside and outside the water domain. There is therefore a risk that, once the Act enters into force, the (potentially negative) impact that activities have on water systems will no longer be fully visible. For this reason, our recommendations are as follows:

- tighten up the generic policy as laid down in the general rules under the Environment and Planning Act to require the WFD objectives to be achieved everywhere (e.g. general rules for fertilisers and plant protection products, the discharge of hazardous substances and for groundwater abstractions)
- formulate clear instruction rules for mandatory notification of activities, and
- organise effective monitoring of reported activities. If a notification shows that the WFD objectives cannot be met, bespoke regulations or rules must be imposed or the decision must be taken to ban the activity from going ahead. If the WFD objectives have been met locally, the rules for the area in question can be relaxed – provided this does not jeopardise the WFD objectives.

Recommendation 2. Make all groundwater and surface water abstractions subject to licensing or notification and reserve sufficient physical space for drinking water production

To gain an insight into the total volume of water abstracted and to be able to make adjustments when necessary, we recommend making all water abstractions subject to licensing or notification. Where water shortages exist or are foreseeable, all abstractions should be made subject to licensing. In the remaining areas, large-scale abstractions should be subject to a licensing requirement and all small-scale abstractions subject to a notification requirement. To gain a real insight into the total volume of water abstracted, we recommend making it mandatory for every abstraction – whether in a licence or a notification – to specify the purpose of the abstraction and to measure and record the volume abstracted.

We would specifically highlight the importance of protecting groundwater and surface water intended for drinking water production. This water resource must meet the requirements to be imposed on it in terms of both quantity and quality. It is important to consider how the growing demand for drinking water can be met in future, so that it can be taken into account in spatial planning. In this context, we welcomed the commitment made by the Minister of Infrastructure and Water Management to draw up a Security of Supply Action Plan for drinking water, which will facilitate the creation of over 100 million m³ of additional abstraction capacity.

Recommendation 3. Reduce nutrient concentrations in groundwater and surface water by tightening up manure regulations, deploy instruments for the government's intended reduction of livestock numbers and improve purification in sewage treatment plants

As the WFD objectives for maximum nutrient concentrations in groundwater and surface water have not yet been adequately translated into manure policy (either for livestock manure or artificial fertilisers), our advice to the Minister of Agriculture, Nature and Food Quality is as follows:

- Ensure that manure policy is consistent with WFD objectives. To this end, update the regulations of the Netherlands' Fertiliser Act, the Environmental Management Act and the 2009 Water Quality Requirements and Monitoring Decree.
- Gradually scale down the number of phosphate and livestock rights being traded, buy these rights at a reasonable fee and take them out of circulation. By anticipating the cap on livestock units per hectare announced by the Dutch government to take effect in 2032, the nitrogen reduction achieved can also be used as a contribution to achieving the WFD objectives.

Our advice to the Minister of Infrastructure and Water Management in this regard is as follows:

- Require water boards that still allow discharges of too many nutrients such as phosphate and nitrate into surface water to add a fourth treatment stage in sewage treatment plants by 2027 at the latest. Anticipate the proposal to revise the European Urban Wastewater Treatment Directive (this directive concerns the removal of both nutrients and chemicals) by making the provisions of the revision proposal mandatory for all water boards now.

Recommendation 4. Ensure that the WFD objectives follow through into legislation for plant protection products, priority substances, emerging substances, drug residues, etc.

Our advice to the Minister of Agriculture, Nature and Food Quality is to ensure that the WFD objectives follow through into plant protection policy. This will require amendments to the Environmental Management Act, the 2009 Water Quality Requirements and Monitoring Decree and the regulations associated with the Plant Protection Products and Biocides Act.

Our advice to the state secretary for Infrastructure and Water Management in this regard is to amend the laws and regulations governing products in which priority and emerging (only recently found in water) substances are used. The WFD objectives will have to be incorporated into these laws and regulations. This means that additional standards have to be laid down under the Environmental Management Act. The 2009 Water Quality Requirements and Monitoring Decree will have to be amended accordingly.

Recommendation 5. Start assessing the effects of all measures immediately

It is important to quickly clarify what the remainder of the WFD challenge consists of. The Minister of Infrastructure and Water Management should therefore arrange for the expected effects of all current and proposed measures to be assessed. This assessment will have to include not only the impact of the measures specified in the policy letters recently issued by the government, but also the impact of the EU derogation decision, of the addendum to the 7th Nitrates Directive Action Programme, of the measures laid down in the area-specific processes under the National Rural Areas Programme and of the additional measures proposed by us in this advisory letter.

If the assessment shows that WFD objectives will still not be met, the Minister will have to determine what additional measures are needed. Our advice is to proceed to formalise the additional measures required. This can be done by provisionally amending water management programmes, regional water programmes and river basin management plans. We would also recommend that, for example, the Netherlands Environmental Assessment Agency (PBL) should carry out this ex-ante

evaluation or – if it is decided that it should be carried out by the Ministry of Infrastructure and Water Management – that this ex-ante evaluation should be reviewed by PBL.

We realise that there are many other pressing issues in the physical environment besides the WFD. They are partly interlinked, e.g. the nitrogen issue, which affects several other challenges. Synergy can be achieved by tackling these challenges in conjunction, e.g. in the provinces' area plans. After all, solutions to one problem can also have a positive impact on another. This means our recommendations for achieving the WFD objectives have a wider significance. We hope this advisory letter provides the necessary guidance in addressing these issues. And, as a result, our groundwater and surface water gets the quality it deserves in our water-rich country, for the benefit of people, nature and the economy.

Yours sincerely,
Council for the Environment and Infrastructure,



J.J. de Graeff
Chair



Dr R. Hillebrand
General Secretary

Explanatory note to advisory letter "Good Water, Good Policy"

This explanatory note is structured as follows. In section 1, we summarise the objectives that groundwater and surface water in the Netherlands must meet by 2027 under the European Water Framework Directive (WFD). In section 2, we go on to discuss what policy efforts the Netherlands has made to date in this regard and what challenges remain. We then make some critical comments on the Dutch approach in section 3. In section 4, we set out our conclusions on the likelihood of the Netherlands meeting the WFD objectives on time, on the possible consequences if it fails to do so and on the obstacles that have prevented successful implementation of the WFD so far. Finally, in section 5, we make some recommendations to the ministers involved in the WFD to ensure that the main objective of the WFD, a healthy water system, will be achieved by the end of 2027 where possible.

1. What does the WFD require from the Netherlands as an EU member state?

Main objective of the directive

The WFD was established in 2000, its main objective being to protect all water in the European Union (EU) by 2027 at the latest.⁵ Article 1 of the directive describes this in more detail:

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

- (a) prevents further deterioration and protects terrestrial and wetland ecosystems
- (b) promotes sustainable water use
- (c) aims at the progressive reduction of discharges of priority substances and the cessation or phasing-out of discharges of priority hazardous substances
- (d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution
- (e) contributes to mitigating the effects of floods and droughts.

The WFD explicitly refers to the value of water: "Water is not a commercial product like any other but, rather, a heritage that must be protected, defended and treated as such." The directive requires EU member states to ensure not only that there is no deterioration in water status, but also that the water status improves to a point where the objectives set out in the directive are met. The directive further explicitly requires, inter alia in Article 7, that the quality of present and future drinking water sources be protected and improved in such a way as to reduce the treatment effort required.

Key principles for national implementation of the directive

The WFD has a number of principles that EU member states, including the Netherlands, must comply with when implementing the directive. The key principles are:

- *Systems approach.* Member states should adopt a systems approach in their water management. A water system consists not only of one or more surface water bodies and groundwater bodies, but also of associated storage areas, drainage areas, flood defences and supporting structures. Within these, there are numerous relationships, for example between water quality and quantity and between surface water and groundwater. To achieve the WFD objectives, all these aspects

⁵ When the directive entered into force in 2000, the date for achieving the objectives was 2015. However, Article 4.4 of the WFD included the option of extending this period by two times six years. All EU member states, including the Netherlands, have invoked this option. All the WFD objectives must therefore be met by 2027.

within a river basin must be addressed in conjunction. The connection between water and land use and water use is also relevant (Infomil Knowledge Centre, 2023). The availability of sufficient and good water therefore depends not only on interventions and management measures in the water domain itself, but also on the design and use of the surrounding land and the use of substances and materials in society. Indeed, they have a major impact on water quality and quantity.

- *River basin approach.* Member states are required to adopt a river basin-based approach to improving water quality and quantity. This requires cooperation with regional authorities and other parties operating in that river basin. Member states must set out the measures they are taking to meet WFD objectives in programmes of measures every six years and summarise them in river basin management plans.
- *Designation of WFD waters.* All waters within member states must comply with the WFD. Member states should ensure that this is monitored using a representative selection of waters within their national borders. To this end, they may themselves designate a number of water bodies as "WFD waters". Member states are required to monitor the status of these waters according to the relevant regulations (see below).
- *Periodic monitoring.* Member states must have a monitoring programme in place to assess the status of their groundwater bodies (water bodies in one or more soil layers) and surface water bodies (rivers, lakes, canals, etc.) at least every six years. They must include in that assessment all aspects of water quality and quantity: chemistry (pollutants in the water), ecology (good conditions for diverse plant and animal life) and the quantity of surface water and groundwater. As a minimum, member states should arrange (a) "status and trend monitoring", which involves reviewing the current situation and long-term trends. If a member state does not or does not expect to meet the WFD requirements (in time), it must also arrange (b) "operational monitoring", which provides information on the remaining challenges and (c) "monitoring for further research", which clarifies what measures are needed to still meet the WFD objectives (Rijkswaterstaat, 2020).
- *Assessment of water systems.* When monitoring, member states should assess their water bodies against standards, which can be either qualitative or quantitative.⁶ The chemical status of water bodies must meet EU-wide standards for maximum concentrations of "priority substances". The ecological quality of water bodies must be determined at national level in accordance with the rules and system of the WFD. This involves determining which "status class" (bad, poor, moderate, good or high) a water body falls into, measured against the biological standards applicable to the water body category in question and against standards for maximum concentrations of "specific pollutants" set by each Member State.⁷ The assessment is governed by the principle of *one out, all out*. This means that if monitoring finds that the standard is exceeded for one substance or reference value, the water body in question does not comply with the WFD. Many waters in the Netherlands have been artificially created or heavily modified by human intervention. For these categories of waters, the WFD requires "good ecological potential". Good ecological potential takes into account any irreversible modifications that have taken place in these water bodies.

⁶ The WFD standards are an elaboration of the general objectives in Article 1 of the directive and the environmental objectives in Article 4. The Netherlands has transposed the WFD standards into the 2009 Water Quality Requirements and Monitoring Decree and the accompanying Water Framework Directive Monitoring Regulations.

⁷ The status class is determined on the basis of an ecological quality ratio, comparing the actual and desired status of a water body. This desired status is determined on the basis of ecological targets set either by the relevant province or by national government, and depends on whether the water body is natural or unnatural and whether it forms part of national or regional waters.

- *Hard deadline for achieving the objective.* By 2027, all member states must meet both quantitative and qualitative standards for all their surface water and groundwater, except for some standards to which different deadlines apply. Temporary deterioration of water quality is not allowed. Even if a member state has legitimately invoked one of the derogation provisions in the run-up to 2027, the requirements of the WFD must eventually be met.

2. What has the Netherlands done so far?

In this section, we describe current Dutch water policy and the measures the Dutch government is preparing. We also highlight the main remaining challenges the Netherlands needs to work on to achieve the WFD objectives.

Much has already been done or initiated

Since the WFD entered into force, and even before, the Netherlands has invested a lot in improving the quality and quantity of groundwater and surface waters, both within urban areas (e.g. canals and ponds) and outside them (e.g. lakes, rivers, recreational lakes and ditches). This has already produced results.

To further improve water systems, government bodies and other parties are working together within the Delta Approach to Water Quality.⁸ Programmes that are part of the Delta Approach include:

- The Task Force on Agricultural Water Management⁹
- The Value Chain Approach to Drug Residues
- The Value Chain Approach to Emerging Substances.

The policy framework for these and other water programmes are the river basin management plans for the period 2022-2027. They set out the measures for ensuring that the Netherlands meets the WFD objectives by 2027.

An ex-ante evaluation of the draft river basin management plans was conducted in 2021. This showed that many aspects of the plans were still insufficient to meet the WFD objectives by 2027 (Knoben et al., 2021). In response, the government announced additional measures in the Structure Strategy for the National Water Programme (IenW, 2022b).

Furthermore, several measures are mentioned in some Letters to Parliament,¹⁰ including the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a). This concerns, in particular:

- introducing innovative treatment technologies at sewage treatment plants that can remove emerging chemicals, including drug residues, from water
- reducing chemical discharges by adopting source-based approaches
- improving hydromorphology (see box) and reducing nutrient loads.

What does hydromorphology mean and how does it relate to healthy water systems?

The hydromorphology of a water body relates to features such as river dynamics and riverbank characteristics. These characteristics affect the ecological and chemical status of a water body. Many Dutch

⁸ See www.helpdeskwater.nl/onderwerpen/wetgeving-beleid/delta-aanpak/delta-aanpak-water/#PagClS_1523568

⁹ See <https://agrarischwaterbeheer.nl/>

¹⁰ Besides the above-mentioned Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a), these include the Letters to Parliament titled "Progress of the National Rural Areas Programme" (N&S, 2022a), "Progress of the integrated approach to rural areas and follow-up to the Council of State ruling on Porthos" (N&S, 2022b) and "Future of agriculture" (LNV, 2022) (including underlying documents).

water bodies have an unnatural structure and altered water discharge dynamics, thereby impairing their hydromorphology.

The impairment of hydromorphology can cause natural flows to be blocked, animal migration routes to be disrupted and habitats to disappear for some plants and animals. Hydromorphological impairment can also result in water draining off too quickly, with the result that surface water and groundwater levels are too high or too low at certain times. This in turn leads to flooding at some times and groundwater depletion at others. All this reduces biodiversity and ecological water quality (Verdonschot et al., 2013; PAGW, 2022).

Recently, in a letter to the House of Representatives, the Minister of Infrastructure and Water Management indicated that he would be launching an additional WFD Impulse Programme to make every effort to meet the WFD objectives (IenW, 2023a). This letter states that it is still feasible to meet the WFD objectives, although it will be "challenging". Finally, he writes that the Netherlands will be thoroughly prepared for accountability and filing requirements, acting jointly with neighbouring countries and in consultation with the European Commission.

Remaining challenges

Despite numerous improvement measures having been initiated, 75% of surface waters exceeded standards for one or more pollutants in 2019. And in 2020, in 90% of surface waters the biological water quality was still not good, mainly due to excessive nutrient loads and impaired hydromorphology. Forty per cent of the areas containing plants sensitive to groundwater depletion have a quantitative groundwater deficit. Water quality is inadequate at 92 out of 156 groundwater abstraction sites for drinking water supply (Wieringen et al., 2022a). Moreover, the National Institute for Public Health and the Environment (RIVM) (2023) warns that a shortage of drinking water is imminent over the coming years (between now and 2030). All in all, the Netherlands performs relatively badly on water management compared to other EU member states (CLO, 2020).

To achieve good water systems and comply with the WFD, the Netherlands will have to work on the following three challenges in particular over the coming years (Galen et al., 2020; Knobben et al., 2021; Wieringen et al., 2022a; Brugh & Wassens, 2022):

- improving hydromorphology (raising water levels, creating water storage areas, naturalising riverbanks, etc.)
- reducing nutrient loads (including phosphate and nitrate)
- reducing chemical load.

We explain these remaining challenges below, in each case indicating how the government intends to address the challenges in current and proposed policies.

Improving hydromorphology

The approach chosen by the government for improving hydromorphology is described in management plans drawn up for each river basin. The plans include a multitude of measures for designing water systems in a more natural way, including restoring stream valleys. Efforts are also being made to raise groundwater levels to restore natural interaction with surface water.

The "Water and soil guiding policy" Letter to Parliament reaffirms the importance of having sufficient buffer and discharge capacity. The measures envisaged by the members of government responsible for Infrastructure and Water Management include:

- allowing more water level fluctuation in the IJsselmeer and Markermeer lakes
- reserving space in deep polders for water storage
- using groundwater more sparingly

- raising groundwater levels and/or retaining water.

As far as the government is concerned, the detailing and implementation of the measures mentioned above should be given a place in the National Management Plan (IJsselmeer water level fluctuation) and in the regional area plans that form part of the National Rural Areas Programme. These area plans will also have to include agreements on how much groundwater can be abstracted each year and by whom. How the implementation of these measures will be guaranteed remains to be worked out.

The intention is to adjust licences and other agreements for groundwater abstraction if the balance between the groundwater system and groundwater-dependent functions is disturbed. To determine when this moment is reached, provinces will have to set a groundwater ceiling for all abstractions combined, including small abstractions. Compliance with this ceiling must be monitored and enforced.

In addition, the government plans to reduce household and business drinking water use by 20%. This will have to be achieved mainly by engaging with households and businesses. But charging higher prices for drinking water is also being considered. To incentivise major consumers to use drinking water sparingly, consultations are being held with the drinking water sector and with industry on updating the tax on drinking water (IenW, 2023b). The government also wants to limit the use of drinking water for cooling purposes by large-scale water consumers. Furthermore, the Minister of Infrastructure and Water Management recently pledged to draw up a Security of Supply Action Plan for drinking water, which will facilitate the creation of over 100 million m³ of additional abstraction capacity (IenW, 2023c).

Finally, the Letter to Parliament titled "Water and soil guiding policy" states that when spatial plans and decisions are being drawn up, the Dutch Water Assessment [in Dutch: watertoets] (a formal advisory instrument to facilitate the integration of spatial planning and water management, taking into account the consequences a spatial planning intervention has on water management) should be improved and applied more strictly, e.g. when housing estates are being planned.

Nutrient load reduction

In much of the surface water and groundwater in the Netherlands the concentrations of nutrients such as phosphate and nitrate are too high to meet the standards for good ecological status or good ecological potential. Nutrients cause eutrophication of water, which is detrimental to biodiversity. The phosphate and nitrate found in surface water and groundwater originate from agriculture (via leaching and runoff of fertilisers)¹¹, from domestic and industrial wastewater (via sewage treatment plants and sewer overflows) and from other countries (via transboundary water bodies).

The approach adopted by the Dutch government to reduce nutrient concentrations in water over the coming years is as follows:

- The river basin management plans focus on reducing nutrient loads from agriculture at regional level. To address this issue, the management plans refer to the 7th Nitrates Directive Action Programme (LNV, 2021), its addendum (LNV and N&S, 2022) and the Task Force on Agricultural Water Management. The measures referred to include: (a) introducing wider buffer strips where

¹¹ Runoff occurs when fertilisers flow into surface water from ground level; leaching occurs when fertilisers enter groundwater along with precipitation.

fertilisation is not permitted (reducing nutrient runoff to surface water) and (b) adopting rotation schemes with rest and catch crops (reducing nutrient leaching).

- Additional measures are being taken at regional level to reduce nitrogen loads on nature areas (N&S, 2022c).
- The derogation (exemption clause) that applied to the Netherlands under the European Nitrates Directive will lapse. As a result, less livestock manure may be spread than before and additional provisions will apply to total manure production and total manure application for "nutrient-polluted areas".
- The loading of surface water with nutrients from other countries through a number of transboundary waters will be raised in consultations with international river commissions and in bilateral consultations with foreign governments.
- The letter titled "Water and soil guiding policy" (IenW, 2022a) states that certain measures for nature and climate offer opportunities for linking up with other measures to reduce nutrient concentrations in water. These are measures that will be fleshed out in the area-specific processes under the National Rural Areas Programme and measures concerning the further elaboration of the derogation decision.
- In the Letter to Parliament titled "Future of Agriculture" (LNV, 2022), the Minister of Agriculture, Nature and Food Quality announced for 2032 the establishment of an upper standard for livestock density, expressed as the number of livestock units¹² per hectare.
- In the Letter to Parliament titled "Progress of the National Rural Areas Programme" (N&S, 2022a), the Minister for Nature and Nitrogen Policy announced an "adjustment ladder" to enable central government to exercise central control when results fall short of expectations in the area-specific processes: from persuasion and financial measures to policy measures and possibly the use of legal instruments.
- As mentioned above, the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a) announced that the Water Assessment would be improved and applied more strictly.

Reduction of chemical load

Most chemicals found in Dutch surface water and groundwater originate from agriculture (from which plant protection and other products enter groundwater and surface water), from industry (which discharges wastewater directly to surface water) and from sewage treatment plants (partly through indirect discharges to the sewer system). In addition, chemicals are carried in from other countries through transboundary waters. The chemical pollution caused by these substances adversely affects the ecological status or ecological potential of a water system. Moreover, chemicals in surface water and groundwater can be harmful to human health. The WFD therefore contains standards for different substance groups.

The Netherlands still has a remaining challenge with regard to the "priority substances" for which the WFD sets standards. For some of these substances, 2027 is the final deadline while some others have a later deadline. Moreover, the European Commission has made proposals to expand the number of priority substances (European Commission, 2022).

The WFD also contains standards set by each member state for specific pollutants. In the Netherlands, one or more of these substances were found to exceed WFD standards in 98% of water bodies in 2019 (Knoben et al., 2021). Some waters even showed a deterioration compared to previous observations from 2009.

¹² The number of livestock units (LU) on a farm is the sum of the number of dairy cows and young cattle, converted to the phosphate production of one dairy cow. The phosphate production of one dairy cow is thereby set to 1 (CBS, 2023a).

Furthermore, Dutch waters are polluted with substances that fall outside the WFD assessment (plant protection products, drug residues, emerging substances),¹³ but nevertheless affect ecological quality, to which WFD objectives do apply.

The approach adopted by the Dutch government to reduce the chemical load on surface water and groundwater is as follows:

- The river basin management plans focus on source-based policy. This policy includes, for example, bringing the rules governing the authorisation, use and leaching of plant protection products into line with the Vision of the Future of Plant Protection 2030 (LNV, 2020). Efforts are also being made to update discharge licences to align with the Delta Approach to Water Quality. The Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a) recognises that implementation practice in licensing, monitoring and enforcement in relation to water quality and quantity is currently still deficient and needs an incentive.
- In the Letter to Parliament titled "Water and soil guiding policy", the relevant ministers describe the importance of different elements of the existing substances policy, from minimising the use of hazardous substances to tightening up discharge licences. They also underline the importance of adding a treatment stage in sewage treatment plants, specifically aimed at removing chemicals and drug residues. No specific additional measures under the substances policy are proposed.
- Finally, we would once again mention the announcement made in the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a) that the Water Assessment will be improved and applied more strictly. This measure is also relevant from the point of view of chemical load and how it should be tackled.

3. Our observations on the Dutch policy approach

We find that the government policy papers and policy letters discussed in the previous section provide an accurate description of the current problems surrounding the Dutch water systems and a clear vision of how (with which instruments and measures) the WFD objectives could be brought closer. The intention is clearly to achieve an integrated approach, in which soil, water and climate are inextricably linked. Nevertheless, we have reservations about the policy approach as outlined.¹⁴

Successful invocation of exemptions is unlikely, but the government is counting on it

It struck us that the government assumes that the WFD will be met if, by 2027 at the latest, all the measures that should eventually lead to the achievement of the WFD objectives are in place. The assumption here is that for every situation where a measure has been taken but the corresponding objective has not yet been achieved, it will be possible for a member state to invoke the WFD's exemption clauses for subsequent achievement of the objective.

However, these exemption clauses are reserved for specific situations. The WFD states that achievement of the objective at a later date is only permitted if the delay is caused by natural conditions (WFD, Article 4 paragraph 4c) or if other exemption clauses apply. Each of these exemption clauses carries a heavy burden of proof. If none of the situations described apply, the

¹³ "Emerging substances" are substances that have only been found in water for a relatively short time and the exact extent to which they are harmful to human health or the environment is not yet known.

¹⁴ Some of the comments in this section were also made by (a) the Nijhof Committee, which prepared a scientific review of the IenW letter on Water and Soil guiding policy in 2022 (Deltares, 2022), and (b) Rijkswaterstaat, which conducted a feasibility test on this proposed policy in 2022 (Rijkswaterstaat, 2022).

achievement of the objective within the specified deadline, i.e. no later than 2027, is a mandatory requirement.

In light of the above, we doubt whether the government's approach is realistic.

Many proposed measures come across as discretionary or lacking in substance

In the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a), the government states that water and soil should be guiding policy in many other domains. This is essential within the systems approach demanded by the WFD and needed to achieve good surface water and groundwater. However, the importance that the government seems to attach to water and soil as the basis for our existence is formulated in a non-committal way, namely in terms of "paying attention to" and "taking into account". Where policy proposals are made, we note that they are rarely translated into specific measures. The policy on water level management, for example, offers a lot of freedom of choice as regards the detailing of policy objectives (which have a considerable range). It is unclear what the choices should be based on. Many also lack a timeline and the legal instruments required to take measures to enforce compliance if necessary (Groothuijse, 2023).

The non-committal approach identified above is reinforced by the fact that in the Letter to Parliament titled "Water and soil guiding policy" the government states that the principle of *comply or explain* applies when implementing measures. In this way, the government is providing leeway to deviate from the principle that water and soil should be guiding policy. While the government recognises that *comply or explain* does not apply to *obligations* arising from the WFD, measures that are not taken directly in view of the WFD, but indirectly affect the water system, can be interpreted in this way at the relevant parties' discretion.

We also observe a discretionary approach when it comes to the area-specific processes that form part of the National Rural Areas Programme. The government is expecting a lot from this, including in terms of healthy water systems. However, it is unclear how the administrative agreements made as part of the National Rural Areas Programme will be transformed into legally enshrined decisions guaranteeing the achievement of the WFD objectives by 2027.

We further read in the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a) that there should be a greater focus on licensing, monitoring and enforcement, but no specific information on the how, what and who is provided. Roles and responsibilities have not yet been defined and allocated, nor is there a solution to the lack of any human and financial resources required.

Finally, we also consider non-committal the government's approach to achieving a 20% reduction in drinking water use. This reduction is important in light of the WFD objectives for (a) ensuring the availability of sufficient good-quality drinking water and (b) restoring the balance between groundwater and surface water recharge and abstraction. We doubt whether "engaging with households and businesses" is sufficient guarantee of achieving the intended reduction in drinking water use. Incidentally, it is necessary to reduce drinking water use not only on account of the WFD objectives, but also in view of the increasing demand for drinking water due to population growth, economic growth and regional urban expansion, and also in light of the deterioration in the quality of drinking water sources (see also Vewin, 2022; RIVM, 2023).

Whether the proposed measures are sufficient to meet the WFD objectives is in doubt

In 2021, the Minister of Agriculture, Nature and Food Quality stated in the 7th Nitrate Action Programme (LNV, 2021) that the WFD objectives for maximum nitrate concentrations would not be

met. Additional measures were then included in the addendum to the 7th Action Programme (LNV & N&S, 2022), which could still achieve the nitrate objectives. But in fact the addendum fails to provide any guarantees for this, as the further detailing of the proposed measures has been made conditional on the implementation of the National Rural Areas Programme and its provincial plans. Moreover, the effectiveness of all the measures combined has not been studied.

Nor do the measures listed in the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a) provide certainty as regards the achievability of the WFD objectives. Provinces, water boards and other partners should specify in area-specific programmes what additional measures are still needed. Again, the effectiveness of all the measures has not yet been studied.

Wieringen et al. (2022a) do not expect the entire package of policy measures to be sufficient to meet the WFD objectives everywhere in the Netherlands by 2027. Gies et al. (2023) say the same about the package of measures in agriculture under the National Rural Areas Programme. The mid-term review scheduled for 2024 will have to show whether the Netherlands is on track with implementing the measures and achieving the objectives. Clearly, after that, the scope for timely adjustments is very limited.

Government wants to control with licences, but some licensing requirements will be dropped

In the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a), licensing has an important role as an implementation tool. However, with the introduction of the Environment and Planning Act, licensing requirements for water management will be dropped (Rijkswaterstaat, 2022). Instead, general rules will have to suffice (as in the case of general environmental management) – unless there are activities for which a separate licence requirement is created.

In principle, it should be possible for general rules to be sufficient to meet the WFD objectives. In exceptional situations, bespoke regulations or customised rules can then be used at specific locations to meet the WFD objectives. A relaxation of the general rules is also conceivable when the required water quality is already being met.

However, the general rules currently envisaged by the government (i.e. the general rules that will soon also apply under the Environment and Planning Act) are not sufficient in many locations to meet the WFD objectives. This means that generic water quality problems must also be solved by a regional approach with many bespoke rules and regulations. We therefore question whether this regional approach is the right and most effective choice.

4. Our conclusions on timely achievement of WFD objectives

The observations we set out in the previous section lead us to three conclusions, which we explain below.

Netherlands fails to meet the WFD objectives

In the letter of 11 April 2023, the Minister of Infrastructure and Water Management wrote to the House of Representatives: "If all the agreed measures are implemented on time, if the transition in rural areas and the other additional measures are implemented on time, and if we are able to justify deviations within the scope provided by the WFD, the Netherlands can be expected to comply with the WFD by 2027 (IenW, 2023a)."

Based on the analysis we conducted for this advisory letter, we conclude that meeting the WFD objectives by 2027 is no longer reasonably possible with current policies. Moreover, several factors

(to be explained below) are hampering the implementation of this policy to such an extent that, in our opinion, the WFD objectives are not achievable beyond 2027 without the policy approach being tightened up.

There are two main reasons why we conclude that the Netherlands will not meet the WFD objectives by 2027:

- To improve hydromorphology and reduce nutrient loads, the Netherlands relies heavily on successful policy implementation within the area-specific processes that form part of the National Rural Areas Programme. In these area-specific processes, nature, water and climate challenges should be addressed fully and simultaneously. However, these processes have yet to get underway in many places. The measures have yet to be determined *and* implemented. Experience with area-specific processes so far shows that such a path may be a lengthy one.¹⁵ The policy sets deadlines for each of the three challenges (2027 for water, 2030 for nitrogen and 2035 for climate). As regards the challenges for the water domain and in light of the current pace of implementation, we do not expect the activities within the area-specific processes to have yielded enough to achieve the WFD objectives by 2027.
- To reduce the nutrient and chemical loads on groundwater and surface water, additional treatment stages will be required at some sewage treatment plants in the Netherlands. However, a number of water authorities do not yet have plans for the necessary modification of the facilities and/or have not yet included these modifications in their multi-year budget.

Failure to achieve WFD objectives on time has ecological, economic and legal consequences

If the Netherlands fails to comply with the WFD on time and is also unable to successfully invoke the exemption clauses, the consequences are threefold. First, there are ecological consequences: the undesirable effects that poor water quality and quantity in the Netherlands have on nature and hence health will persist for longer. Some of these effects – such as loss of biodiversity (described in earlier sections) – may be irreversible. It is difficult to identify the relevant tipping points in advance. Second, there are economic consequences: until such time as the WFD objectives are met, there will be undesirable effects on drinking water production, industry and agriculture. Not enough good-quality water will be available for production processes and it will become more expensive to purify water for these processes. Third, failure to achieve WFD objectives on time has legal consequences (which in turn could have an additional economic impact).

We discuss the legal consequences and their possible economic repercussions in more detail below.

If the Netherlands fails to meet its WFD obligations, there could be two consequences:

- Stakeholders could apply to national courts for an injunction to prevent starting, expanding or continuing activities that impact negatively on the water system, such as:
 - industrial activities (due to consequential discharges to the sewerage system or – whether or not subject to licensing – to surface water)
 - construction and infrastructure activities (due to groundwater abstraction for drainage, diffuse pollution from road runoff and/or additional load on sewage treatment plants; see also Wieringen et al., 2022b)
 - agricultural activities (due to diffuse spreading of fertilisers or plant protection products and abstraction of water for irrigation).

¹⁵ The experiences we refer to here relate to Schiermonnikoog (Linde, 2021) and Buitenland van Rhoon (May & Verdaas, 2019).

If such bans are indeed imposed by court order, local activities may be forced to shut down – as happened in the nitrogen case.¹⁶

- The European Commission could declare the Netherlands in default for non-compliance with WFD obligations and the EU Court of Justice could impose fines and/or periodic penalty payments on the Netherlands for non-compliance with the WFD. Penalty payments can amount to €212,494 per day (about €80 million per annum). The fines are not subject to a maximum amount. Assuming maximum severity and an infringement duration of six years, the Netherlands would be fined around €50 million (Wienhoven et al., 2021).

Incidentally, it is not the case that the consequences described above can only arise from 2027 onwards. Under the WFD, activities that impact negatively on the water system can already be legally constrained by national courts or the EU Court of Justice. This has already happened outside the Netherlands; see box.

Examples of legal rulings under the Water Framework Directive

- In 2015, in a case between a German environmental and nature protection NGO and the German government, which revolved around the deepening of sections of the river Weser, the EU Court of Justice ruled that projects that would cause a deterioration in the ecological status of a surface water could not be approved.
- In 2022, in a case in which the French Council of State had raised questions on the matter, the EU Court of Justice ruled that there must never be a deterioration in water quality, even if it is temporary in nature.
- In 2021, the EU Court of Justice ruled against Spain for failing to comply with its obligations under the WFD. For example, this member state had:
 - failed to take into account, when estimating groundwater abstractions, illegal water abstractions and water abstractions made for urban supply purposes
 - failed to take measures to ensure that protected habitat types would not be disturbed as a result of groundwater abstraction for tourism purposes
 - failed to comply with requirements under the Habitats Directive because appropriate measures had not been taken to prevent groundwater abstraction in protected nature reserves.
- It is clear from the "Detmold judgment" (Court of Justice of the EU, 2020) that deterioration in the chemical status of a groundwater body is prohibited. The judgment relates to storm water runoff from a road to be built, some of which is discharged into groundwater. The EU Court of Justice ruled that research into the impact of the proposed activity must be carried out *before* an activity is approved. "Deterioration" of the chemical status of a groundwater body is deemed to pertain if at least one of the quality standards or threshold values is exceeded, even if the groundwater is not downgraded to a lower quality class. If a standard has already been exceeded, any *foreseeable* increase in the concentration of a pollutant is deemed a deterioration within the meaning of Article 4 of the WFD (Holten, 2022).

Several impeding factors stand in the way of achieving WFD objectives

Since the WFD entered into force 23 years ago, only a small percentage of Dutch waters have achieved good status for all parameters. Why is it that not enough has been achieved to date? We discussed this and other questions in interviews and three expert sessions with various experts from science, industry and government.¹⁷ From these discussions, three factors emerged that hinder

¹⁶ Problems surrounding water systems are more site-specific than problems surrounding nitrogen deposition but WFD regulations, like nitrogen regulations, are an issue for almost all activities requiring permits. Compared to nitrogen regulations, the WFD does offer more opportunities to justify exceptions.

¹⁷ We held an expert session on each of the challenges the Netherlands has to work on over the coming years to comply with the WFD: improving hydromorphology, reducing nutrients, reducing chemicals. We also

successful implementation of the WFD in the Netherlands: (a) an insufficient sense of urgency, (b) shortcomings in the policy instruments used and their legal framing and (c) tasks and responsibilities not being fully addressed. We explain these impeding factors in more detail below.

An insufficient sense of urgency

As we noted in the advisory letter, Dutch politicians, both at the level of municipalities, provinces and water boards and at national level, do not seem to have been fully aware of the urgency of the water issue over the past few years. Recently, this has changed somewhat. For example, at national level, the importance of healthy water systems is recognised in the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a). In this Letter to Parliament, the government approaches the system of water and soil as a whole and recognises the need to focus on the value of water for current and future generations. In doing so, the government is keeping in step with the spirit of the WFD. The government also implicitly endorses EU environmental principles such as the precautionary principle, the principle that pollution should preferably be dealt with at source and the "polluter pays" principle.

For now, however, this burgeoning national sense of urgency is – we have had to conclude – limited to words and good intentions. The actual implementation of the policy is devolved by the government to regional level, mostly using voluntary policy instruments. The question is whether this decentralised voluntary approach is sufficient to ensure that the necessary measures are actually implemented and the goals are achieved on time or at all.

Shortcomings in the policy instruments used and their legal framing

The fact that Dutch policy has produced too few results in recent decades is related not only to the decision, as discussed above, to make much of the policy implementation voluntary, but also to the limited follow-through of the value of water and WFD objectives and standards in decision-making in adjacent policy areas, such as industry, construction, infrastructure and agriculture. The follow-through is limited to the joint signature of strategic plans by the relevant members of government. In actual practice, this is not enough.

Achieving the WFD objectives requires the commitment of the government, provinces, municipalities and water boards. Their joint efforts have been agreed upon in administrative consultations over the years. Once made, however, these agreements were not legally binding. Since the provisions of the WFD are without exception mandatory in nature, binding rules are indispensable for ensuring successful implementation. Many of the policy instruments deployed by the government to achieve the WFD objectives lack the required rigour.

This applies, for example, to the water test mentioned earlier. It imposes two obligations on initiators of spatial plans: (1) they must involve the regional water authority at an early stage in the planning process, so that it can verify that effects on the surrounding water system are taken into account; (2) they must account in their plans for the way they have dealt with the input from the water authority. But in practice, the test does not provide sufficient assurance that adequate consideration is given to effects on the water system. This is because the results of the test have no mandatory follow-through in decision-making on spatial plans and decisions.

Another illustrative example is the non-committal way in which government policy deals with a number of activities that have a major impact on water systems in the Netherlands, such as use of

commissioned three essays reflecting on sustainable water systems beyond 2027. The appendix "Responsibility and acknowledgement" lists the individuals and bodies we consulted for this part of our research.

plant protection products, discharges to the sewerage system and abstraction of groundwater to irrigate agricultural land. These activities have not been made subject to licensing, which means the government cannot exert sufficient control over them. At the same time, companies discharging substances to surface water are instead being issued with open-ended licences. Where such licences are subject to an update requirement, it is rarely applied in practice (Oostdijk et al., 2020). This kind of policy choice with regard to regulation means that the government can make few, if any, interventions when WFD objectives are not met.

The policy choices made by the Netherlands in designating "WFD waters" show something similar. Although the WFD objectives apply to all waters, not all waters are covered by the WFD monitoring requirement. In particular, smaller waters are not included. However, these waters (ditches, urban water, fens, headwaters of stream systems) are mostly located in intensively used rural areas and therefore have a major impact on the quality of connected water bodies. As a result, the monitoring required under the WFD is insufficiently representative in some places. This means the causes of failure to meet WFD objectives and the measures needed to meet them are not apparent.

There is also no general overview of water abstraction volumes for agricultural sprinkler irrigation, as these abstractions are largely subject to notification requirements. Recording of the quantities extracted is only required for licences. In the case of a notification requirement, whether such a record is mandatory varies from one water board regulation to another. Also missing is a record of small abstractions up to 10 m³/hour because they are exempt from a licensing or notification requirement (UvW & IPO, 2021).

The legal framing of national policy also has shortcomings. This is because, as we have noted above, the WFD objectives and standards do not sufficiently follow through into other policy areas. The objectives for the WFD should not only guide decision-making on issues within the water domain, but also in planning, decision-making and legislation on issues in other policy areas affecting water systems. But this does not appear to be the case in practice – with the result that all kinds of sectoral legislation fail to make the necessary contribution towards meeting the WFD objectives.

Two examples:

- The elaboration of the European Nitrates Directive in Dutch policy does not match the WFD objectives. The national water quality standard for nitrate is set at 50 milligrams per litre in the manure regulations. This standard is designed to protect drinking water. But for ecologically healthy water systems as specified in the WFD, this standard is set too high (RIVM, 2020). The 50 milligrams per litre for nitrate, converted to nitrogen, is three to five times higher than the ecological target required for total nitrogen in surface waters. Specific targets are set for this at provincial level, but the national manure regulations do not match them. Water boards could set bespoke regulations, but these would cover large parts of the Netherlands. Bespoke regulations are not intended for this purpose.
- The standards used by the Dutch Board for the Authorisation of Plant Protection Products and Biocides (Ctgb) when authorising plant protection products are often less stringent than the WFD's water quality standards. This means that the Ctgb authorises plant protection products whose use is known to cause WFD standards to be exceeded in surface water (Union of Water Boards, 2022).

Failure to fully address tasks and responsibilities

Municipalities, provinces (or the environmental services acting on behalf of both of them), water boards and the national government each individually have tasks and responsibilities that are important for achieving healthy water systems. We observe that the actual improvement of the

water systems in the Netherlands is hampered by the fact that during implementation some tasks are not being fully performed, other tasks are not being properly allocated and some responsibilities are not being fully addressed:

- Rijkswaterstaat and the water boards are behind in implementing hydromorphological measures set out in the river basin management plans. While the budget for these measures has been ring-fenced, there is a lack of manpower. In addition, in some cases, implementation is complicated by the fact that the land in question is not owned by them.
- A number of water boards are not yet applying the compulsory additional (fourth) treatment stage during sewage treatment with the aim of removing more nutrients, which has been mandatory for years. Innovative treatment techniques for chemicals are also not yet being used by all water boards in the sewage treatment plants.
- The legally required updating of licences does not take place sufficiently. Many existing licences are not being updated, although the rules say they should be. Licences may also be partly unused. Authorities often do not dare to decide to tighten up or revoke licences when there is actually an obligation to do so, for fear of high compensation claims from companies that might invoke vested rights. Again, shortage of labour also plays a part in this.
- Supervision and enforcement are highly fragmented and still often fall short. This is partly caused by lack of knowledge and human resources (Oostdijk et al., 2020).
- Authorities call each other out for failing to plan or implement, but to no avail. For example, central government does not specify whether the plans provinces and water boards have on water are sufficient to meet the WFD objectives. Also, it is often unclear who will intervene, using which instruments, if objectives are not met or tasks are not performed (Wuijts et al., 2022). Furthermore, decentralised authorities have no legal recourse against central government when it fails to adequately perform its duties to set or tighten up generic central government policies.
- Provinces, water boards and municipalities still rarely fulfil their legal duty of care to protect drinking water sources (RIVM, 2018; Vewin, 2018).¹⁸ This is a responsibility that arises out of the Drinking Water Act and follows through, for example, into the development and implementation of spatial policies, licensing (for both discharge and abstraction licences) and enforcement. But, in practice, the relevant authorities (provinces, water boards and municipalities) do little about it. Sometimes a factor here is that it is unclear to authorities what is expected of them and how they could or should fulfil their responsibilities.

5. Our recommendations

The WFD has been in force since 2000 and was established to ensure that water systems throughout the EU are healthy. After 23 years, this goal is far from being achieved in the Netherlands. Only a small percentage of Dutch waters are in good status or possess good ecological potential for all parameters. To comply with the WFD, Dutch water bodies still require a lot of improvement, especially in terms of hydromorphology, nutrients and chemicals.

To achieve the necessary improvements, several measures have been formulated in the river basin management plans and the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a). However, we are concerned that all these policies, established and announced, have been formulated on a discretionary basis and are not being implemented adequately, if at all. We conclude that, as a result, the WFD objectives will not be met. This poses a threat to human health,

¹⁸ A motion was passed on 7 March 2023 to include existing targets for reducing nitrate and pesticide pollution of drinking water sources as preconditions in the National Rural Areas Programme (House of Representatives, 2023).

nature, drinking water production, industry (and the food industry in particular) and agriculture, among others. Legal consequences are also to be expected.

In our view, it is essential that the importance of healthy water systems is recognised by all stakeholders and that this importance is also legally enshrined. After all, the voluntary approach has not produced the desired results so far. The five recommendations we present below therefore focus on legally mandating the generic follow-through of the WFD into policy. We outline the measures needed to tighten up regulations and policy implementation. We also discuss additional policy measures needed in the areas of hydromorphology, nutrients and chemicals to bring achievement of WFD objectives within reach. However, this does not guarantee that all WFD objectives will actually be met. Finally, we therefore recommend assessing the effects of all measures as soon as possible. Based on these recommendations, we expect it to be possible well before 2027 for Dutch WFD policy to be designed in such a way that the achievement of the WFD objectives is practically guaranteed, albeit later than 2027.

In this way, the WFD objectives will be achieved as early as possible, restoring the sustainable use of water and protecting nature. This reduces the risks to the health and economy of the Netherlands.

[1] Improve the way the WFD follows through into all relevant policy areas and take mandatory measures to this end

Embedding WFD objectives in all policy areas affecting water systems

We believe that the Dutch government must actually take and continue to take joint responsibility for meeting the WFD objectives. After all, it is as a member state that the Netherlands can ultimately be held accountable (also in a legal sense) for proper implementation of the directive. It must therefore be ensured that the WFD objectives and associated standards explicitly and bindingly follow through into the laws and regulations for *all* policy areas that contribute to the WFD objectives being met. "Taking into account the WFD objectives" is not enough in this respect; "in accordance with the WFD objectives" is the wording that should be used in the relevant laws and regulations.

Policy areas where activities have an impact on water systems are not only part of the portfolio of the Minister and State Secretary of Infrastructure and Water Management, they also feature in those of the Minister of Agriculture, Nature and Food Quality, the Minister for Nature and Nitrogen Policy and the Minister for Housing and Spatial Planning.

Specifically, we recommend mandating the water quality standards in the Environmental Management Act, the Water Act and the 2009 Water Quality Requirements and Monitoring Decree in decision-making on, for example, manure regulations and the authorisation of plant protection products. The government should make full use of all available legal instruments to facilitate this wider follow-through of WFD standards. Existing standards, licensing requirements and/or general rules should be tightened up where necessary and monitoring and enforcement should be intensified.

Making water test mandatory

A water test is currently carried out in the context of spatial plans. The water test is a process in which the water authority is involved in the planning process to ensure that the impact of proposed plans on water systems can be properly assessed. The requirement to complete the water testing process for spatial plans is partly laid down by law in the Spatial Planning Decree and partly agreed administratively in the Administrative Agreement on Water (2011). Under the Environment and Planning Act, the water test will continue to be required for spatial plans, albeit under a different

term: "weighting of the water interest" (e.g. Article 5.37 of the of the Living Environment Quality Decree).

In the Letter to Parliament titled "Water and soil guiding policy" (IenW, 2022a), the relevant members of the government indicated that this test should be improved and applied more strictly. What this will mean in practical terms for the scope and legal assurance of implementation is still unknown (IenW, 2023d).

We concur as to the importance of improving and applying the water test – or the weighting of the water interests – more strictly. If the WFD objectives are to be met over time, we believe it is necessary to make the weighting of water interests mandatory for all spatial plans that affect or are likely to affect the water system.

We also recommend making it mandatory for spatial plans and decisions to be amended if they result in deterioration of the current situation in the water system. One way to achieve this is to lay down in an instruction rule that spatial planning decisions can only be taken if the achievement of the WFD objectives is not jeopardised and there is no deterioration in the current state of the water system.

Tightening up licensing, monitoring and enforcement

We found that the periodic updating and possible tightening up of licences for activities with impacts on water quality and quantity is currently not working well. There are also major backlogs in this process. Several parties have already pointed out this problem,¹⁹ but not much improvement has been made. We therefore recommend requiring stricter compliance with the mandatory updating of licences. We also recommend that only fixed-term licences should be granted. Open-ended licences should be phased out.

We also believe that the supervisory powers over water quality and quantity, which are vested in central government (towards the lower tiers of government), the provinces (towards the water boards) and the water boards (towards companies and households), should be taken more seriously. Supervision involves: (a) ensuring that the WFD objectives are effectively translated into policy and implementation and (b) monitoring the results of policy measures. We believe that supervisory authorities should use the tools available to them on a *mandatory* basis until the WFD objectives are met.

It is also essential for the relevant authorities to be able to make adjustments if necessary. In this context, we recommend that all notifications of activities with impacts on water quality and quantity and all licences issued for such activities should be listed in a *public register*, so that there is an overview of the totality of licences issued in respect of water abstractions and discharges of the various substances.

Ensuring representative monitoring

We advise the Minister of Infrastructure and Water Management to ensure that the periodic monitoring of water systems in the Netherlands is done using a representative selection of water bodies, in line with the requirements of the WFD. This means dropping the distinction between WFD waters and waters not designated as WFD waters.

Tightening up rules under new Environment and Planning Act

¹⁹ The parties concerned are: Groundwater Study Group (2022), the Van Aartsen Committee (Advisory Committee on Licensing, Supervision and Enforcement, 2021) and Oostdijk et al. (2020).

We would draw additional attention to the situation that will arise once the new Environment and Planning Act enters into force. Fewer activities will then require licences, either inside or outside the water domain. The starting point for carrying out activities not requiring a licence will become "yes, provided that", which means that activities can go ahead in principle. These activities are then not regulated, but subject to a notification requirement or are regulated by general rules and duties of care.

This risks making the new situation so non-committal that there is no longer a full understanding of the potentially negative effects of activities on water quality and quantity. After all, a bespoke regional approach is not meant to replace necessary generic policies. We therefore recommend (a) tightening up the general rules under the Environment and Planning Act so that WFD objectives and standards are met everywhere (e.g. for fertilisers, plant protection products, hazardous substances and groundwater abstractions), (b) formulating clear instruction rules for the notification requirement and (c) organising proper supervision of notified activities. If a notification shows that the WFD objectives are not being met, bespoke regulations or rules must be imposed or a decision must be taken to ban the activity from going ahead. If the WFD objectives and standards are being met locally, the rules for the area in question can be relaxed, provided the WFD objectives are not still compromised as a result of the permitted activities.

[2] Make all groundwater and surface water abstractions subject to licensing or notification and reserve sufficient physical space for drinking water production

In the Letter to Parliament titled "Water and soil guiding policy", the relevant ministers proposed allowing the provinces to set groundwater ceilings. For this, they need to have an understanding of all water abstractions, i.e. not just the large-scale ones, but also the many relatively small-scale groundwater abstractions as well as surface water abstractions (which, after all, have an impact on groundwater levels). In order to gain an understanding of the extent of all these water abstractions and to be able to make adjustments if necessary in order to stay below the ceiling, we recommend making all water abstractions subject to licensing or notification. Where water shortages exist or are foreseeable, all abstractions should be made subject to licensing. In the remaining areas, large-scale abstractions should be subject to a licensing requirement and all small-scale abstractions subject to a notification requirement. To gain a real insight into the total volume of water abstracted, we recommend making it mandatory for every abstraction – whether in a licence or a notification – to specify the purpose of the abstraction and to measure and record the volume abstracted. The competent authority should monitor and enforce this requirement. Based on the measurement data, the water authority should monitor the volume of water abstracted and make adjustments where necessary. This can be done by modifying or revoking licences and, if there is a notification requirement, imposing bespoke regulations. This is a better way of protecting drinking water sources and preventing groundwater depletion and irreparable damage to natural areas – both objectives that form part of the WFD.

The WFD also contains specific provisions on drinking water abstraction, including in Article 7. Water bodies used for drinking water abstraction should be protected to ensure that water quality and quantity do not deteriorate and the level of treatment required for drinking water production can be reduced. In this context, we recommend giving additional consideration to increased demand for drinking water in future and how it can be met. This can then be taken into account in spatial planning.

[3] Reduce nutrient concentrations in groundwater and surface water by tightening up manure regulations, deploy instruments for the government's intended reduction of livestock numbers and improve purification in sewage treatment plants

The WFD objectives for maximum nutrient concentrations in groundwater and surface water are currently still not being effectively translated into policy by the Ministers of Agriculture, Nature and Food Quality and Infrastructure and Water Management.

Our advice to the Minister of Agriculture, Nature and Food Quality in this regard is as follows:

- Ensure that the manure policy (both for animal manure and fertiliser) meets WFD objectives. To this end, update the regulations of the Fertiliser Act, the Environmental Management Act and the 2009 Water Quality Requirements and Monitoring Decree.
- Gradually scale down the number of phosphate and livestock rights being traded, buy these rights for a reasonable fee and take them out of circulation. By anticipating the cap on the number of livestock units per hectare announced by the Dutch government to take effect in 2032,²⁰ the nitrogen reduction achieved can also be used as a contribution to achieving the WFD objectives.

Our advice to the Minister of Infrastructure and Water Management in this regard is as follows:

- Require water boards that still allow discharges of too many nutrients to add a fourth treatment stage for nutrients during sewage treatment by 2027 at the latest. We also advise the minister to anticipate the announced revision of the European Urban Wastewater Directive. This revision envisages improving the removal of both nutrients and chemicals from wastewater. Make this improved removal mandatory for all water boards now. We realise this will entail additional expenditure for the water boards.

[4] Ensure that the WFD objectives follow through into legislation for plant protection products, priority substances, emerging substances, drug residues, etc.

Supplementing our advisory report *A grip on hazardous substances* (Rli, 2020), in which we called attention to the possibility of taking the living environment into account at the design stage of substances and products, our advice to the Minister of Agriculture, Nature and Food Quality is as follows:

- Ensure that the WFD objectives follow through into plant protection policy. This will require amendments to the Environmental Management Act and the 2009 Water Quality Requirements and Monitoring Decree and to the regulations associated with the Plant Protection Products and Biocides Act.

Our advice to the state secretary of Infrastructure and Water Management in this regard is as follows:

- Amend the laws and regulations governing products in which priority and emerging substances are used so that the WFD objectives are followed through in them. This would require additional standards to be laid down under the Environmental Management Act. The 2009 Water Quality Requirements and Monitoring Decree will have to be amended for this purpose. If standards are missing for certain substances, make sure they are put in place and ensure they follow through into product regulations.

²⁰ This policy intention is, as we mentioned in section 2 of this advisory letter, included in the Letter to Parliament titled "Future of agriculture" (LNV, 2022).

[5] Start assessing the effects of all measures immediately

It is important to quickly clarify what the remainder of the WFD challenge consists of. The Minister of Infrastructure and Water Management should therefore arrange for the expected effects of all current and proposed measures to be assessed. This assessment will have to include not only the impact of the measures specified in the policy letters from the government, but also the impact of the EU derogation decision, of the addendum to the 7th Nitrates Directive Action Programme, of the measures laid down in the area-specific processes under the National Rural Areas Programme and of the additional measures proposed by us in this advisory letter.

If the assessment shows that the WFD objectives will not yet be met, the Minister of Infrastructure and Water Management must decide what additional measures are needed: which ministers, provinces, municipalities or water boards should take which additional measures? We recommend formalising these measures through an interim amendment to the water management programmes, regional water programmes and river basin management plans. It is important that this assessment takes place before the mid-term review in 2024, because otherwise it will be too late to implement these measures by 2027.

We believe that assessing the effects and possibly expanding the package of measures should be done at national level and should not – as the Infrastructure and Water Management ministers suggested in their Letter to Parliament titled "Water and soil guiding policy" – be the responsibility of the provinces, water boards and other area partners. After all, it is the Minister of Infrastructure and Water Management who bears responsibility for water policy and it is the Dutch government as a whole that is ultimately responsible for meeting the WFD objectives, as this is an obligation incumbent on the Netherlands as a member state.

In line with the requirements of the WFD, the government will have to provide answers to the following questions at national level through an ex-ante evaluation:

- Are all planned measures sufficient to meet the objectives set?
- Is implementation of the measures on track?
- Does the actual effectiveness of the measures match the envisaged effectiveness?
- If not, what additional measures should be taken to ensure that it does?

Our advice is to report the results of the ex-ante evaluation to the European Commission.

We further advise the Minister of Infrastructure and Water Management to task, for example, the Netherlands Environmental Assessment Agency (PBL) with carrying out this ex-ante evaluation or – if the ministry decides to carry out the work itself – to task PBL with reviewing this ex-ante evaluation. The results of the assessment may necessitate tightening up laws and regulations. Our advice is to pre-emptively prepare that possible policy adjustment now and ensure that a coherent set of policy instruments is available in 2024 for that purpose.

APPENDIX Responsibility and acknowledgement

Council for the Environment and Infrastructure

The Council for the Environment and Infrastructure (Rli) is the strategic advisory body for the Dutch government and parliament on issues concerning sustainable development of the living environment and infrastructure. The Council is independent and provides solicited and unsolicited advice on long-term issues. By adopting an integrated approach and giving advice at a strategic level, the Council aims to contribute to the deepening and widening of the political and social debate and to the quality of the decision-making process.

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Translation

This advisory report has been translated from Dutch and can be downloaded from <https://en.rli.nl/>

Rli publication 2023/02

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