

Template for summary reports in accordance with article 7 of the Protocol on Water and Health

Executive summary

Overall The Netherlands complies with the requirements of the Protocol on Water and Health. Nearly everybody has access to drinking water and sanitation. Regulations with regard to drinking water quality, quality of drinking water resources, good status of waters, water management are in place and have been implemented throughout the institutional organisations responsible for water management. Public consultation with regard to water management issues and projects is a integral part of the Dutch legal and governance system.

A lot of provisions of the Protocol on Water and Health have already been implemented in the Netherlands, furthermore there will be continuing challenges in the future as defined in the new water policy plans of the Netherlands. Several challenges will be dealt with and reported under EU Directives. The coverage for drinking water and sanitation is almost 100%. The quality of drinking water supplied has already reached a high level. The quality of sewage water does already comply with the UWWT Directive. The quality of the bathing water complies with the Bathing Water Directive. A lot of current targets are already extensively dealt with implementation of the Water Framework Directive. The Netherlands strives for keeping up the high level performance in the sanitations sector, drinking water sector, and overall water sector. An update of strategies (control measures) is ongoing where needed (e.g. Legionella). It is clear that the goals of the Protocol cover the Sustainable Development Goals 6 on sanitation and drinking water, SDG3 (good health and well-being) and SDG 13 (Climate action). The Netherlands planned to revise the national targets under the Protocol. The revision of the targets has been delayed and are now scheduled for 2022.

Despite the high level of achievement the same challenges as reported in the former reporting cycle still require further attention, for example adaptation to climate change (floods and droughts), and preventing (or mitigating) health issues from emerging substances, like pharmaceuticals, microplastics, and water-borne infections.

Recently a new overarching policy document on water management in the Netherlands was established. During the planning period of this National Water Policy Plan (NWP), the government will take measures for major bodies of water to achieve the objectives of the Water Framework Directive (WFD). These measures are included in the river basin management plans 2022-2027. Additional resources have also been made available for the Delta approach Water quality (on top of the WFD measures), the Delta Plan for Agricultural Water Management and the Programmatic Approach Large Waters (PAGW) and groundwater. All these measures mean a big step forwards towards achieving the goals for water quality and nature. In 2021, the government has established the Drinking Water Policy Document 2021-2027 to continue to secure clean, healthy and sufficient (drinking) water for everyone. On top of that, extra attention is paid to emerging substances of very high concern, both in terms of licensing as knowledge development. Also measures will be taken to combat (consequences of) flooding and drought. Water boards have recently started working on adaptations of the water treatment to remove pharmaceutical residues and microplastics from sewage.

With regard to international cooperation inter alia takes place in four international river basin commissions (Meuse, Ems, Scheldt and Rhine). The cooperation covers all water management issues like surface and groundwater quality, water ecology, flood protection, warning and alarm systems. The international commissions are also platforms to coordinate the implementation of EU Water Directives within the RBMPs. With regard to the

programme 'Rhine 2040' of the International Commission for the Protection of the Rhine the influx of micropollutants into waters from municipal waste water collection and treatment systems, industry and commerce and agriculture is to be reduced in 2040 by at least 30% in comparison to the period 2016-2018 - consistent with a longer-term ambition to further decrease pollution throughout the Rhine catchment area.¹

The Ministries of Foreign Affairs; Economic Affairs; and Infrastructure and Water management (IenW) continue their efforts in the field of international water cooperation. The collaborative goal is to increase the water security of urbanizing delta's and their supply systems. In 2019, the Netherlands/IenW contributed to the establishment of the Global Commission on Adaptation (GCA) to stimulate climate adaptation actions worldwide. The results were presented during the Climate Adaptation Summit (CAS). The Netherlands is also active in several Treaties with the aim to improve watermanagement and climate adaptation under which the Water Convention and the Protocol on Water and Health. Within the Protocol on Water and Health NL was co-lead for workarea 5 on safe and efficient management of drinking water supplies and sanitation. Furthermore the NL supported several activities under workarea 2 (surveillance), 4 (small supplies) and 7 (climate resilience). The Netherlands supported also the work under the Water Convention inter alia by funding and as co-chair of the Task Force on Water and Climate and several activities in this area.

Soon after the outbreak of the coronavirus, it was discovered that the spread of the coronavirus SARS-CoV-2 can be monitored by measuring the concentration of virus particles in sewage. Sewage surveillance is set up to enable early detection of localised outbreaks and it is also possible to detect and recognise new variants. The water boards and the RIVM investigate samples from all of the more than 300 sewage treatment plants for the presence of particles of the coronavirus covering almost the entire Dutch population. From 2021, samples are collected multiple times per week, and the system is set up to collect more health-related data in the future. In addition, temporary measures in the context of COVID-19 have reduced costs for drinking water.

¹ [Rhine 2040 \(iksr.org\)](https://www.iksr.org/)

Part one

General aspects

1. **Were targets and target dates established in your country in accordance with article 6 of the Protocol?**

YES NO IN PROGRESS

2. **Were targets and target dates published and, if so, how?**

The targets were established in 2011 according Art. 6 of the Protocol Water and Health and submitted to the secretariat (September 2011) and published on the UNECE Protocol's homepage. The revision of targets is recently in progress.

3. **Has your country established national or local arrangements for coordination between competent authorities for setting targets? If so please describe, including information on which public authority(ies) took the leadership and coordinating role, which public authorities were involved and how coordination was ensured.**

The targets are in general adopted from targets set under European Directives such as the Water Framework Directive (2006/60/EC), the Bathing Water Directive (2006/7/EC), the Urban Waste Water Directive (91/271/EEC) and the Drinking Water Directive (98/83/EC). There were no arrangements between authorities with regard to the target setting under the Protocol. However there are arrangements and working structures in place for target setting under the policy fields described, including strong involvement of the competent authorities for water management. The Ministry of Infrastructure and Water management has the leadership and coordination with respect to the national water system. In the Netherlands all bodies dealing with water are involved, including the Ministries, the National Water Authority and Regional Water Authorities, provinces, municipalities and drinking water companies and the RIVM.

4. **Was a programme of measures or action plan developed to support implementation of the targets? If so, please briefly describe that programme or plan, including how financial implications were taken into account.**

Within the target setting of the described policy fields all relevant existing national, EU and international strategies and legislation were taken into account. Reference is made to existing policy plans and programmes. Important policy papers at that time were the national policy plan on Drinking Water, Water management² and the River Basin Management Plans (RBMPs)³. In these plans the international strategies of the International Committees for the four river basins of NL (Rhine⁴, Meuse⁵, Ems⁶ and Scheldt⁷) are taken into account. Drinking Water Protection Files consisting of measures to reduce risk to drinking water resources contribute to RBMPs. The plans are updated in the meanwhile or currently under evaluation.

5. **What has been done in your country to ensure public participation in the process of target setting in accordance with article 6, paragraph 2, and how was the outcome of public participation taken into account in the final targets set?**

² Nationaal Water Plan (<https://www.rijksoverheid.nl/documenten/brochures/2011/03/28/nationaal-waterplan>)

³ River Basin Management Plans NL (http://ec.europa.eu/environment/water/participation/map_mc/countries/netherlands_en.htm)

⁴ <http://www.iksr.org/en/international-cooperation/legal-basis/convention/index.html>

⁵ <http://www.meuse-maas.be/Accueil.aspx>

⁶ <http://www.ems-eems.nl/>

⁷ <http://www.isc-cie.org/NL/>

There was no specific public participation in the process of target setting under the Protocol. Public participation is part of the process of target setting within the framework of mentioned legislation and policy. There was extensive public participation in the process of target setting for several Dutch water plans through informing the public and by public consultation. The River Basin Management Plans (WFD implementation), National Water Plan and other Water Plans drafted by the Regional Water Authorities, provinces and national government were made available for public consultation.

6. Please provide information on the process by which this report has been prepared, including information on which public authorities had the main responsibilities and what other stakeholders were involved.

This report is prepared by the Ministry of Infrastructure and Environment, the Ministry of Health, the National Institute for Public Health and Environment (RIVM), National Water Authority (Rijkswaterstaat (WVL)). The report is send to the Ministry of Foreign Affairs, the Union of Regional Water Authorities, Union of Municipalities and Vewin (Association of Dutch Drinking water companies).

Part two

Targets and target dates set and assessment of progress

I. Quality of the drinking water supplied (art. 6, para. 2 (a))

For each target set in this area:

1. *Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.*

National target NL: Reduce the number of instances of non-compliance with drinking water quality limit values (expressed as a % of non-compliance with limit values). For microbial parameters (WatSan_S2 indicator) and for chemical parameters (WatSan_S3), for public water supply serving over 5,000 inhabitants. Target date 31-12-2013. Target indicator: % non-compliance with limit values for the WatSan_S2 (0.5%) and WatSan_S3 (0.1%).

2. *Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).*

The baseline condition is to provide drinking water for the total population of a good quality (wholesome and clean), sufficient quantity and assurance of delivery based on EU DWD 98/83 EC and art 4 of the Dutch Drinking Water Act. In the Netherlands there is extensive legislation on drinking water (quality).

Safe water quality at the tap is guaranteed through a multi-barrier risk assessment/risk management (RA/RM) approach (Water Safety Planning). Water supply plans and remediation plans are in place in case of local outbreaks (boiling water decrees, emergency flushing/chlorination of distribution system). Drinking water companies draw up a disturbance risk analysis (DRA) as part of the drinking water supply plan. The risks of a list of threats and hazards which potentially affect the quantity or quality of the water supply are assessed. Based on the outcomes of the DRA, additional control measures are included in the drinking water supply plan, to minimize risks for the public drinking water supply. The source water is extensively monitored (for microorganisms with QMRA in 4 yearly cycles). Threats concerning drinking water quality mainly arise on source water level. In order to define measures to improve the quality of the sources drinking water protection files were elaborated (see VII). For non-regulated substances and emerging substances special programme is established. Drinking water companies established a framework for risk-based monitoring inter alia on basis of the amended Annex III of the current Drinking Water Directive. Every year, drinking water companies monitor their water quality measurements and indicate which changes in quality have appeared. Another issue of concern is the quality of materials and products in contact with drinking water. In this perspective work has been done on the policy and regulation of hygienic requirements for materials and products in contact with drinking water, such as a regulation on hygienic requirements.

3. *Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.*

Challenges are inter alia emerging substances and effects of climate change. A new Drinking Water policy plan is published in April 2021. The new policy plan on drinking water

describes measures which will be taken⁸. Currently the national legislation is being amended as part of implementation of the revised EU Drinking Water Directive. In parallel an implementation programme is set up by the government in cooperation with the drinking water companies, watermanagers, local government and stakeholders.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.1, to achieve universal and equitable access to safe and affordable drinking water for all. The target gives an indication of total exceedences and trends over the years for chosen parameters. This gives information about the need for additional measures. The outcome strongly depends on the chosen parameters for WatSan S2 (selection of microbial parameters) and S3 (selection of chemical parameters).

II. Reduction of the scale of outbreaks and incidents of water-related disease (art. 6, para. 2 (b))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

- National targets NL: Follow the results of the current national system reporting water-related diseases and epidemics (including Legionellosis and swimming water infections): Reporting Act Public Health. If possible improve the system. Deadline: 31.12.2013. Target indicator: methodological recommendation.
- Publish an overview of reported water-related diseases. Deadline 31.12.2012. Target indicator: report issued (yes-no).

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The RIVM reports every three years on the number of bathing water, swimming pool related disease cases. Data for these reports are obtained from the authorities responsible for bathing water quality, i.e. the provinces and Regional Water Authorities, and from the Public Health Authorities (GGD).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Target is achieved and under review. The RIVM publishes yearly an overview of reported water-related diseases in the Infection diseases Bulletin, State of infectious Diseases and report notifiable diseases to the European Centre for Disease Prevention and Control (ECDC). The annual number of Legionnaire's disease in the Netherlands was fairly constant the last decades. However since 2014 the number is increasing the last years. The source of infections remains unknown for most cases. Only a small proportion of cases can be linked to drinking water systems, and the Legionella typing in patients is different than typing in the water system. The incidence is strongly associated to weather conditions. This indicates that environmental sources such as soil, waste water systems and cooling towers) are important sources of contamination in the Netherlands. In 2018 and 2019 additional research was done Ministry of Infrastructure and Water Management on Waste Water

⁸ <https://www.rijksoverheid.nl/documenten/rapporten/2021/04/23/bijlage-beleidsnota-drinkwater-2021-2026>

Treatment Plants (WWTP) after Legionella cases related to identify risk criteria for WWTP in relation to Legionella growth and emission. Furthermore, the study examined if Legionnaires Disease patients had increased exposure to aerosols originating from WWTPs. This resulted in 3 reports: Risk inventory for Legionella at wastewater treatment plants (); Potential measures against the spread of legionella from waste water treatment facilities (<https://rivm.openrepository.com/handle/10029/623645>) and Potential spread of legionella bacteria by air from waste water treatment plants: a case-control study (<https://rivm.openrepository.com/handle/10029/623646>).

For bathing waters the EU Bathing Water Directive parameters are incorporated in the EU reporting system for official bathing sites. In EU Bathing Water Directive 2006/7/EC, no targets are set for cyanobacteria in bathing waters. Cyanobacteria cause water quality problems. To protect bathers' health at these bathing sites, water managers in the Netherlands use the Cyanobacteria Protocol. This protocol tells them how to inspect bathing sites for cyanobacteria and which measures they should take. The 2020 Cyanobacteria Protocol⁹ does so according to the latest insights. When the risk level is known, measures are taken accordingly and the bathers will be informed. This can be a warning, an advice against bathing or a swimming ban.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

These target contributes mainly to SDG 3.3 End neglected tropical diseases and combat water-borne diseases and SDG 3.d. Strengthen early warning, risk reduction and management of health risks. An adequate registration systems makes it possible to have an overview of cases and trends, and is important to define possible measures to reduce cases.

III. Access to drinking water (art. 6, para. 2 (c))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National NL: In the Netherlands the coverage for public drinking water supply is around 100%. In addition there is a relative small number of private small supplies (f.i. camping grounds) which are temporarily used. No target date is set. Target indicator: % of the population connected to public drinking water supply.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The target is based on the condition to provide drinking water for the total population of good quality (wholesome and clean), sufficient quantity and assurance of delivery on basis of EU DWD 98/83 EC and article 4 of the Dutch drinking water Act. The Netherlands has a connection obligation for drinking water suppliers in the Drinking Water Act. The in home dinking water installation is regulated through the Building Regulations. There are no specific groups that do not have access to clean drinking water. NL has a careful disconnect policy and procedure and social policy legislation to support citizens with financial problems <https://wetten.overheid.nl/BWBR0031481/2018-07-01>. Assurance of delivery now and in the future is an important goal; especially with regard to emerging threats like climate change and security issues. According to the Dutch drinking water Act it is mandatory to develop

⁹ https://www.rivm.nl/en/bibcite/reference/335011#abstract_en

delivery plans including a paragraph on disturbance risk analyses on serious threats and hazards (see I.2). These documents are approved by the Inspectorate. Assurance plans are partially derived from the EU Floods Directive; which demands the identification of vulnerable areas. More knowledge has been gained on severity of certain threats, making preparedness and response plan better targeted. The Policy Paper on Drinking Water of 2021 also established to assign strategic water stocks and national reserves and promote cooperation in the water supply chain¹⁰. Another goal is to provide drinking water at a reasonable price. Municipalities and provinces are public shareholders. Dutch water companies have engaged in a voluntary exercise to benchmark their performance against each other, in order to improve their efficiency and increase transparency covering four areas: water quality, service, environment, and finance and efficiency¹¹. Since 2011 this process is mandatory to our Drinking Water Act for all drinking water companies. Consumer satisfaction surveys are conducted every three year by the association of drinking water companies (VEWIN). See also under V.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Target of 100 % connection has been met for decades. Work will be done within the framework of the implementation of the new European Drinking Water Directive where member states are obliged to perform an analysis with regard to access to drinking water with special attention for vulnerable groups.

An emerging challenge in this regard is the availability of fresh water sources for the production of drinking water. The ministry of Infrastructure and Water management is exploring a system for drinking water restrictions which can go into force in situations when the drinking water demands exceeds the supply. This can be the case during prolonged dry periods in combination with unforeseen incidents in the drinking water supply. In addition, at severe sweet water shortages, normally during long dry summers, water authorities use the so called repression series (“verdringingsreeks”) to divide the limited amounts of sweet water (surface water, groundwater) for the different water demanding activities, like water safety, nature, drinking water and energy supply, agriculture, industry, etc.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.1, to achieve universal and equitable access to safe and affordable drinking water for all, as it covers the percentage of people connected to drinking water premises.

IV. Access to sanitation (art. 6, para. 2 (d))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: For sewerage and waste water treatment the coverage is around 100%. No target date is set. Target indicator: % of the population connected to sewers; % of treated waste water.

¹⁰ <https://www.rijksoverheid.nl/documenten/rapporten/2014/04/25/beleidsnota-drinkwater-schoon-drinkwater-voor-nu-en-later>

¹¹ http://www.vewin.nl/SiteCollectionDocuments/Publicaties/English%20publicaties/Vewin_reflections_on_performance_2012.pdf

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).

Access to sanitation in buildings is regulated in national Building regulations. Institutional sanitation in schools and healthcare facilities, including access to handwashing and hygienic care facilities is regulated in sectoral hygiene regulations and guidances¹². The focus of the target is sewerage and household waste water. In the Netherlands, the municipality is responsible for the collection and transport of urban waste water (Environmental Management Act), the Regional Water Authority, and when applicable the municipality, is responsible for the transport and treatment of urban waste water (Water Act)¹³. National waste- and water legislation define the duties of care to Regional Water Authority and municipalities. The municipal sewage plan (GRP) is the policy framework for the execution of the duties of care. This plan expires when the Environment and Planning Act enters into force, and will become part of a municipal environmental plan and vision document. Measures are inter alia based on the requirements of the EU Urban Waste Water Directive and the Water Framework Directive. For sewerage and urban/rural waste water treatment the covering is around 100%. Measures in the municipal sewerage and Regional Water Authority plans are focused on maintenance of the system and improvement, also in perspective of climate change.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

See also under 2. Target is achieved. In relation to 2019 the situation is more or less the same. At this moment only 0.5% of the households have no connection to Urban Wastewater Treatment Plants. The breakdown of the 0.5% households is: 0.4% have individual treatment and 0.1% have no treatment (see also Part Thwo, under IX and X).

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.2 Achieve access to adequate and equitable sanitation and hygiene for all, end open defecation and pay special attention to the needs of women and girls and those in vulnerable situations and 6.3. Improve water quality by reducing pollution, halve the proportion of untreated wastewater and increase recycling and safe reuse.

V. Levels of performance of collective systems and other systems for water supply (art. 6, para. 2 (e))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

Target: For Drinking Water: performances as stated in the Drinking Water Act and Decree. No target date set.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).

¹² <https://www.rivm.nl/landelijk-centrum-hygiene-en-veiligheid-lchv>

¹³ <https://circabc.europa.eu/sd/a/d423b03f-93c2-4fbc-9254-e0d23d587c53/Task%20%20EU%20Member%20States%20legislation>

There are several legal instruments to secure good performance of the drinking water supply in the national Drinking Water legislation. In the Netherlands performance comparison is mandatory. Every three years a performance comparison has to be done. In the Drinking Water Decree the performance indicators are set, which must at least appear in the performance comparison. The indicators have four perspectives: 1. quality of the drinking water supplied, 2. environmental effects, 3. customer satisfaction and 4. cost efficiency. Pursuant to the national Drinking Water Decree, the tariffs must be cost-effective, transparent and non-discriminatory. The drinking water companies must make clear that their tariffs meet these requirements. Supervision of this lies with the Inspectorate, advised by the Authority for Consumers & Market (ACM). To make the cost calculation the drinking water companies are obliged to use a defined cost model. The cost model is based on the integral budget of the company. The drinking water companies and their shareholders (public) are responsible for investments including investments for replacing the distribution network. They must ensure that the investments match their future challenges so that there is no underinvestment or overinvestment and provide investment statements fixed in multi-year investment plans. In addition the Inspectorate checks compliance with regard to security and continuity of the drinking water supply on basis of the so-called delivery plans of the drinking water companies.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The most recent performance comparison is done on the 2019 figures, the most recent analysis on the delivery plans was in 2020.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.1, to achieve universal and equitable access to safe and affordable drinking water for all.

VI. Levels of performance of collective systems and other systems for sanitation (art. 6, para. 2 (e))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: For treated waste water as stated in the permits issued by the authorities towards the Regional Water Authorities. No date set. Target indicator: standards UWWTP Directive.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The Urban Wastewater Treatment Directive aims to protect the environment from the adverse effects of urban waste water discharges. To this end, the Directive stipulates that all agglomerations must be of a sewer system and thus collected sewage is adequately treated. The reduction of oxygen-binding substances in biological sewage treatment plants was already in place in the Netherlands. Netherlands applies Article 5.4 and 5.8 of the Directive to the whole territory. In addition the national Environmental Law is applicable for discharges. The sewerage charge is determined by the municipal council and provides for the financing of construction and management of the municipal sewerage system (WOZ). The treatment charge is set by the water board and finances the treatment of household waste

water (VVEs). Agreements have been made in the Administrative Water Management Agreement for the efficient management of the water chain.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The EU UWWT Directive according to article 5.4 states a goal of a reduction of N and P by 75%. The goal for total phosphorous was reached in 1996, the goal total nitrogen was reached in 2006¹⁴. However the emissions are not restricted to N and P. The environmental objectives of inter alia the Water Framework Directive may give rise to regional take additional measures to increase the degree of treatment¹⁵. The 12th baseline report describes measures taken and the situation at end 2018¹⁶. In addition activities are in hand with regard to adaptation, inter alia based on Administrative Agreement on Climate Adaptation¹⁷ and a national programme on pharmaceuticals¹⁸ and action related to One Health approach against microbial resistance.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations and 6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

5. If you have not set a target in this area, please explain why.

This year a revision of the EU UWWT Directive will be published. New targets and/or measures are expected for the removal of substances, not only nutrients but also e.g. micropollutants.

VII. Application of recognized good practices to the management of water supply (art. 6, para. 2 (f))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National targets NL: Drinking water sources according the Dutch Drinking Water Decree and Dutch Decree on Quality Requirements and Monitoring on Water BKMW (implementation of the WFD and of Directive 75/440/EEC); WFD especially article 7. 1 – 3

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

Remediation measures have been formulated and implemented inter alia to the RBMPs . Additionally, the national government together with provinces, water boards, municipalities,

¹⁴ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016SC0045&from=EN>

¹⁵ http://ec.europa.eu/environment/water/participation/map_mc/countries/netherlands_en.htm

¹⁶ [Rapportage EU-richtlijn 'Stedelijk afvalwater' - Helpdesk water](#)

¹⁷ <https://www.rijksverheid.nl/documenten/rapporten/2018/11/20/bestuursakkoord-klimaatadaptatie>

¹⁸ <https://www.rijksverheid.nl/onderwerpen/geneesmiddelen/medicijnresten-in-water>

drinking water companies and stakeholders set up a 'Delta approach' to tackle issues that are not specifically elaborated in the RBMP's. Especially, efforts are undertaken to meet challenges with emerging substances such as PFAS, microplastics and pharmaceuticals. Specifically for protection of drinking water resources drinking water protection files were kept up-to-date. These files hold a risk assessment for the abstraction sites.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Programmes of measures have been defined for all water intake locations. In the 3rd RBMPs, in a national analysis¹⁹ of drinking water sources and in recent policy papers on (drinking) water management²⁰ it is stated that even with all measures taken many drinking water companies will have to invest because of problems caused by pollutants²¹. In spite of a national programme on non-regulated and emerging substances²² the target of WFD article 7.3 with regard to lowering purification effort is not reached.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.1, 6.2 and 6.3.

VIII. Application of recognized good practice to the management of sanitation (art. 6, para. 2 (f))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: Meet the requirements of the EU WFD, EU UWWTD and management of quality systems for sewage collection and waste water treatment systems. No target date set. Indicators standards BKMW and Drinking Water Decree.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

See part two nr IV, VI, IX and X.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

See part two nr IV, VI, IX and X.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.2 and 6.3.

¹⁹ https://www.pbl.nl/sites/default/files/downloads/pbl-2020-nationale-analyse-waterkwaliteit-4002_0.pdf

²⁰ <https://www.rijksoverheid.nl/documenten/rapporten/2021/04/23/bijlage-beleidsnota-drinkwater-2021-2026>

²¹ http://ec.europa.eu/environment/water/participation/map_mc/countries/netherlands_en.htm

²² <https://www.helpdeskwater.nl/onderwerpen/wetgeving-beleid/delta-aanpak/opkomende-stoffen>

IX. Occurrence of discharges of untreated wastewater (art. 6, para. 2 (g) (i))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: Targets for these items are formulated in the Water Act. No date is set. Indicator is reduction of the number (or volume) of discharges of untreated waste water

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

See part IV, VI, VIII and X.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Only 0.5% of the households have no connection to Urban Wastewater Treatment Plants. Of this 0.5% households: 0.4% have individual treatment, 0.1% have no treatment. Progress has been made. Further measures are foreseen according to the River Basin Management Plans.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6.2, 6.3 and 6.6.

X. Occurrence of discharges of untreated storm water overflows from wastewater collection systems (art. 6, para. 2 (g) (ii))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: Targets for these items are formulated in the Water Act. No target date set.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The aim is to reduce storm water overflow as much as possible to avoid contamination of water with chemicals and pathogens. Waterboards and local authorities deliberate municipal sewage plans which contain targets for operation and maintenance of sewage systems and improvement plans (see Part Two, section IV). The plans contain at least 'a summary of the provisions for the collection and transport of urban waste water, the collection and treatment of rainwater and the locations of storm water outlets and overflows to the surface water present in the municipality. In addition, the proposed measures to prevent or minimize adverse effects on groundwater are described. Such measures may for example have the form of a public drainage system such as drainage pipes, drainage ditches, drainage crates or percolation facilities'. Since 2008, a specific duty of care for rainwater is established in article 3.5 of the Water act. Where appropriate, wastewater collection systems are equipped with settling tanks and other physical measures. Also, separated sewage systems are used where rainwater is separated from other wastewater. For a complete overview of measures see:

Assessment of impact of storm water overflows from combined waste water collecting systems on water bodies (including the marine environment) in the 28 EU Member States²³.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

Between 2009-2015 95 discharges of untreated storm water overflows have been reduced, and between 2016 – 2021 more than 41 measures were planned or carried out and was more than 100 ha disconnected from the sewer system. Around 120 measures as well as the disconnection of 43 ha from the sewer system are planned for the period of 2022-2027²⁴. A challenge is more periods of heavy rain due to climate change. Agreements are made and work is being done on climate resilience²⁵. Within the ICPR agreements are made in the programme ‘Rhine 2040’ concerning flood risk management and joint efforts to find ways to avoid negative effects of low water situations.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

SDG 6.2 and 6.3

XI. Quality of discharges of wastewater from wastewater treatment installations (art. 6, para. 2 (h))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: Targets for these items are formulated in the Water Act and worked out in the permits issued by the authorities. No target date set

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

See information Part Two section VI, VII, VIII, IX and X.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

See VI, VII, VIII, IX, X.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

SDG 6.2 and 6.3

²³ <https://circabc.europa.eu/sd/a/d423b03f-93c2-4fbc-9254-e0d23d587c53/Task%202%20EU%20Member%20States%20legislation>

²⁴ [Stroomgebiedbeheerplannen 2022-2027 - Helpdesk water](#)

²⁵ <https://www.rijksoverheid.nl/documenten/rapporten/2018/11/20/bestuursakkoord-klimaatadaptatie>

XII. Disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations (art. 6, para. 2 (i))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

No target is set.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

5. If you have not set a target in this area, please explain why.

The EU UWWT Directive sets restrictions on the use and disposal of sewage sludge. The sludge is incinerated for nearly 100% in the Netherlands. Stringent standards are laid down in the Decree on fertilizer use. On the other hand pilots are ongoing to abstract the phosphorus from the sludge as well as for producing biogas. On a national scale the Top Sector Water was established (PPP consortium lead by the Ministry of Economic affairs). One of the focus areas is water technology including resource efficiency. In 2018, 10 UWWTPs were equipped with facilities for the recovery of raw materials, mainly phosphorus and cellulose. Biogas is produced at 73 UWWTPs and there are now 12 so-called energy plants in operation; that is, UWWTPs that are energy neutral or supplying. This number will increase to a few dozen in the coming years.

XIII. Quality of wastewater used for irrigation purposes (art. 6, para. 2 (i))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

No target is set.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

5. If you have not set a target in this area, please explain why.

Climate change will further increase the pressures on safe and adequate water supply and sanitation provision; therefore the practice of reuse is likely to increase. These water reuse activities and future trends require monitoring of potential health risks and safe management

strategies. Waste water reuse can be used as a measure to reduce water scarcity. For the moment reuse for irrigation purposes is only taken up in pilot projects. As the pressure on safe and sufficient water supply might increase due to climate change, the interest in reuse might also increase. In order to stimulate the uptake of safe reuse for irrigation purposes the European Commission has proposed in 2018 a regulation setting minimum requirements for water reuse. The new rules of this regulation (Regulation (EU) 2020/741 of 25 May 2020) will apply from 26 June 2023. The Netherlands is currently working on the implementation in national legislation. Farmers and managers of wastewater treatment plants (waterboards) can apply for a permit from 26 June 2023 to distribute effluent from wastewater treatment plants for irrigating agricultural crops under set conditions.

XIV. Quality of waters which are used as sources for drinking water (art. 6, para. 2 (j))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: Meet the requirements for achieving ‘good status’ for all waters as set out in the Water Frame Work Directive 2000/60/EC. Target date: 31-12-2027. Indicator Water quality standards.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

In accordance with the WFD the Netherlands take measures on the basis of generic policy for the production of drinking water and additional measures. See also the RBMPs of the Netherlands). In 2010 the drinking water protection files were introduced as a means for managing risks around drinking water abstraction points (catchment areas). In 2015, the drinking water protection files for all abstraction points have been completed. In 2021, these files all have been updated as input for the WFD 2022-2027 implementation plan. See also Part Two section VII.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The combination of water quality of resources and the treatment facilities are sufficient to produce good quality drinking water that meets the objectives. The resources themselves however face water quality issues at about 50 % of the locations. See also Part Three, section VII.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

SDG 6.1 and 6.3.2 and 6.6

XV. Quality of waters used for bathing (art. 6, para. 2 (j))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL: For the defined bathing areas, draw up “bathing water profiles” as per Article 6 of Directive 2006/7/EC) characterising the given bathing water and identifying pollution risks, including corrective measures. Date: 31-12-2015. Indicator: water quality standards

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The aim of the Bathing Water Directive is to protect the health of swimmers in surface waters (inland and coastal water), taking into account the preservation, protection and improvement of the quality of the environment. The Bathing Water Directive is implemented in the Act Hygiene and Safety of Bathing Establishments and Bathing Facilities, and the Decree hygiene and safety bathhouses and swimming areas. It establishes goals to be met by the quality of bathing water. Water bodies designated as bathing waters are part of the register of protected areas. Netherlands has designated bathing waters. The responsible parties are the provinces and water managers. Their role is defined in the Water Act and Water Decree. One of the requirements is creating and updating bathing water profiles (including a description of the water, resources, risk analysis and measures including time schedule).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The target was reached in 2012. In 2020, a new bathing water report was released, indicating that water quality at 93% of the 736 identified bathing water locations in The Netherlands complied with the requirements for classification ‘sufficient, good or excellent’ as specified in the EU Bathing Water Directive 2006/7/EC; Only 4.1% out of 736 locations classified as poor. Overall the bathing water quality could therefore be considered quite good.

The water at official bathing sites is tested for E. coli and intestinal enterococci every two or four weeks during the bathing season (1 May to 1 October), depending on the average quality over the past four years. The quality of Dutch bathing water is good. During the past bathing seasons almost 95% of the official bathing sites in surface water fulfil the set minimum standards for the microbiological quality of bathing water.

Special attention is given to the occurrence of algal blooms and cyanobacteria in the Netherlands. Therefore, a cyanobacteria protocol was developed and published in 2020 to provide guidance on how to deal with cyanobacteria proliferation at official bathing sites (Cyanobacteria Protocol 2020 (rivm.nl)).

The Ministry of Infrastructure and Water Management is funding research projects in which information is collected on the prevalence of Vibrio species in bathing waters and to identify whether the occurrence of Vibrio species is related to climate change. Research which microbiological parameters for swimming ponds were measured and evaluated in relation to the updated legislation for swimming pools, was funded by the Ministry of Infrastructure and Water Management. Currently the development of a risk assessment tool for bathing waters is ongoing.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

SDG 3.3 and 3.9

XVI. Quality of waters used for aquaculture or for the production or harvesting of shellfish (art. 6, para. 2 (j))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target NL. Meet the requirements for achieving 'good status' for all waters as set out in the Water Frame Work Directive 2000/60/EC. Target date: 31-12-2027 . No indicator defined

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The Shellfish Directive and Fish Directive are withdrawn in 2013. The implementation of the WFD will provide a level of protection which least equivalent to that provided by existing legislation. Additional environmental quality has been for shellfish in protected areas for bacteriological infection associated with risks for human consumption. For the actions taken to reach good status under the WFD reference is made to the third river basin management plans of 2022 - 2027.

Shellfish production waters are monitored by analysing for five parameters.

1. potential harmful phytoplankton (three groups: DSP producing algae, ASP producing algae and PS producing algae). The NVWA has set criteria for each group, which are used as an early warning for possible presence of toxin in shellfish flesh.
2. marine biotoxins; there are legal criteria set out in EU legislation for DSP toxin, ASP toxin and PSP toxin. If criteria are exceeded that particular production areas is closed until two successive samples at least 48 hours apart are below the criteria. The Netherlands also monitors for TTX toxin and has set out national criteria based on EFSA opinion for TTX in shellfish flesh.
3. E.coli is used as an indicator for faecal contamination of the shellfish production area. In the EU shellfish can only be sold if they are originating from a classified production area. A production area can only be classified after a sanitary survey has been performed in which a risk analyses of the area has been carried out according to the EU Community Guide (Community Guide to the principles of Good Practice for the microbiological Classification and Monitoring of Bivalve Molluscs Production and Relaying areas with regard to the Implementing Regulation 2019/627).
4. Norovirus and Hepatitis A virus. Shellfish are monitored for norovirus and HAV. E.coli is used as an indicator for norovirus, although the relationship between presence of E.coli and Norovirus is not very strong. Currently there are no criteria set in the EU, but is expected in the coming years next to E.coli criteria.
5. 5 chemical contaminants such as heavy metals, PAKS and dioxins. Once a year shellfish samples are analysed to check for compliance with EU criteria for chemical contaminants.

In NL all 14 production areas are classified as A. If samples do not comply with class A criteria the production area is closed until the next sample, at least 48 hours apart, is compliant again. Research into the reason for non compliance is started up in order to find the source

of contamination. Classification is based upon E.coli concentration data from at least 12 data each two weeks apart. In the Netherlands a yearly review of the classification status is carried out by the competent authority (NVWA). Anomalous data, when explainable, are taken out of the review and the new classification is being set for the next year. Sanitary surveys are also subject to review every three to four years.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The 2nd RBMP show that water quality has improved in recent years. The number of water bodies with healthy fish stock has increased. Surface water quality is adequate in most places for almost all uses. Nevertheless water quality is however good status is not reached. This sets a task for realizing a better hydromorphology of water bodies and reducing harmful substances, under which nutrients, plant protection products and emerging substances like medicines and (micro)plastics. Applicability of target to be reviewed inter alia with regard to EU directives EG 853/2004 and EG 2017/625 which give requirements for areas used for aquaculture and shellfish harvesting to be classified (A, B, C). It is known that the indicator organism E. coli, used to predict the faecal contamination of shellfish production waters, is not a reliable parameter in determining the Norovirus contamination of shellfish. Since 2018, the concentration of Norovirus and HAV virus in shellfish hepatopancreas is being measured.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

SDG 3.3 and 6.6.

XVII. Application of recognized good practice in the management of enclosed waters generally available for bathing (art. 6, para. 2 (k))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

5. If you have not set a target in this area, please explain why.

No target set. See XV

XVIII. Identification and remediation of particularly contaminated sites (art. 6, para. 2 (l))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

No specific target set. Reference is made to WFD goals

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

See section XIV and XV with regard to the WFD goals.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

In the Netherlands, legislation on soil management is in place since 1987. Overall, 649.000 sites where polluting activities took place have been identified. From these sites, 79.000 sites were marked as 'remediation needed', from which 53.000 have been remediated (a combination of soil and groundwater remediations). The 23.000 remaining sites that need remediation includes circa 1000 sites with 'urgent serious risks' (remediation has to be started within a period of four years) and 22.000 sites with 'serious risks' ('remediation at a suitable moment in time'). In 2023, the Dutch Soil Protection Act will be integrated into the Dutch Environment and Planning Act.

Other less urgent contaminated sites are managed within the RBMPs. See program of measures as part of the RBMP's

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

XIX. Effectiveness of systems for the management, development, protection and use of water resources (art. 6, para. 2 (m))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

5. If you have not set a target in this area, please explain why.

XX. Additional national or local specific targets

In cases where additional targets have been set, for each target:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

Part three

Common indicators²⁶

I. Quality of the drinking water supplied

1. Context of the data

1. What is the population coverage (in millions or per cent of total national population) of the water supplies reported under sections 2 and 3 below?

The data reported under sections 2 and 3 give an overview of 2020. The total population in NL in 2020 was 17,41 million. The population coverage is almost 100% for central drinking water supplies. There are approximately 250 small water supplies (mostly recreational camp sites). For a consolidated overview see also the publication “Drinking water Fact sheet 2020” from the Association of the Dutch water companies (Vewin) (Dutch Drinking Water Statistics 2020).

The water quality data provided in tables below are based on reporting of RIVM (National Institute for Public Health and the Environment) and ILenT (Human Environment and Transport Inspectorate) and is based on information obtained from the individual drinking water suppliers.

2. Please specify from where the water quality samples reported in sections 2 and 3 below are primarily taken (e.g., treatment plant outlet, distribution system or point of consumption).

The samples taken for drinking water quality are taken by drinking water suppliers. They take samples at:

- The inlet points for surface water and groundwater used for the production of drinking water
- Several points during treatment (depending on the drinking water source and treatment process)
- The outlet of the drinking water treatment plants
- The distribution systems
- The user endpoint (consumers tap)

The rationale of this question is to understand where the samples were primarily taken from for the water quality data reported in sections 2 and 3 below.

3. In sections 2 and 3 below, the standards for compliance assessment signify the national standards. If national standards for reported parameters deviate from the World Health Organization (WHO) guideline values, please provide information on the standard values.

The National standards are still based on the European Drinking Water Directive (EU-DWD Council Directive 98/83/EC). Some of the national standards are lower than WHO guideline values as stated in the

²⁶ In order to allow an analysis of trends for all Parties under the Protocol, please use wherever possible 2005 — the year of entry into force of the Protocol — as the baseline year.

revised EU DWD: acrylamide 0.10 µg/L, benzene 1.0 µg/L, benzo[*a*]pyrene 0.01 µg/L, chlorate 0.25 mg/L, chlorite 250 mg/L (parameter value NL: 150mg/L), chromium 50 µg/L, 1,2-Dichloroethane 3.0 µg/L, epichlorohydrin 0.10 µg/L, mercury 1.0 µg/L, nickel 20 µg/L, nitrite 0.5 mg/L (parameter value NL: 0,1 ug/L), selenium 10µg/L, Som tetrachloroethene & trichloroethene 10 µg/L, trihalomethanes 100 µg/L (parameter value NL: Som trihalomethanen 25 ug/L (bij desinfectie, anders 1 ug/L))

Several standards are added in the revision of EU legislation: HAAs 60 µg/L, pesticides (single) 0.10 µg/L and pesticides (total) 0.5 µg/L, sum of PFASs 0.10 µg/L, polycyclic aromatic hydrocarbons 0.10 µg/L. The national standard for cadmium (5.0 µg/L) is higher in the EU DWD than in the WHO guidelines.

Several standards are added in national legislation: *Cryptosporidium*, enteroviruses, *Giardia* and campylobacter (together to be used for a Quantitative Microbial Risk Analysis, QMRA), polychlorobiphenyls, *Aeromonas* spp., temperature, hardness, oxygen. Signalling values of 1 µg/L are added for several parameters, e.g.: AOX, aromatic amines, chlorophenols, diglyme, ETBE, MTBE, halogenated monocyclic hydrocarbons, halogenated aliphatic hydrocarbons and other anthropogenic substances. Other anthropogenic substances are substances that are not mentioned otherwise as parameters in legislation but that can be a threat to the drinking water supply. The signal values are a trigger for toxicological evaluation when exceeded.

2. Bacteriological quality

4. Please indicate the percentage of samples that fail to meet the national standard for *Escherichia coli* (*E. coli*). Parties may also report on up to three other priority microbial indicators and/or pathogens that are subject to routine water quality monitoring.

In 2020, 0.04% of the samples failed the national standard for *E. coli* (19 out of 49,866 samples). 0.09% of the samples taken for enterococci failed the national standard (3 out of 3,349). 5.22% of the samples taken for legionella failed the national standard (82 out of 1,571).

Parameter	Area/category	Baseline value (2011)	Value reported in the previous reporting cycle (2017)	Current value (2020)
<i>E. coli</i>	Total	0.03	0.02	0.04%
Additional parameter1: Enterococcen:	Total	0.20	0.04	0.09%

3. Chemical quality

5. Please report on the percentage of samples that fail to meet the national standard for chemical water quality with regard to the following parameters:

- (a) Arsenic;
- (b) Fluoride;
- (c) Lead
- (d) Nitrate.

6. Please also identify up to three additional chemical parameters that are of priority in the national or local context.

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (2011)</i>	<i>Value reported in the previous reporting cycle (2017)</i>	<i>Current value (2020)</i>
Arsenic	Total	0.00%	0.00%	0.00%
Fluoride	Total	0.00%	0.00%	0.00%
Lead	Total	0.00%	0.00%	0.40%
Nitrate	Total	0.00%	0.00%	0.00%
Additional parameter 1: pesticides	Total	0.00%	0.00%	0.00%
Additional parameter 2: manganese	Total	0.09%	0.07%	0.08%
Additional parameter 3: nitrite	Total	0.03%	0.06%	0.00%
Additional parameter 4: sulphate	Total	0.00%	0.00%	0.00%

II. Outbreaks and incidence of infectious diseases related to water

The information on the reported diseases is derived from the Surveillance Atlas of Infectious Diseases (europa.eu) <https://www.ecdc.europa.eu/en/surveillance-atlas-infectious-diseases> (date of access 9 March 2022). The database contains the numbers of reported cases of diseases that are notifiable under the Public Health Act. A distinction between cases that were contracted in The Netherlands or abroad was not made. The number of cases is reported instead of cases per 100,000 population.

<i>Disease</i>	<i>Number of cases (all exposure routes)</i>			<i>Number of outbreaks (confirmed water-borne outbreaks)</i>		
	<i>Baseline (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>	<i>Baseline (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Shigellosis	397 (2011)	484 (2018)	187 (2020)			
Enterohaemorrhagic <i>E. coli</i> infection	842 (2011)	485 (2018)	316 (2020)			
Typhoid fever	16 (abroad) (2008)	20 (2018)	5 (2020)			
Viral hepatitis A	115 (2011)	180 (2018)	38 (2020)			
Legionellosis	294 (2011)	584 (2018)	461 (2020)	3 (2018)		1 (2020)
Cryptosporidiosis	No data	No data	No data			

Leptospirose:	50 (2018)	60 (2020)
Vibrio cholerae	0 (2018)	0 (2020)

III. Access to drinking water

In the Netherlands, 10 publicly owned drinking water companies provide the population with drinking water. The number of people not served by these companies is marginal. Access to safe drinking water is a right on basis of the national constitution (art. 22): according to the national constitution ‘the government will take measures to promote human health.’ According to JMP, the access to drinking water is 100% of the population of the Netherlands by pipes into premises. Additional information on the statistics of the Dutch drinking water companies is provided by Vewin²⁷.

Percentage of population with access to drinking water	Baseline value (2011)	Value reported in the previous reporting cycle (2017)	Current value (2021)
Total			
Urban	100	100	100
Rural	100	100	100

- Estimates provided by the WHO/United Nations Children’s Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation. *JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.*
- National estimates. *Please specify how “access” is defined and what types of drinking-water supplies are considered in the estimates in your country.*
- In particular, please specify if the above percentage on “access to drinking water” refers to access to (tick all applicable):*
- Improved drinking water sources (as per JMP definition)
 - Supplies located on premises
 - Supplies available when needed
 - Supplies that provide drinking water free from faecal contamination

IV. Access to sanitation

Data are based on national estimates from the Rioned Foundation²⁸. Municipalities (352 as per January 1st. 2021) are responsible for sewage collection and maintenance of the systems, the Regional Water Authorities administer the wastewater treatment plants (315 plants in total as per January 1st. 2021).

²⁷ ‘Dutch Drinking Water Statistics 2022’ can be downloaded as an interactive PDF at www.vewin.nl.

²⁸ [Rioned \(2016\) Monitor gemeentelijke watertaken 2016](#)

<i>Percentage of population with access to sanitation</i>	<i>Baseline value (2011)</i>	<i>Value reported in the previous reporting cycle (2018)</i>	<i>Current value (2021)</i>
Total			
Urban	99	99	100
Rural	99	99	100

- Estimates provided by JMP. *JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.*
- National estimates. *Please specify how “access” is defined and what types of sanitation facilities are considered in the estimates in your country.*

In particular, please specify if the above percentage on “access to sanitation” refers to access to (tick all applicable):

- Improved sanitation facilities (as per JMP definition)
- Facilities not shared with other households
- Facilities from which excreta is safely disposed in situ or treated off site

V. Effectiveness of management, protection and use of freshwater resources

1. Water quality

1. On the basis of national systems of water classification, please indicate the percentage of water bodies or the percentage of the volume (preferably) of water²⁹ falling under each defined class (e.g., for European Union countries and other countries following the European Union Water Framework Directive³⁰ classification, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwaters/surface waters of good or poor chemical status; for other countries, in classes I, II, III, etc.).

For European Union countries and other countries following the European Union Water Framework Directive classification³¹

(i) *Ecological status of surface water bodies*

<i>Percentage of surface water classified as:</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
High status	0 / 0% (2009)	0 / 0% (2018)	0/0% (2021)
Good status	3 / 0.4% (2009)	2 / 0.3% (2018)	0 / 0% (2021)

²⁹ Please specify.

³⁰ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

³¹ <https://www.eea.europa.eu/themes/water/european-waters/water-quality-and-water-assessment/water-assessments/groundwater-quantitative-and-chemical-status>

<i>Percentage of surface water classified as:</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Moderate status	249 / 34.8% (2009)	259 / 37.2% (2018)	478 / 64.5% (2021)
Poor status	315 / 44% (2009)	332 / 47.6% (2018)	196 / 26.5% (2021)
Bad status	149 / 20.8% (2009)	101 / 14.5% (2018)	65 / 8.8% (2021)
Total number/volume of water bodies classified	716	697	739
Total number/volume of water bodies in the country	719 (+ 5 Territorial Waters not counted)	708	741

(ii) *Chemical status of surface water bodies*

<i>Percentage of surface water bodies classified as</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Good status	506 / 73.9% (2009)	279 / 43.1% (2018)	70 / 9.4% (2021)
Poor status	179 / 26.1% (2009)	368 / 56.9% (2018)	673 / 90.3% (2021)
Total number/volume of water bodies classified	685	647	743
Total number/volume of water bodies in the country	724	745	745

(iii) *Status of groundwaters*

<i>Percentage of groundwaters classified as</i>	<i>Baseline value (specify year)</i>	<i>Value reported in the previous reporting cycle (specify year)</i>	<i>Current value (specify year)</i>
Good quantitative status	23 / 100% (2009)	23 / 100% (2018)	22 / 95.7% (2020)
Good chemical status	14 / 60.9% (2009)	20 / 87% (2018)	20 / 87.0% (2020)
Poor quantitative status	0 / 0% (2009)	0 / 0% (2018)	1 / 4.3% (2020)
Poor chemical status	9 / 39.1% (2009)	3 / 13% (2018)	3 / 13.0% (2020)
Total number/volume of groundwater bodies classified	23 (2009)	23 (2018)	23 (2020)
Total number/volume of groundwater bodies in the country	23 (2009)	23 (2018)	23 (2020)

2. Water use

3. Please provide information on the water exploitation index at the national and river basin levels for each sector (agriculture, industry, domestic), i.e., the mean annual abstraction

of freshwater by sector divided by the mean annual total renewable freshwater resource at the country level, expressed in percentage terms.

<i>Water exploitation index</i>	<i>Baseline value (2011)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2019)</i>
Agriculture	0.1%	0.1%	0.3%
Industry ^a	9.6%	7.2%	7.5%
Domestic use ^b	1.3%	1.4%	1.4%

^a All activities in NACE /ISIC classes 05-39, including (energy) cooling.

^b Only Public Water Supply sector (NACE/ISIC 36)

The Water Exploitation index (WEI) is calculated as the annual abstraction of water (per sector) divided by the long term annual average of the total renewable freshwater resource at the country level. The value for water abstraction of industrial activities includes large amounts of cooling water. This value decreased significantly from 2011 to 2016 because some powerplants using freshwater for cooling were replaced by new powerplants located at the Northsea coast. These plants use marine water for cooling. Because of a dry spring and summer in 2019, the water abstraction for irrigation was higher in 2019 compared to years with a normal precipitation pattern. This results in a higher WEI value for agriculture in 2019.

Part four

Water-related disease surveillance and response systems

1. In accordance with the provisions of article 8 of the Protocol:

Has your country established comprehensive water-related disease surveillance and early warning systems according to paragraph 1 (a)?

YES NO IN PROGRESS

Has your country prepared comprehensive national or local contingency plans for responses to outbreaks and incidents of water-related disease according to paragraph 1 (b)?

YES NO IN PROGRESS

Do relevant public authorities have the necessary capacity to respond to such outbreaks, incidents or risks in accordance with the relevant contingency plan according to paragraph 1 (c)?

YES NO IN PROGRESS

2. If yes or in progress, please provide summary information about key elements of the water-related disease surveillance and outbreak response systems (e.g., identification of water-related disease outbreaks and incidents, notification, communication to the public, data management and reporting). Please also provide reference to existing national legislation and/or regulations addressing water-related disease surveillance and outbreak response.

In the Netherlands there is no specific system for water-related infectious disease surveillance. There are however, several systems that support the detection of outbreaks (early warning system) or registration of cases. Among which are:

- Bathing/recreational water diseases can be reported to the municipal health services. Recreational water related diseases incidence is being registered by RIVM and is

reported every three years on
(<https://www.rivm.nl/Onderwerpen/Z/Zwemwater/Zwemwaterenquete>).

- If clusters of (water-related) diseases are detected these can be discussed at the weekly early warning meeting of infectious disease at RIVM, which may lead to prompt further source investigation and attribution in relation to water (<https://signalen.rivm.nl>). However, when it concerns common infectious diseases and the number of patients is small, such a cluster will not be taken into account in the signaling meeting.

Early warning and communication system to the public related to drinking water. Drinking water companies report to the inspectorate in case of non-compliant measurements in the source water of chemical and microbiological water safety.

3. Please describe what actions have been taken in your country in the past three years to improve and/or sustain water-related disease surveillance, early warning systems and contingency plans, as well as to strengthen the capacity of public authorities to respond to water-related disease outbreaks and incidents, in accordance with the provisions of article 8 of the Protocol.

- For legionnaires disease (LD) extensive source finding investigation is done for all cases at regional level. From national level the RIVM supports the regional level in detections of (regional and multiregional) clusters. At the national level environmental sampling of potential sources is supported including typing of all legionella strains (clinical and environmental strains). A tool, surveillance dashboard, has been built in 2019 to improve detection of geographic clusters. Regulation and legislation have been focused on drinking water, bathing water and cooling towers. In relation to waste water there is no Legionella legislation. Recent development in research and technologies for treatment of waste water show that favorable conditions for Legionella growth are being created. That has resulted in Legionella infections in people living near water treatment plants, near multiple locations. In response to outbreaks related to waste water treatment plants, an inventory was done of industrial waste water systems and additional analyses were performed. Guidelines for legionella prevention in waste water systems are currently developed and future legislation on this topic is in preparation. Furthermore, other sources of legionella have also been discovered. Continued research is warranted, especially also in relation to climate change effects. (<https://www.rivm.nl/legionella>)
- To prevent water related disease caused by unboiled drinking water consumption, in the Dutch Drinking Water Act a health-based norm is prescribed of 10^{-4} cases of infection that are allowed with regard to drinking unboiled water produced from surface water. The guidance document on quantitative microbial risk assessment (QMRA) is updated in 2020 and includes QMRA for vulnerable groundwaters (<https://www.ilent.nl/onderwerpen/drinkwater/documenten/publicaties/2020/11/27/richtsnoer-analyse-microbiologische-veiligheid-drinkwater-amvd>).
- A guidance protocol to support bathing water managers in case of proliferation of cyanobacteria at official bathing sites was developed and published in 2020, both in Dutch and in English.
- A guidance document to support bathing water managers in situations where cases of leptospirosis occur in official bathing sites was developed and published in 2022 (Handreiking leptospirose in relatie tot zwemmen in oppervlaktewater | RIVM).

Part five

Progress achieved in implementing other articles of the Protocol

Please provide a short description of the status of implementation of articles 9 to 14 of the Protocol, as relevant.

Suggested length: up to two pages

Please provide a short description of the status of implementation of articles 9 to 14 of the Protocol, as relevant.

6.5.a National or local measures to coordinate the competent authorities

Target NL: Included in the coordination of the WFD and the national Water Act

Progress: Part of the government structure in the Netherlands. Please see also descriptions above and in Part I. Further agreements are made in so-called Administrative Agreements on performance of the watermanagement, and Administrative Agreements on Climate Resilience and the Deltaplan on Waterquality and Waterquantity. Recently a new overarching policy document on water management in the Netherlands was established.

6.5.b. Water management plans

Target NL: According the WFD catchment areas management plans are made for the national parts and international plans of transboundary catchment areas of the rivers Rhine, Meuse, Scheldt and Eems. Target date 2022.

Progress: Plans for national parts and international plans of transboundary catchment areas are available for the period 2022-2027. Plans have been subject to public consultation and established. The river basin management plans outline the measures that will be implemented in the coming 6 years. More details can be found in the National Water Program and in the management plans of water authorities for regional waters. In addition, fact sheets have been drawn up in which all relevant information is presented per water body. These fact sheets (refers to another website) can be found at www.waterkwaliteitsportaal.nl. An interactive map for both surface and groundwater can also be found here. The background documents for the river basin management plan are also accessible via the water quality portal.

9.1 a; Improving public awareness regarding the importance of water management and public health and their interaction;

Target NL: Improving the population's awareness through publications and web sites.

Progress: going concern, some examples:

Zwemwater.nl, the website that allows people to see whether swimming in natural water is safe. Since a year, there also is a free app, called "Zwemwater". Information on bloom of algae is also available via the website of the waterboards: <https://waves.databank.nl/dashboard/Dashboard/>

A map with the known cooling towers (that are a risk for spreading legionella through the air) is made available for the public in 2016. People who think they see a cooling tower that is not on the map, can report it in a simple way to the authorities. See www.atlasleefomgeving.nl/nattekoeltorenkaart.

For primary and secondary schools education there is a "watereducationportal" which links guestspeakers from the drinking water sector and regional water authority to schools (teachers with an interest for water education) <https://www.watereducatie.nl/in-de-klas/basisonderwijs> information about the possible hazards.

Furthermore the government launched a website called “Our Water” <https://www.onswater.nl/> and in various policy dossiers there is increasing attention for citizens and the role for citizens to reach the policy goals.

9.2 a; Promoting a better understanding among those responsible for water management, water supply and waste water treatment of the public health aspects of their work;

Target NL: Continue to stimulate the organisations to develop training programmes for water management and public health organisations

Progress: going concern

9.3; Promoting the education and training of specialists and technicians necessary for managing water sources and operating water supply and waste water treatment systems and to improve their knowledge and skills and acquaint them with the latest scientific knowledge. This education and training will cover the relevant public health aspects

Target: Support the stabilisation of the education system for professional water and sewer mains specialists in the area of infrastructure engineering and technology

Progress: going concern, examples are

Education: There are several institutes entirely devoted to training professionals and academics in the national and international water sector. Examples are UNESCO-IHE Institute for water education <https://www.unesco-ihe.org/>; Watercampus Leeuwarden <http://watercampus.nl/en/>

Bachelor and master degrees (at regular academic universities and universities of applied science)

Young Expert Programme: Recent graduates in the field of water management and technology have the opportunity to apply for a 1-2 year positions with WaSH related companies that have projects in a developing countries: Companies submit project proposal and the Netherlands Water Platform(NWP) selects candidates. Companies are partially funded and graduates stay connected with other Young Experts during their international project.

For graduates who wish to work in the Dutch water sector there is a national traineeship programme which functions similar to the YEP Water programme. Regional water authorities, drinking water companies, large engineering bureaus and other water management related parties may submit proposals <http://www.nationaalwatertraineeship.nl/>

In the Administrative Agreement on Water (2011) municipalities and regional waterboards have agreed on gaining efficiency in water chain management and save up to € 380 mln./y. Therefore these parties cooperate in 50 regional partnerships to share knowledge, work together on asset management and joint investment in sanitation and treatment. Activities are stimulated by the national program “Kenniscoaches”. The agreement for the 2011-2020 period has been evaluated recently. The conclusion was all cost targets have been met and the agreement is considered to be fully met.

9.4 a; Encouraging research and development of cost-effective methods and techniques for preventing, controlling and restricting the incidence of water-related diseases;

Target: Support research and development in water quality improvement through departmental grant agencies of the agriculture and environment ministries.

Progress: Agencies of the Ministries receive grant by means of the financing of programmes defined by the Ministries on basis of knowledge and policy needs. The government, provinces, water boards, drinking water companies, STOWA, Deltares, KWR, WUR and RIVM start a so-called Water Quality Knowledge Impulse program. The aim is to work more

together to gain more efficiently insight into the quality of groundwater and surface water and the factors that influence this quality.

9.4 b; Developing integrated information systems to work with information on long-term trends, current concerns and past problems and successful solutions in the field of water and health, and provision of this information to the competent authorities.;

Target: Current systems will be used to develop this information (no 6.2.n).

Progress: Continuous work is being done to develop integrated information systems.

An example is the Informatiehuis Water (IHW). The IHW is a cooperation of watermanagers (waterboards, provinces, Rijkswaterstaat) to work on uniform, accessible information about water. The Water Quality Portal (WKP) collects, manages and provides access to the data for the WFD in a user friendly manner and makes it possible to present a consistent picture of the Dutch water quality. But the Water Quality Portal is a broader platform than for WFD reports. As surface water managers to annually their chemical water quality data.

Another example is the monthly Infectious Disease Bulletin in which information on water related disease outbreaks are being reported.

Drinking water companies report to the inspectorate in case of non-compliant measurements in the source water, based on a guideline which analysis microbiological safety.

Big data, the combination of use of several data sources, is increasingly used for analysis and optimisation of water management.

In the Water Quality Knowledge Impulse, the national government, provincial authorities, water authorities, drinking water companies and research institutes are working on a better understanding of the quality of groundwater and surface water, and the factors which influence that quality. This will allow water management authorities to take the appropriate measures to improve water quality and biodiversity.

9.4 c; International cooperation to provide quality and affordable drinking water and sanitation for all

Currently no targets are set for international cooperation under the Protocol. However a lot of work has been done.

The Ministries of Foreign Affairs; Economic Affairs; and Infrastructure and Watermanagement continue their efforts in the field of international water cooperation. The collaborative goal is to increase the water security of urbanizing delta's and their supply systems. In 2019, the Netherlands/IenW contributed to the establishment of the Global Commission on Adaptation (GCA) to stimulate climate adaptation action worldwide. The results of this were presented during the Climate Adaptation Summit (CAS). The Netherlands is also active in several Treaties with the aim to improve watermanagement and climate adaptation under which the Water Convention and the Protocol on Water and Health. Within the Protocol on Water and Health NL was co-lead for workarea 5 on safe and efficient management of drinking water supplies and sanitation. Furthermore the NL supported several activities under workarea 2 (surveillance), 4 (small supplies) and 7 (climate resilience). The Netherlands supported also the work under the Water Convention inter alia by funding and as co-chair of the Task Force on Water and Climate and several activities in this area.

Drinking water companies and Regional Water Authorities are allowed to spend up to 1% of their annual turnover for development project. For a selection of drinking water projects: <http://www.idwp.nl/>. New programmes have being launched. **WaterWorX** aims to increase sustainable access to drinking water to 10 million people in 2030. Through Water Operator Partnerships (WOPs) between Dutch and local drinking water companies, **WaterWorX** is working on long term sustainable water services by improving operation and maintenance of the local water companies and getting their finances in order. Furthermore a program on sanitation and water management had been launched recently called Blue Deal. The Blue Deal

programme offers long-term collaboration with regional and national governments in finding and developing solutions to improve water management.

Part six

Thematic part linked to priority areas of work under the Protocol

1. Water, sanitation and hygiene in institutional settings

1. In the table below, please provide information on the proportion of schools (primary and secondary) and health-care facilities that provide basic water, sanitation and hygiene (WASH) services.

Basic services refer to the following:

(a) *Basic sanitation service: Improved facilities (according to JMP definition), which are sex-separated and usable at the school or health-care facility;*

(b) *Basic drinking water service: Water from an improved source (according to JMP definition) is available at the school or health-care facility;*

(c) *Basic hygiene service: Handwashing facility with water and soap available to students (schools) or patients and health-care providers (health-care facilities).*

If the above definitions/categories do not apply in your country, please report for alternative categories for which data are available. In this case, please indicate the reported categories by renaming the rows in the table below accordingly.

Please indicate the source of data. If data is not available, please put (-).

<i>Institutional setting</i>	<i>Current value (2022)</i>
<i>Schools</i>	
Basic sanitation service	100%
Basic drinking-water service	100%
Basic hygiene service	100%
<i>Health-care facilities</i>	
Basic sanitation service	100%
Basic drinking-water service	100%
Basic hygiene service	100%

2. Has the situation of WASH in schools been assessed in your country?

YES NO IN PROGRESS

3. Has the situation of WASH in health-care facilities been assessed in your country?

YES NO IN PROGRESS

4. Do approved policies or programmes include actions (please tick all that apply):

- To improve WASH in schools
- To improve WASH in health-care facilities

5. If yes, please provide reference to main relevant national policy(ies) or programme(s).

Infection prevention control is the responsibility of schools and hospitals/HCFs. In this task they are supported by several municipal and national institutions, which provide guidance.

The Inspectorate for Health and Youth supports the IPC situation in hospitals through randomised samples. Highly resistant micro-organisms are a major driver to continuously ensure basic hygienic procedure, next to more specialised procedures, are in compliance with the existing protocols.

Schools are supported by guidelines developed by the National Centre for Hygiene and Safety (LCHV). There are guidelines available on how to deal with common colds next to more severe infections, which require a notification to the municipal health services (and are subsequently registered by the LCHV). WASH in schools is part of the technical hygiene programmes or the municipal health services who screen for priorities, in support of schools. There is no national assessment /or randomised sampling studies (like in hospitals).

2. Safe management of drinking-water supply

6. Is there a national policy or regulation in your country, which requires implementation of risk-based management, such as WHO water safety plans (WSPs), in drinking water supply?

YES NO IN PROGRESS

7. If yes, please provide reference to relevant national policy(ies) or regulatory documentation.

Regulatory documentation: Drinking Water Act³², Drinking Water Decree³³, Drinking water Regulation³⁴, Legionella Regulation³⁵.

National policy documentation: Beleidsnota drinkwater³⁶.

8. In the table below, please provide information on the percentage of the population serviced with drinking-water under a WSP.

Please indicate the source of data. If data is not available, please put (-).

<i>Percentage of population</i>	<i>Current value (specify year)</i>
Total	100% ³⁷

3. Equitable access to water and sanitation

9. Has the equity of access to safe drinking-water and sanitation been assessed?

YES NO IN PROGRESS

³² <https://wetten.overheid.nl/BWBR0026338/2015-07-01>

³³ <https://wetten.overheid.nl/BWBR0030111/2018-07-01>

³⁴ <https://wetten.overheid.nl/BWBR0030152/2017-10-27>

³⁵ <https://wetten.overheid.nl/BWBR0030166/2018-01-01>

³⁶ <https://www.rijksoverheid.nl/documenten/rapporten/2021/04/23/bijlage-beleidsnota-drinkwater-2021-2026>

³⁷ Risicoanalyse en risicomanagement van drinkwaterproductie in Nederland, RIVM report 2017

10. Do national policies or programmes include actions to improve equitable access to water and sanitation (please tick all that apply):

- To reduce geographical disparities
- X To ensure access for vulnerable and marginalized groups
- X To keep water and sanitation affordable for all

11. If yes, please provide reference to main relevant national policy(ies) and programme(s).

Municipalities, water boards and drinking water companies work together on water management in the water chain. In accordance with the Administrative Agreement on Water for the 2011-2020 period, the focus is on quality (improving/optimizing urban water management in all respects), reducing the vulnerability of the organizations involved and controlling costs (ensuring a moderate increase in costs). In 2019, additional agreements have been concluded to respond to new challenges. See Administrative Agreements on Water Management³⁸. The agreement for the 2011-2020 period has been evaluated recently. The conclusion was all cost targets haven been met and thus the agreement is considered to be fully met.

In the Netherlands almost 100% of the population, including schools and hospitals, are connected to the drinking water system. The Drinking Water Act contains provisions stipulating the right of access to drinking water, in the form of a 'connection and delivery obligation'. In addition, the Netherlands has a safety net for socially vulnerable groups in order to guarantee access to drinking water for all. Water companies may only disconnect the drinking water supply in households if a careful step-by-step plan is followed, with specific provisions for people with health problems and early warning of households with debts. Households in debt assistance are not disconnected from the water supply. If this does occur, a supply of drinking water is guaranteed to ensure that basic needs can be met. <https://wetten.overheid.nl/BWBR0031481/2018-07-01>. The Netherlands will perform an analyses of the situation with regard to access to drinking water, with special attention to vulnerable groups as part of the implementation of the revised Drinking Water Directive.

Part seven

Information on the person submitting the report

The following report is submitted on behalf of The Netherlands in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report:

E-mail: Jelka.appelman@minienw.nl

Telephone number: +31652740185

Name and address of national authority: Ministry of Infrastructure and Watermanagement

Signature:

Date:

Submission

1. Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, 210 days before

³⁸ <https://www.helpdeskwater.nl/onderwerpen/wetgeving-beleid/bestuursakkoord/>

the next session of the Meeting of the Parties. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the Meeting of the Parties.

2. Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy by e-mail. Electronic copies should be available in word-processing software.

Joint Secretariat to the Protocol on Water and Health

United Nations Economic Commission for Europe
Palais des Nations
1211 Geneva 10
Switzerland
(E-mail: protocol.water_health@unece.org)

World Health Organization Regional Office for Europe
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