



Lower Saxony Ministry of the Environment, Energy
and Climate Protection

**Lower Saxony contribution to the
programmes of measures 2015 to 2021
for the Elbe, Weser, Ems and Rhine
river basins**

pursuant to Section 117 of the Lower Saxony Water Act
and Art. 11 of the EU Water Framework Directive

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Justification and objectives

The Water Framework Directive (WFD), passed by the European Council and the European Parliament in the year 2000, set out environmental objectives for surface waters and groundwater in Europe. The aim is, on the one hand, to safeguard and develop good ecological status for surface waters (rivers, lakes and transitional and coastal waters) and, on the other hand, to maintain and develop good quantitative and chemical status for the groundwater. There is also a requirement to ensure that there no deterioration takes place in the status of surface waters and groundwater.

Good ecological status of surface waters primarily focuses on the diversity of the existing plant and animal species. This presupposes that the water body has a near-natural structure and complies with chemical environmental quality standards. Good chemical status of surface waters means low pollutant load levels. For artificial or heavily modified surface waters, with special functions that have to be taken into account under the WFD, the objectives are good ecological potential and good chemical status.

In line with the objective of good quantitative status of the groundwater, the quantities of water abstracted must not exceed the available groundwater resource. Good chemical status means groundwater properties that permit sustainable use for human purposes. There is also an obligation to reverse significant upward trends in pollutant concentrations. Moreover, adverse effects on ecosystems dependent on the groundwater are to be prevented.

In view of the water-related objectives of the WFD, overlaps exist between the WFD and Natura 2000 (Habitats Directive and Birds Directive), especially for aquatic and water meadow landscapes, because the targeted good ecological and chemical status will also have impacts on the water bodies and the dependent ecosystems as habitats for animals and plants. At the same time, the species and habitats of relevance to the WFD are also an object of nature conservation.

In addition to the two major European nature conservation directives, there is also a need for coordination with the Marine Strategy Framework Directive (MSFD) and the Flood Risk Management Directive (FRMD). With regard to coastal waters, it is also necessary to coordinate assessment of good ecological status with the requirements of the MSFD, marine monitoring and coordination of measures.

To ensure coordinated implementation of the Marine Strategy Framework Directive and the Water Framework Directive, the Joint Water Commission of the Federal States (LAWA) has published "Recommendations for coordinated application of the Marine Strategy Framework Directive and the Water Framework Directive¹". Up-to-date information about the implementation of the MSFD can be found on the Internet at www.meeresschutz.info.

The management objectives of the WFD are to be achieved by protecting, safeguarding and remediating water bodies, taking an overall approach to river basins, while ensuring public participation and equal attention to ecological, economic and social aspects. At the same

¹ See also: Recommendations for coordinated application of MSFD and WFD. LAWA work programme on river basin management, product data sheet 2.7.6. <http://www.wasserblick.net/servlet/is/142653/>



time, the implementation of the WFD is concerned with the development of uniform European standards in relation to surface waters and groundwater.

Section 84 (1) of the Federal Water Act (Wasserhaushaltsgesetz – WHG) requires that the programmes of measures published at the end of 2009 for each river basin, or for that part of an international river basin that falls within its territory, is to be updated every six years having regard to the results of the inventory. This programme lays down measures which are necessary to achieve the management objectives under Sections 27 and 47 of the Federal Water Act and Article 4 of the WFD for surface waters and groundwater for the period until 2021. The measures to be included in the programme can be found in Annex VI to the WFD. A maximum period of three years after the entry into force of the programmes is laid down for implementation of the measures (cf. Fig. 1).

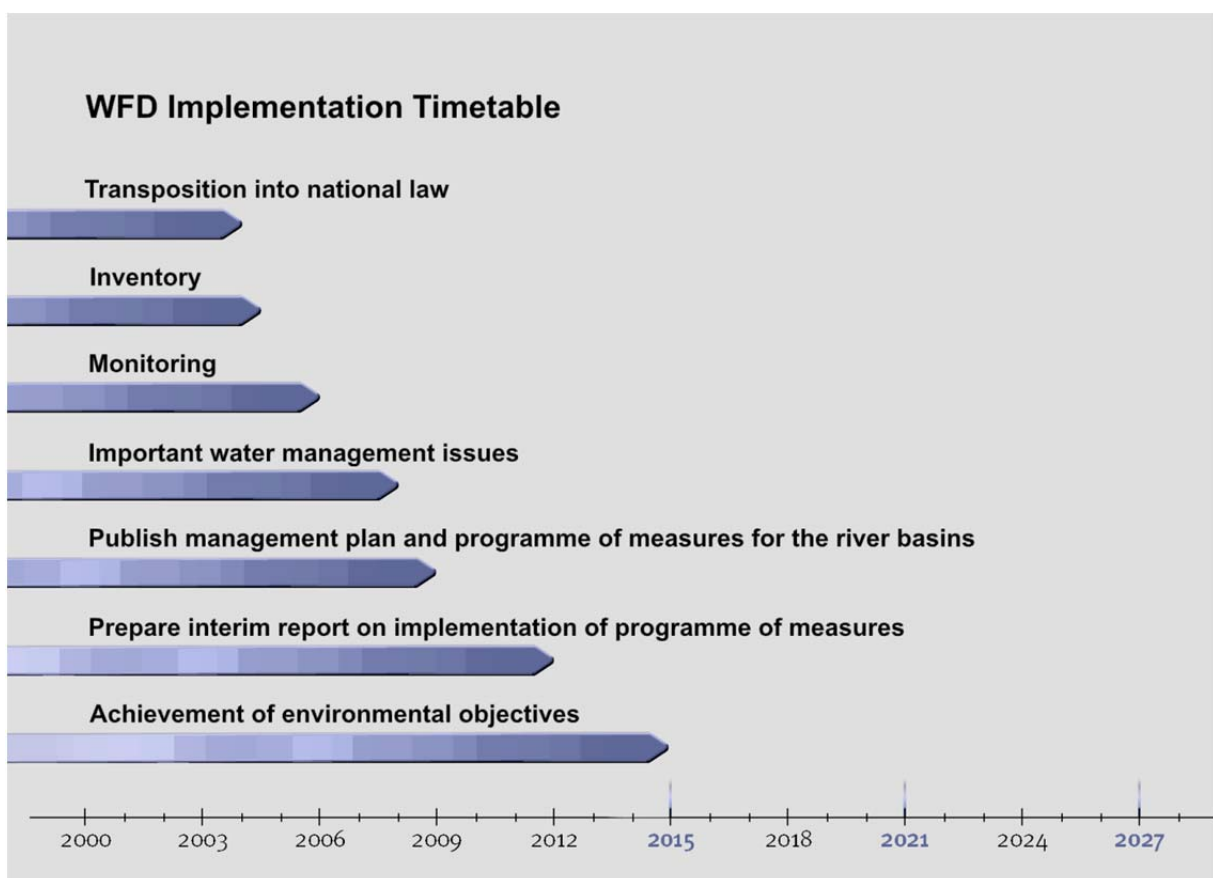


Fig. 1: Timetable for implementation of the WFD

Lower Saxony includes parts of the river basins of the Elbe, Weser, Ems and Rhine. The following programmes of measures have been drawn up or updated for the four river basins:



Table 1: Overview of the inquiry documents on the programmes of measures at national level for the four river basins of the Elbe, Weser, Ems and Rhine

Elbe river basin	Weser river basin	Ems river basin	Rhine river basin
Programme of measures for the German part of the Elbe river basin	Programme of measures for the Weser river basin and detailed programme of measures relating to salt levels in the Weser river basin	Programme of measures for the German part of the Ems river basin	Programme of measures for the Lower Saxony Part of the Rhine river basin

Section 14b (1) of the Environmental Impact Assessment Act (Gesetz über die Umweltverträglichkeitsprüfung – UVPG) in conjunction with Annex 3 No. 1.4 to the Act requires that a strategic environmental assessment be performed for every programme of measures drawn up by the river basins, to ensure timely investigation of the environmental impacts of the programmes and as a basis for decision-making. The environmental reports were exhibited on 22.12.2014 in parallel with the draft programmes of measures and management plans. The inquiry documents for the river basins were publicly exhibited for six months in the offices of the Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency (Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz – NLWKN). In parallel with this, the current documents can be found on the websites of the international and national river basin associations. The inquiry documents for the Weser river basin were exhibited from 15.04.2015 to 15.10.2015.



1 Implementation status in Lower Saxony and conclusions

The legislature implemented the European requirements of the WFD in accordance with the legislative competencies of the Federal Water Act and the Lower Saxony Water Act. The environmental objectives under Article 4 of the WFD were incorporated in the Federal Water Act (Sections 27, 44, 47) as management objectives.

The Lower Saxony contributions to the programmes of measures for the Elbe, Weser, Ems and Rhine river basins were compiled in 2009. For the update of the programmes of measures for the second management period from 2015 to 2021, the contributions are summarised in a state report. The preparation of the Lower Saxony state report was based on Section 117 of the Lower Saxony Water Act. In addition to the Lower Saxony contribution to the programmes of measures for the river basins, a Lower Saxony contribution to the management plans for the river basins was prepared in accordance with Section 118 of the Lower Saxony Water Act and Article 11 of the WFD.

The Lower Saxony contribution to the programmes of measures for the period 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins is binding on the authorities and therefore has to be taken into account in all further plans relating to surface waters and groundwater.

The present update of the 2009 programme of measures relates to the second management period from 2015 to 2021. The proposed types of measures are intended to initiate a range of measures with the aim of improving the status of those water bodies which on present knowledge fall short of the management objectives. In the discussion about the degree of detail expected by the European Commission for the measures notified, agreement was reached on a fresh exchange of information about the scale of the information to be provided for the second management plan cycle. The European Commission had expected a detailed description of the individual measures implemented up to the point where good status was achieved and the time scale of their implementation, and also, where necessary, conclusions about the relevant extensions of deadlines and divergent management objectives and the reasons for these. This discussion is not yet completed. Following discussions and decisions within LAWA, the types of measures for the individual water bodies are notified.

The aim of the programme of measures is to achieve the requirements of the WFD. All actors are called upon to base their activities on this principle. Programmes of measures within the meaning of Article 11 of the WFD pursue a programmatic approach over their six-year period of validity. This means that a selection of measures has to be made from the large number of possible types of measures set out in a list produced by LAWA, on the basis of the deficits and key pollution sites identified.

The description of the types of measures in the present programme is confined to basically stating the measure in terms of a programmed list of possibilities. In other words the programme of measures does not lay down any specific individual measures for surface waters and groundwater, but sets out a selection of types of measures that are appropriate



to the significant pressures identified. This makes it possible to select and implement an appropriate targeted measure for the individual situation in the field. This approach takes up the content of Recital 13 of the WFD. This states: "There are diverse conditions and needs in the Community which require different specific solutions. This diversity must be taken into account in the planning and execution of measures to ensure protection and sustainable use of water within the river basin. Decisions should be taken as close as possible to the locations where water is affected or used."

A differentiated description of the location, size and execution of the individual measures is not practicable, because a certain flexibility in the implementation of the measures is required in view of the long period of time involved. Including precisely localised measures in a programme that is valid for six years and is binding on the authorities runs contrary to the desired flexibility in the implementation of the measures.

At any time the need may arise to modify the implementation of the measures, for example as a result of changes of ownership, new monitoring findings about the biological quality components, or changes in the financial resources of the responsible bodies.

The concept implemented for groundwater is based partly on regulatory provisions adapted to water conservation, and partly on supplementary voluntary measures. This corresponds to the tried and tested model for drinking water conservation. The programme module of voluntary measures relies not only on the technical requirements, but also on acceptance by the participants, which in this case primarily means the agricultural sector.

In 2013 LAWA undertook an exchange of experience on implementing water development measures for surface waters, in order to address obstacles to implementation of the measures. Here representatives of the federal and regional authorities gave a frank account of their experience in the fields of allocating land, establishing linear continuity and planning and implementing hydromorphological measures, and also analysed future prospects. On the basis of the resulting findings regarding deficits and potential solutions, a paper entitled "Strategies and instruments for improving water body structure" was prepared. This also contained more far-reaching project proposals, such as drafting a strategy paper on land management with particular regard to state and – where appropriate – federal land, or elaborating a strategy for improving and simplifying existing and future promotion instruments (LAWA 2014a). The various project proposals are to be addressed at the beginning of the second management plan cycle.

In accordance with Section 117 of the Lower Saxony water act, the programme of measures includes a list of the regulatory provisions as basic measures and a table of types of measures showing the supplementary measures to be implemented specifically under Article 11 (2 to 4) of the WFD. The measures formulated are shown in Chapter 2, broken down by their relationship to the regional context of the plans and the significant pressures specified in Annex II to the WFD. The types of supplementary measures selected take advantage of experience from the first management period, the supplementary measure plans developed in the three expert groups on surface waters, groundwater and



transitional/coastal waters, and also the knowledge gained by the actors in the field (e.g. regional cooperation alliances, groundwater groups, water conservation alliances).

The planning and naming of measures is based on a uniform nationwide list of measures compiled by LAWA (cf. Appendix, Table 33). The list of measures is based on the catalogue in Annex VI to the WFD and consists of 110 types of measures to be classified in accordance with this catalogue. The list of measures is oriented in particular to the need for uniform definitions and the electronic system for reporting to the European Commission.

Using this coordinated LAWA list guarantees uniform supra-regional description and analysis of the measures laid down by the competent authorities. As can be seen from the list, the programme mentions measures for which practical implementation may often involve several individual measures. In Lower Saxony, as in other federal states, the types of measures are planned and specified at the level of hydrologically defined water bodies.



2 Strategies and concepts for achieving good water body status in Lower Saxony

2.1 Fundamentals

The latest assessment of the status of surface waters and groundwater shows that not very many water bodies have currently achieved the management objectives (cf. Lower Saxony's contribution to the management plans for 2015 to 2021 the Elbe, Weser, Ems and Rhine river basins). The stress analysis performed in 2013 as part of the inventory revealed a considerable number of reasons for this. The 2009 programme of measures pointed out that further analyses and evaluations would be necessary to identify the reasons for failure to achieve the objectives. Various basic principles have been created in the meantime, and others are in preparation. The objectives of the WFD represent a great challenge, and it is clear that the 2009 programme of measures set in motion an implementation process that will continue until 2027 and possibly even longer. The implementation process involves not only the water management administration, but also requires the participation of other policy areas and actors. As described in Recital 16 of the WFD, the directive is intended to provide a basis for an ongoing dialogue and for the development of strategies towards a further integration of policy areas. This is to form a basis for using the various strategies, programmes, plans and instruments from other policy areas and actors that can make a contribution to achieving the environmental/management objectives of the WFP and the Federal Water Act.

Against this background, and in combination with the objective of making effective and efficient use of the available resources, the strategic and conceptual approaches developed in Lower Saxony for the first management cycle to achieve the management objectives for the various action fields will be continued and – where new findings have emerged – developed further or newly included. The action fields reflect the main water management issues:

- Improving the water body structure and continuity of surface waters
- Reducing significant pollution by nutrient and pollutant substances in surface waters and groundwater
- Catering for the impacts of climate change

The Ems Master Plan 2050 is an example of a new measure which will provide various forms of impetus for improving water body structure, e.g. restoring typical estuarine habitats or reducing suspended solid loads in the lower Ems, and will thereby address the principal problems in the main water management issues.

In view of the complexity of individual action fields, the strategies and concepts to some extent go beyond the first and second management cycles and envisage that the objectives



will be achieved over the three possible management periods up to 2027. Using the three management periods to achieve the objectives of the WFD makes it possible, in accordance with Recital 29 of the WFD, for the member states to implement the programme of measures step by step in order to spread the cost of implementation over a longer period.

The Lower Saxony programme of measures is part of the overarching basin-wide river basin strategies which set out the framework for planning measures in the federal states and at the same time prioritise the key action areas for achieving the supra-regional objectives. Examples of supra-regional objectives include restoring the continuity of supra-regional migration routes or reducing nitrogen inputs to 2.8 mg/l total nitrogen at the limnic/marine transition point for rivers flowing into the North Sea from Germany (cf. Lower Saxony contribution to the programmes of measures 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins). The measures necessary at river basin level have been identified and prioritised by the federal states and, in the case of Lower Saxony, included in the Lower Saxony contribution to the programmes of measures for the river basins.

To make it easier to follow the planning process, stronger links are to be established between the working steps for the second management period. In the implementation of the WFD, the measure planning principle which is always followed in practical water management is known as the DPSIR approach. “DPSIR” stands for: “DDriving force – Pressure – State – Impact – Response”, i.e. identifying environmentally relevant activities, the resulting pressures, the corresponding water body status and the impacts (cf. European Commission 2004). For targeted planning of measures to improve water body status, it is basically necessary to ensure that when selecting measures the reason for deficits in the water body is known and the measures are tailored as far as possible to eliminating these deficits. The current status of the water body is known from the monitoring process and taken into account when deciding on the measures.



Table 2: Description of DPSIR concept

	Term	Definition	Example of applying the DPSIR approach to nutrient pollution in Lower Saxony
D	Driving force (environmentally relevant activity)	A human activity which may have an impact on the environment (e.g. agriculture, industry)	Agriculture and other activities
P	Pressure	The direct effect of an environmentally relevant human activity (e.g. an effect leading to a change in discharge or a change in water quality)	Pollution due to nutrients in water bodies as a result of agricultural activities (infiltration, erosion, discharge, drainage, changes in management, afforestation, use of fertiliser, livestock density etc.)
S	State	The quality of a body of water as a result of both natural and human factors (e.g. physical, chemical and biological properties)	Ecological or chemical status of water bodies not good
I	Impact	The impact of a pollution factor on the environment (e.g. fish mortality, changes in the ecosystem)	Elevated nutrient concentrations, changed species composition
R	Response	The measures taken to improve the status of a water body (e.g. restrictions on abstraction, limits on point source inputs, good professional practice in agriculture)	Implementation of measures relating to surface waters to reduce direct nutrient inputs from the agricultural sector or implementation of measures to reduce nutrient inputs into groundwater by leaching from agriculture

The aim of measure planning is to reduce the relevant pressure sufficiently to achieve the management objectives pursuant to the Federal Water Act and/or the environmental objectives of the WFD by 2021, or by 2027 at the latest. Measure planning includes selecting those types of measures for individual water bodies that are likely to achieve improvements with regard to the existing pressures and the water body status determined.

The LAWA list of measures is a compilation of practicable and cost-effective types of measures that are suitable for eliminating/reducing a specific pressure. The tabular overview (cf. Appendix, Table 33) shows what types of measures are available for dealing with the pressures mentioned above. The selection of these specific types of measures ensures that the resulting combination of measures is the most cost-effective for a water body, in other words achieves maximum effectiveness at minimum cost.



Annex VI (Part B) of the WFD provides an overview of types of measures which can be implemented as supplementary measures. According to the WFD this list is non-exhaustive:

- 1) legislative instruments,
- 2) administrative instruments,
- 3) economic or fiscal instruments,
- 4) negotiated environmental agreements,
- 5) emission limits,
- 6) codes of good practice,
- 7) recreation and restoration of wetlands areas,
- 8) abstraction limits,
- 9) demand management measures, e.g. promotion of appropriate agricultural production such as growing crops with low water requirements in areas affected by drought,
- 10) efficiency and reuse measures, e.g. promotion of water-efficient technologies in industry and water-saving irrigation techniques,
- 11) construction projects,
- 12) desalination plants,
- 13) refurbishment projects,
- 14) artificial recharge of aquifers,
- 15) educational projects,
- 16) research, development and demonstration projects,
- 17) other relevant measures.

(The numbers correspond to the figures shown in Tables 3 to 5).

From the uniform nationwide LAWA list of measures, Lower Saxony selected 42 implementation-oriented measure types and nine conceptual measure types which appeared to be necessary in Lower Saxony to achieve the management objectives for surface waters and groundwater, and which are to be implemented in the future. These measures are explained below, and the associated types of measures pursuant to Annex VI to the WFD (see above) are listed. A number of new types of measures have been added compared with the 2009 programme of measures. These primarily relate to measures that are intended to reduce nutrient inputs into water bodies from diffuse sources, and are based on virtually full-coverage nutrient pollution. This is coupled with the objective of reducing nutrient inputs into transitional and coastal waters.

The 38 implementation-oriented types of measures for surface waters (rivers, lakes, transitional and coastal waters) are set out in Table 3.



Table 3: Measure type selection from the LAWA list of measures for surface waters in the Lower Saxony parts of the Elbe, Weser, Ems and Rhine river basins

Type of pressure	Pressure group	Name of measure	Measure type in Annex VI Part B to the WFD ²	Identification of new measures or measures that are no longer relevant
Point sources	Local authorities/ households	Measures to reduce inputs of substances via local authority wastewater discharges	17 , 3, 4, 5, 6, 11, 13	
Point sources	Combined water and rainwater	Construction and modification of facilities for drainage, treatment and retention of combined water and rainwater	11	
Point sources	Mining	Measures to reduce point-source inputs of substances from the mining sector	13 , 3, 4, 6, 8, 9, 10, 17	
Point sources	Heat (all polluter groups)	Measures to reduce pressures resulting from heat input	17 , 13, 3, 4, 5, 8, 9, 10	No longer relevant
Point sources	Other point sources	Measures to reduce inputs of substances from other point sources	13 , 3, 4, 5, 6, 8, 9, 10, 17	New
Diffuse sources	Agriculture	Measures to reduce direct nutrient inputs from agriculture	17 , 6	New
Diffuse sources	Agriculture	Measures to reduce nutrient inputs by creating riparian strips	17 , 6, 2, 3	New
Diffuse sources	Agriculture	Measures to reduce inputs of nutrients and fine material resulting from erosion and run-off in the agricultural sector	17 , 6, 2, 3, 4	
Diffuse sources	Agriculture	Measures to reduce nutrient inputs due to leaching in the agricultural sector	17 , 6, 2, 3, 4	New
Diffuse sources	Agriculture	Measures to reduce nutrient inputs resulting from drainage	17 , 6	New
Diffuse sources	Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	17 , 6, 2, 3	New
Diffuse sources	Inputs due to accidents	Measures to avoid accidental inputs	17, 13, 6	
Diffuse sources	Other diffuse sources	Measures to reduce pressures from other diffuse sources	17 , 13, 3, 4, 6	
Discharge regulation and morphological changes	Water balance	Measures to promote natural water retention	11 , 17	New
Discharge regulation and morphological changes	Water balance	Measures to improve the water balance in lakes	17	New

² The bold figures indicate the type of measure under Annex VI Part B to the WFD to which the measures are primarily to be assigned.



Type of pressure	Pressure group	Name of measure	Measure type in Annex VI Part B to the WFD ²	Identification of new measures or measures that are no longer relevant
Discharge regulation and morphological changes	Water balance	Measures to reduce pressures resulting from tidal barriers/weirs in coastal and transitional waters	17, 3, 4, 7, 11, 13	
Discharge regulation and morphological changes	Continuity	Measures to establish linear continuity in impounding systems (dams, retention basins, storage basins)	11	
Discharge regulation and morphological changes	Continuity	Measures to establish/improve linear continuity in weirs/barrages, cascades, conduits and other hydraulic structures in accordance with DIN 4048 and/or 19700 Part 13	11	
Discharge regulation and morphological changes	Morphology	Measures to initiate/permit inherent dynamic development, including support measures	17, 11	
Discharge regulation and morphological changes	Morphology	Measures to vitalise the water within the existing profile	11	
Discharge regulation and morphological changes	Morphology	Measures to improve habitats in water bodies through changes in watercourse or bank or bed design	11	
Discharge regulation and morphological changes	Morphology	Habitat improvement measures in bank areas	11, 17	
Discharge regulation and morphological changes	Morphology	Measures to develop water meadows and improve habitats	11, 17	
Discharge regulation and morphological changes	Morphology	Connection of side waters, old branches (cross linking)	11, 17	
Discharge regulation and morphological changes	Morphology	Elimination/improvement of hydraulic structures	11, 17	
Discharge regulation and morphological changes	Morphology	Measures to improve bed load balance and/or sediment management	17	
Discharge regulation and morphological changes	Morphology	Measures to reduce pressures resulting from bed load removal	17, 3, 4, 6	
Discharge regulation and morphological changes	Morphology	Measures to adapt/optimize water body maintenance	6, 15	



Type of pressure	Pressure group	Name of measure	Measure type in Annex VI Part B to the WFD ²	Identification of new measures or measures that are no longer relevant
Discharge regulation and morphological changes	Morphology	Measures to improve the morphology of lakes	17	
Discharge regulation and morphological changes	Morphology	Measures to reduce pressures resulting from structures for navigation, ports, shipyards, marinas in coastal and transitional waters	17, 3, 4, 7, 11, 13	
Discharge regulation and morphological changes	Morphology	Measures to reduce pressures resulting from bed load/sediment removal in coastal and transitional waters	17, 3, 4, 6	
Discharge regulation and morphological changes	Other hydro-morphological pressures	Measures to reduce other hydromorphological pressures	13, 11, 17	
Discharge regulation and morphological changes	Other hydro-morphological pressures	Measures to reduce other hydromorphological pressures in lakes	13, 11, 17	
Discharge regulation and morphological changes	Other hydro-morphological pressures	Measures to reduce other hydromorphological pressures in coastal and transitional waters	13, 11, 17	
Other anthropogenic impacts	Fisheries	Measures to reduce pressures due to fisheries in lakes	17, 3, 4, 8	New
Other anthropogenic impacts	Other anthropogenic pressures	Measures to reduce other anthropogenic pressures	13, 3, 4, 5, 6, 7, 12, 17	New
Diffuse sources	Agriculture	Measures to reduce nutrient inputs due to special requirements in flood areas	17, 6	New

The types of measures selected for groundwater are shown in Table 4. No types of measures have been deleted or added.



Table 4: Measure type selection from the LAWA list of measures for groundwater in the Lower Saxony parts of the Elbe, Weser, Ems and Rhine river basins

Type of pressure	Pressure group	Name of measure	Measure type in Annex VI Part B to the WFD ²	Identification of new measures or measures that are no longer relevant
Diffuse sources	Agriculture	Measures to reduce nutrient inputs into groundwater due to leaching in the agricultural sector	17, 6	
Diffuse sources	Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	17, 6, 2, 3, 4	
Diffuse sources	Agriculture	Measures to reduce nutrient inputs due to special requirements in water conservation areas	17, 2, 3, 6	
Other anthropogenic pressures	Miscellaneous anthropogenic pressures	Measures to reduce other anthropogenic pressures	13, 3, 4, 5, 6, 7, 8, 12, 17	

In view of the complexity of the tasks and the numerous questions that continue to arise in connection with the implementation of the WFD, it makes sense to include conceptual measures in the Lower Saxony contribution to the programmes of measures (cf. Table 5). The conceptual measures can be used not only for issues relating to the improvement of chemical or quantitative status of groundwater bodies, but also for improving the ecological status/potential or chemical status of surface water bodies. An example of a newly included item is the measure type “advisory service”, which is now being offered for surface waters as well. This includes the agricultural advisory service launched in 2013 to reduce nutrient inputs into surface waters (cf. Chapter 4.3.2). The agricultural advisory service initiated in 2010 to reduce nitrate inputs into groundwater is also being continued in the second management plan cycle.



Table 5: Measure type selection from the LAWA list of measures for conceptual measures in the Lower Saxony parts of the Elbe, Weser, Ems and Rhine river basins

Water body type	Name of measure	Measure type in Annex VI Part B to the WFD ²	Identification of new measures or measures that are no longer relevant
GW SW	Preparation of concepts / studies / expertises	17	
GW SW	Research, development and demonstration projects	16	
GW SW	Information and further training measures	15	
GW SW	Advisory measures	15	New for rivers
GW SW	Establishment or adaptation of promotion programmes	17	
GW	Voluntary cooperation arrangements	17	
SW	Certification systems	17	New for transitional and coastal waters
GW SW	In-depth studies and checks	17	
SW	Studies on climate change	17	New for surface waters

2.2 Impacts of climate change on the programmes of measures

From a technical point of view, it is advisable to take account of the possible impacts of climate change when planning measures, or at least to bear them in mind. Management measures under the WFD, such as improvements in continuity and improvements in water body morphology, have positive effects on living conditions and stress resistance in aquatic ecosystems. This permits better toleration of stress situations resulting from extreme events (especially heat waves and droughts). In the field of groundwater, it is possible to take advantage of experience of groundwater abstraction and supply, and to use it as a basis for developing concepts for targeted groundwater recharge, for example. Appropriate programmes of measures already take account of the expected challenges of climate change.

Various types of measures offered by Lower Saxony can reduce the impacts of the predicted climate changes. For example, the types of measures for reducing diffuse nutrient and pollutant inputs, e.g. measure type 28, creation of riparian strips, can be used to reduce growing inputs of nutrients and pollutants resulting from more frequent and more intensive heavy rainfall events. This presupposes proper technical implementation (location, dimensions, design) of the measure and also implementation on areas of sufficient size.

Despite great uncertainty about the scale and impacts of climate change, there are many types of measures and action options that are useful for stabilising and improving water body status, regardless of what the future climate will be like.

In particular, these are adaptation measures in the field of water management which tolerate ranges of variation and are also

- flexible and adjustable, i.e. the types of measures are designed today to permit adaptation once more is known about the effects of climate change in the future. The “fit” of an adaptation measure should be subject to regular review,
- robust and efficient, in other words the adaptation measure selected is effective within a broad spectrum of climate impacts. Preference should be given to types of measures with synergies for different climate impacts.

LAWA has performed a climate check on the measure types (cf. Appendix, Table 34). The aim of the climate check was to investigate the adaptability of the types of measures. To this end it first estimated their sensitivity to the primary and secondary impacts of climate change, including the possibility of modifying the measure types to enable them to fulfil their purpose even under changed climatic conditions. It then examined whether implementation of the types of measures could be expected to have positive or negative effects on climate change mitigation or on adaptation to climate change in general. Here too it was necessary to investigate whether the types of measures could be altered so as to minimise the negative effects.

The climate check yielded important pointers regarding the selection of measure types. For example, there are categories of measure types that will probably react positively to climate change, e.g. through increased conversion rates in sewage works. Other groups of measure types can be expected to be adversely affected by climate change, e.g. as a result of increased substance inputs into retention facilities for rainwater and combined wastewater due to more frequent heavy rainfall events. In these groups of measure types, and especially in the case of long-lasting infrastructure, preference was given to the types of measures that are effective within a broad range of variation of possible climate changes. Where possible, near-natural processes are used and advantage is taken of positive side effects. Many types of measures have a neutral character.

The impacts of climate protection and adaptation policy outside the water sector were taken into account as far as possible, in order to ensure timely minimisation of negative impacts on water body status. When implementing the types of measures, every effort is made to keep greenhouse gas emissions as low as possible. Negative side effects in all relevant sectors were identified in the planning process and reduced as far as possible. Examples of groups of measure types that have particularly clear links with other sectors – in this case the energy industry – include the measure types for reducing water abstraction for cooling purposes or, in general, water abstraction for the operation of hydro power plants.

When selecting measure types in the field, economic aspects play a role in addition to the effectiveness of the measure and its practicability. The importance of climate change as a whole is taken into account in the economic analysis of water uses.



2.3 Surface waters

2.3.1 Rivers and lakes

2.3.1.1 Rivers

The discussion about the main water management issues in Lower Saxony makes it clear that there continue to be three major fields of action for rivers:

- improving hydromorphology,
- improving continuity, and
- reducing pollution by substances.

In addition, the question of salt levels is one of the major water management issues in the Weser river basin.

During the first management period it became apparent that the planning of measures needed to be targeted more closely to the technical requirements and the existing chemical and biological deficits in order to achieve those objectives where success was possible. In view of limited financial and human resources, the considerable scale and diversity of the necessary measures call for a soundly based technical approach as a basis for efficient use of funds. This approach is described in the guide entitled “Planning of measures for surface waters, Part D – Strategies and approaches for achieving the management objectives for rivers in Lower Saxony”.

The main principles of water body development are:

- Settlement potential: Water body development, in other words re-colonisation with typical aquatic species and communities can basically only take place or be initiated where the relevant potential exists.
- Time: Establishing communities typical of the water body naturally takes time. Water body development is a lengthy process in which development from an unnatural, disturbed status to a more natural and ecologically good status takes place.
- Quality and quantity of measures: The right measures in adequate density and quality – and in the right place – are essential for stable and effective success.
- Area: Water body development means creating habitats for natural aquatic communities. To this end, the water bodies need space which must be available for their more or less dynamic development.

In the coming management period as well, measures in rivers will continue to be financed under the guidelines for granting funds for the promotion of river development measures (River development guidelines) (cf. Chapter 5.2).



The guide³ entitled “Planning of measures for surface waters, Part A, Rivers – Hydromorphology” provides recommendations on the selection, prioritisation and implementation of measures for developing rivers in Lower Saxony (NLWKN 2008a). This working aid provides a technical elaboration of the measures relating to hydromorphology and continuity in the regional cooperation alliances and other responsible bodies in Lower Saxony. The guide³ to “Planning of measures for surface waters, Part C – Chemicals” sets out the basic technical information necessary for the field of chemicals (NLWKN 2012a).

For various water bodies, action recommendations for measures⁴ have already been drawn up during the first management period. The action recommendations for measures constitute a rough, long-term overall plan for a water body to achieve the management objectives of the WFD. They are drawn up by the NLWKN and serve as a technical basis and orientation for subsequent, more concrete planning steps. The next revision will be undertaken on the basis of the new assessment findings 2015.

Water body development plans may form a further important basis for the implementation of measures. Water body development plans are action-oriented and measure-oriented technical plans by the water management and nature conservation sectors, with the participation of agriculture and other stakeholders. Today they are a very mature instrument for planning the implementation of development measures on bodies of water and the related water meadows on a pragmatic and action-oriented basis. Water body development plans, mostly prepared by technical offices, exist for many rivers in Lower Saxony. As a rule these provide valuable aids to decision-making as a measure-oriented planning basis for concrete on-site identification and implementation of measures.

Thus where water body development plans or comparable plans (e.g. water body specific maintenance and development plans) exist for rivers or parts of rivers in the working areas, and where these are sufficiently up-to-date and contain appropriate proposals for measures to improve water body morphology, these plans should be implemented on a targeted basis. Fig. 2 provides an overview of the water body development plans that already exist or are planned or in preparation.

³ The guides in the series “Planning of measures for surface waters” can be found as background documents on the NLWKN’s Water Framework Directive website (www.nlwkn.niedersachsen.de).

⁴ The action recommendations are published on the NLWKN website www.nlwkn.niedersachsen.de.

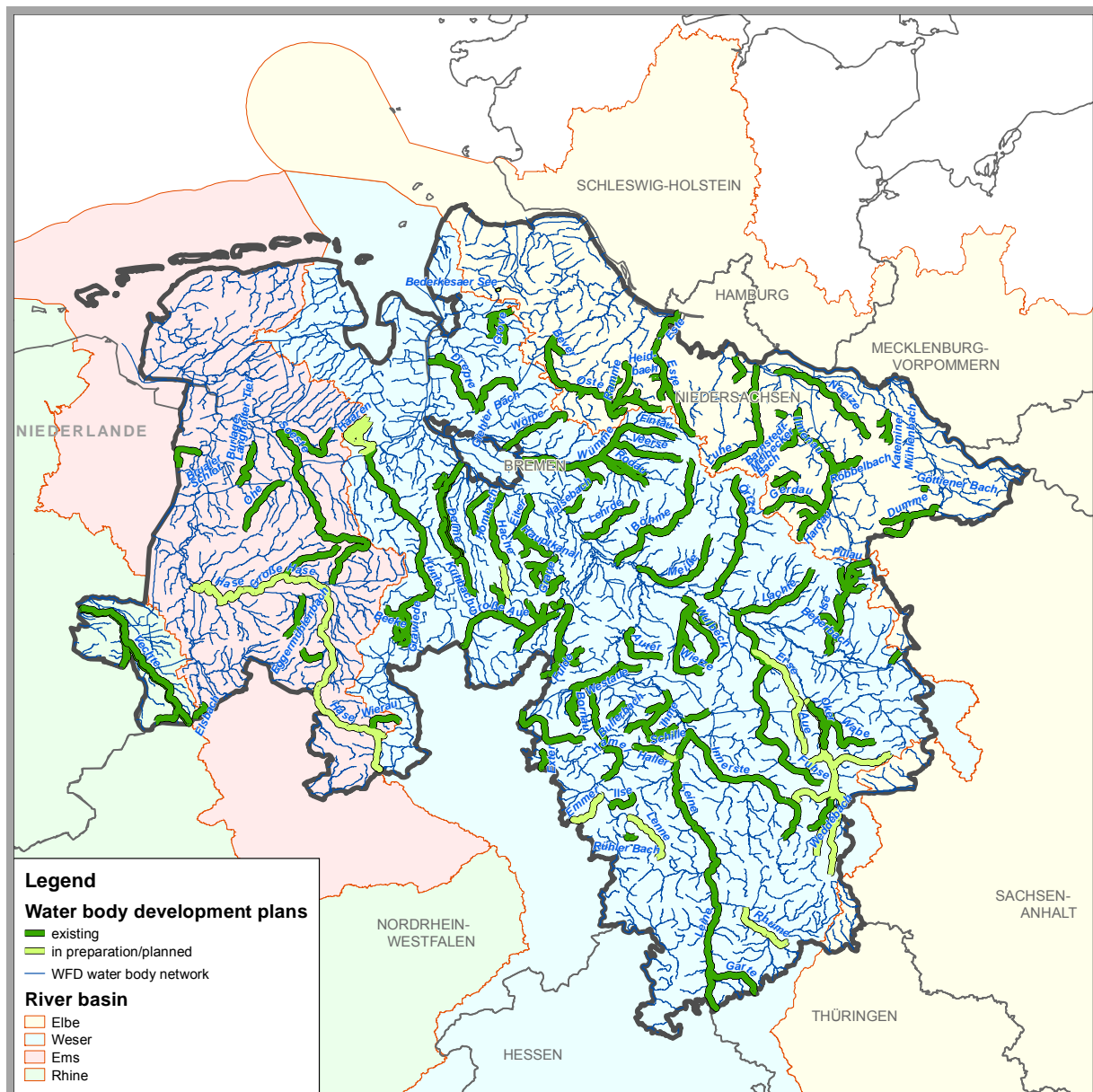


Fig. 2: Water body development plans in Lower Saxony⁵ (as of: 2015)

Hydromorphology and continuity

Based on the findings of the inventory, the description of the main water management issues and the monitoring results, disturbances in the hydromorphology and continuity of the water bodies were identified as a principal reason for the bad results of the assessment of ecological status/potential in Lower Saxony. For this reason, hydromorphological issues continue to be a key area of measures and plans in the second management cycle.

⁵ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



Regional context – Hydromorphology and continuity

The Lower Saxony contributions to the 2009 programmes of measures set out the priorities for the water bodies for which measures were envisaged (priority water bodies for the implementation of measures) (NLWKN 2008b). The priorities are largely based on the existing settlement potential, the fact that the water bodies belong to the Lower Saxony river conservation system and their protected status as a water-dependent Habitats Directive area, and also the importance of the water body as a supra-regional migration route for fish species. This prioritisation is based on the following technical factors:

“Species cannot be installed simply by taking measures. Even the “best” measures cannot have any appreciable biological effects once the populations of demanding river species have disappeared over large areas. Existing stocks of such species are therefore of inestimable value as an essential recolonisation potential for successful implementation of the WFD. Priority must be given to safeguarding and encouraging the spread of such stocks. Selection of priority water bodies/river sections is therefore based primarily on the existing recolonisation potential and the capacity of typical river species to spread.” (NLWKN 2008a). Prioritisation serves to identify a targeted sequence.

A total of six priorities were assigned to water bodies in Lower Saxony (cf. Fig. 3):

- Priority 1: e.g. water bodies with endangered biocenoses, but with high or very high colonisation potential. Objective: Safeguard priority colonisation potential and achieve good status (where this does not already exist), avoid infringement of the WFD ban on deterioration.
- Priority 2: e.g. water bodies with relatively high colonisation potential, part of the Lower Saxony river detection system with Habitats Directive status. Renewed spread of priority colonisation potential/biocenoses. Objective: Establish good status.
- Priority 3: e.g. water bodies with relatively high colonisation potential: Parts of the Lower Saxony river protection system or Habitats Directive areas. Safeguard existing, relatively good colonisation potential in waters belonging to the Lower Saxony river protection system or Habitats Directive areas; where appropriate, establish good status; for Habitats Directive areas: implement Habitats Directive objectives as far as possible.
- Priority 4: e.g. water bodies with no special designation status, but with relatively high colonisation potential.
- Priority 5: e.g. readily developable sections adjacent to sections with relatively high colonisation potential but no special designation status.
- Priority 6: Water bodies which are impoverished as regards biocenoses, but at least offer the possibility of cost-effective improvements in fish fauna.

Water bodies that have only a very low recolonisation potential and are not covered by any of the other criteria mentioned above do not have any priority. The specification of priorities is not a static system. Regular reviews are performed to take account of new findings, e.g. from water body assessments.

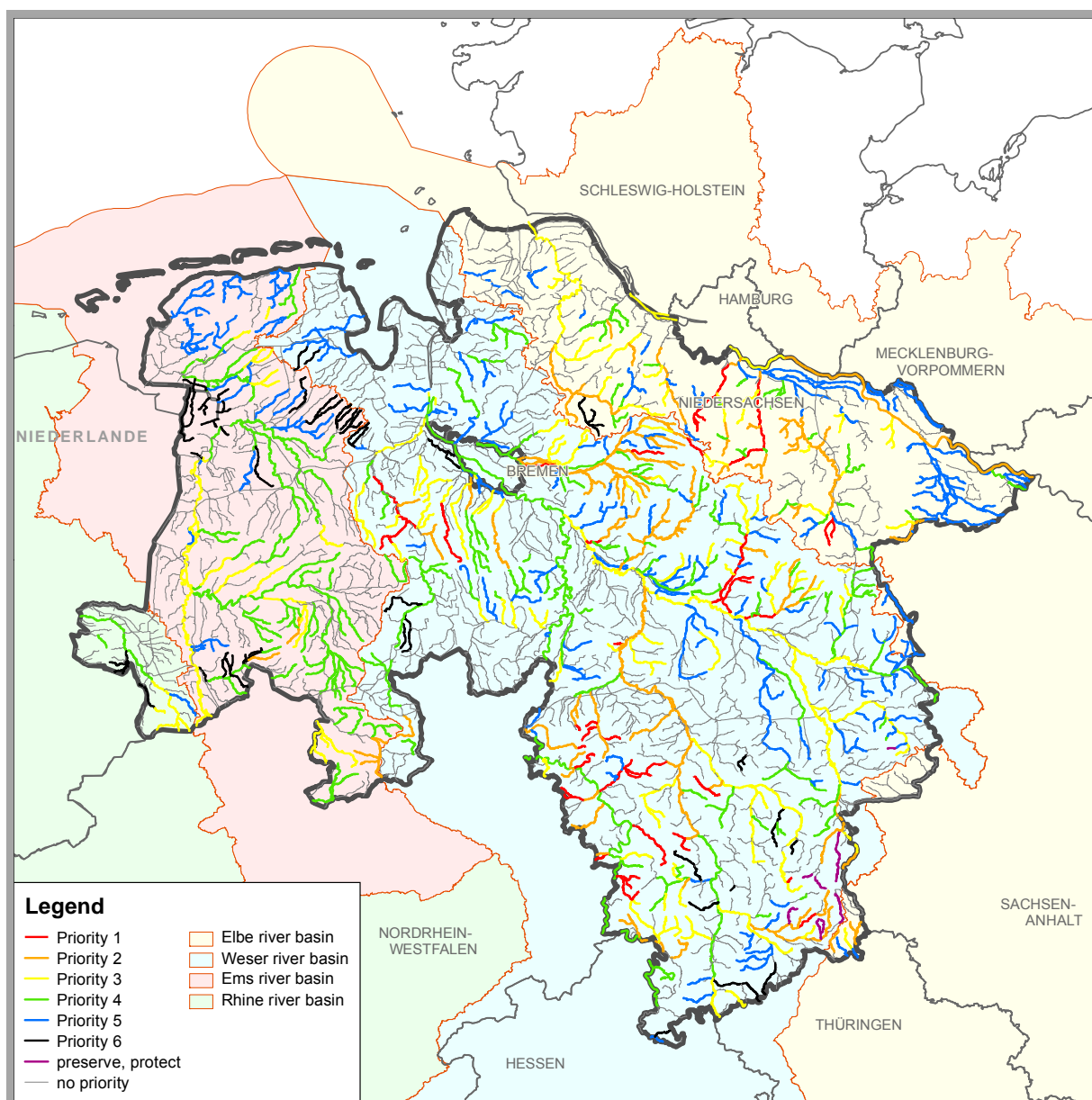


Fig. 3: Priority rivers in Lower Saxony according to the guide “Planning of measures for surface waters, Part A Rivers – Hydromorphology” (NLWKN 2008a, amended)⁶

⁶ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



In view of the current bad ecological assessment results for rivers, the existing strategies for the second management planning period were reviewed and modified to ensure targeted implementation of measures and successful outcomes. A new aspect for the second management period is the further aggregation of the regional context for implementation of measures.

Water bodies particularly capable of hydromorphological development have been selected in accordance with uniform state-wide criteria (NLWKNa 2014):

First criterion:

Water with current moderate status or potential: These water bodies are only one class away from the objective of good status/potential and thus have the best chances of developing to good status or good ecological potential in the medium term given suitably targeted measures.

Second criterion:

Water bodies with priority 1-4: These water bodies from the overall priority scale from 1-6 still possess a relatively intact and natural species inventory and thus have by nature a good ecological regeneration capacity to colonise re-created structures in the water bodies with the relevant typical species.

These water bodies, the “key water bodies” (cf. Fig. 4), are to be the focus of increased measures in cooperation with the maintenance associations (cf. Chapter 4.3.4).

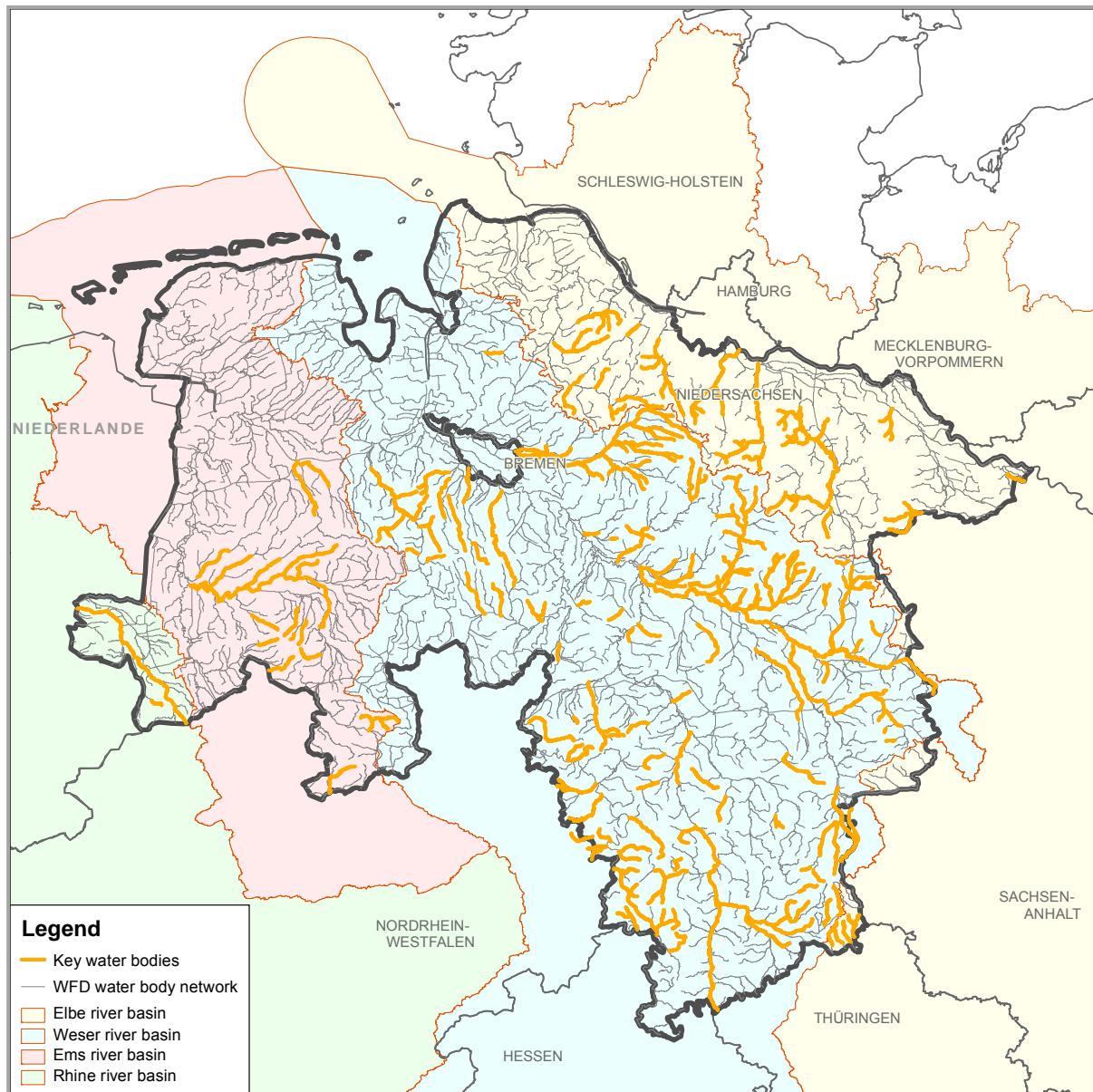


Fig. 4: Overview of key water bodies in Lower Saxony⁷ (as of: July 2014)

The planning and implementation of measures in Lower Saxony has repeatedly revealed excessive occurrences of sand in gravel-dominated rivers in the North German plain. Gravel-dominated river types, which are characterised by a naturally dominant gravel substrate, a large number of small habitats and a diverse fish fauna, display sensitive reactions to increased quantities of sand. The gravel-based system of interstitial spaces becomes clogged or covered up, thereby destroying its function. The situation is frequently favoured by over-dimensioned water body profiles.

As a sound basis for planning of measures, a full-coverage study of sand loads in Lower Saxony rivers was completed in 2011 (Geofluss 2011). The study is one of the conceptual measures set out in the 2009 programme of measures and counts as a background

⁷ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



document⁸ for the second management plan. This study identifies the key pollution sites that exist in the Lüneburg Heath in particular, and examines possible causes on the basis of existing data on water and wind erosion. This evaluation was supplemented for south-east Lower Saxony by a section on fine sediments (Geofluss 2013).

Improvements in continuity (upstream and downstream) for fish and cyclostomata are an important aspect for achieving the management objectives. In all four river basins there are supra-regional requirements for this objective (cf. Lower Saxony contribution to the management plans 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins). In addition, there are synergies with the objectives of the Habitats Directive and the regulation with measures for replenishing stocks of the European eel (EC 1000/2007). In the river basin districts, supra-regional migration routes have been designated, in some cases under slightly varying names, for the entire river basin, especially for long-distance migratory fish species (salmon, sea trout, lamprey, eel). As rule this forms a network of larger rivers in which priority is given to restoring ecological continuity for the fish fauna as far as possible.

Two aspects have to be taken into account: the fish have to pass through the rivers unhindered and/or reproduce there. For this reason, the Lower Saxony Office of Consumer Protection and Food Safety and the NLWKN have identified the migration routes for Lower Saxony and also the spawning and nursery waters (cf. Fig. 5). They assessed the continuity of the transverse structures along the migration routes and in the spawning and nursery waters. Of the approximately 7000 transverse structures registered in Lower Saxony, some 10% have good to very good continuity (Bioconsult 2014).

Measures to restore continuity can only be cost effective if the river sections to be linked also possess appropriate habitat quality as potential spawning and nursery waters. As a rule, therefore, improvements in continuity also have to be accompanied by supporting measures to improve habitat quality.

The aspect of improving ecological continuity is supported by the new responsibility of the Waterways and Shipping Directorate. Under the revised version of the Federal Water Act which entered into force on 1 March 2010, the Federal Waterways and Shipping Directorate is required by Section 34 (3) to take measures to maintain and restore continuity (fish ladders) at the dam structures it operates on federal waterways, where this is necessary to achieve the objectives of the WFD. To comply with this requirement on a targeted basis, an ecological fishery oriented prioritisation concept was commissioned by the Federal Ministry of Transport, Building and Urban Development in the interests of targeted implementation of measures to improve upstream migration of fish in federal waterways (cf. BfG 2010). Against this background, the feasibility study on the modification of the Ilmenau federal waterway was completed in 2013 having regard to the requirements of the WFD, in cooperation between the Federal Waterways Directorate and the Lower Saxony Ministry of the Environment, Energy and Climate Protection (NLWKN 2012b). The government of Lower Saxony takes the view that the biological continuity requirements enjoy priority over aspects of recreation or leisure shipping in the Lower Ilmenau in view of their importance for the entire river basin.

⁸ The background documents can be found on the NLWKN's water framework directive website (www.nlwkn.niedersachsen.de).

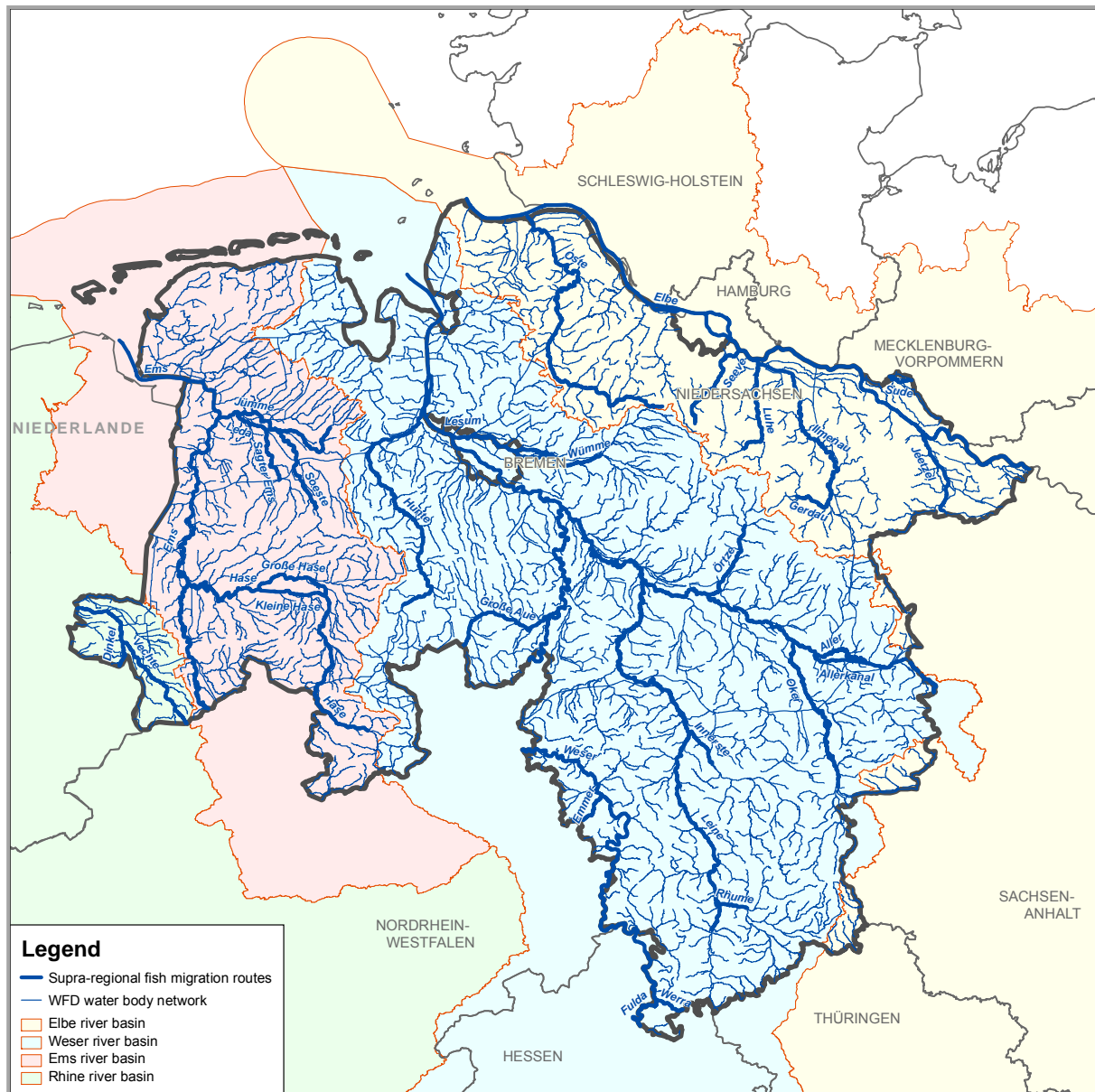


Fig. 5: Supra-regional fish migration routes in Lower Saxony⁹

In quantitative terms, hydro power plays a relatively minor role in the renewable energy sector in Lower Saxony. The primary focus in the reorganisation of energy supplies in Lower Saxony is on wind power. This offers much greater potential in the field of onshore and offshore installations.

Furthermore, Lower Saxony also has to achieve the objectives of the WFD, namely ensuring good ecological status or good ecological potential; among other things, this calls for improvements in the field of aquatic ecology. Not the least of these requirements is the (re-) establishment of continuity in water bodies. Seen from an aquatic ecology point of view, the use of hydro power, even with existing dam structures, can in certain circumstances involve a risk of deterioration in the river, e.g. obstacles to continuity, changes in water body

⁹ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



structure, changes in or loss of habitats for the aquatic fauna as a result of inadequate discharge rates and additional backed-up areas, direct damage to organisms due to power plant operation and rake systems. There must therefore be a reasonable relationship between the energy benefits of a hydro power plant and the adverse effects on the body of water.

Especially in coastal regions and the further course of major rivers, i.e. priority or connecting water bodies, new installations below the point where the river branches into major spawning, nursery and feeding habitats should only be permitted if suitable measures are taken to ensure that there are no long-term obstacles to the migration, essential for maintaining fish populations, from the sea into the first major tributaries that are important for the life-cycle of numerous fish species and other aquatic organisms, and vice versa. Here Lower Saxony as a coastal state has a special responsibility.

In the case of small hydro power plants (< 1 MW) the energy benefits are frequently not in proportion to the potential threats to the objectives of the WFD. On smaller water bodies, the minimum water quantity needed to ensure continuity is often not sufficient to permit the use of hydropower as well. In such cases there is usually no question of installing a hydro power plant. Achieving the ecological objectives is of greater importance.

In future, however, the question of whether the construction, expansion or modification of a hydro power plant can be considered justifiable will continue to depend on the circumstances of the individual case, having regard to the type of project, the local conditions, the statutory and/or regulatory requirements, the management objectives and programmes of measures, and the discretionary decisions taken by the approval and licensing authority.

Expansion or efficiency improvements at existing hydropower locations may make sense. But even here it is necessary to investigate whether this can or must be combined with the targeted improvements in the continuity of the water body. Even in the case of existing plants, the objectives include minimising any adverse effect resulting from the hydropower plant.

List of measures – Hydromorphology and continuity

The guide to planning of measures for surface waters, Part A Rivers – Hydromorphology (NLWKN 2008a) also specifies a number of measures and groups of measures appropriate to the physiographic area that can be implemented to achieve the objectives in or on the water bodies.

The following measures for the pressure type “discharge regulation/hydromorphology” are included in the Lower Saxony contribution to the programmes of measures for the river basins (cf. Table 6).



Table 6: List of measures for improving hydromorphology and continuity

LAWA name for measure	Type of measure according to measure group in Lower Saxony Guide to “Planning of measures for surface waters, Part A Rivers – Hydromorphology”
Measures to promote natural water retention	7 and 8
Measures to establish linear continuity in impounding systems (dams, retention basins, storage basins)	-
Measures to establish/improve linear continuity in weirs/barrages, cascades, conduits and other hydraulic structures in accordance with DIN 4048 and/or 19700 Part 13	9
Measures to initiate/permit inherent dynamic development, including support measures	2
Measures to vitalise the water (bed, variance, substrate) within the existing profile	3 and 5
Measures to improve habitats in water bodies through changes in watercourse or bank or bed design	2, 3, 4, 5, 6, 8, 9
Measures to improve habitats in bank areas	4 and 6
Measures to develop water meadows and improve habitats	1, 2, 3, 4, 5, 6, 8
Connection of side waters, old branches (cross linking)	2, 6, 8
Elimination/improvement of hydraulic structures	8
Measures to improve bed load balance and/or sediment management	6
Measures to reduce pressures resulting from bed load removal	–



LAWA name for measure	Type of measure according to measure group in Lower Saxony Guide to “Planning of measures for surface waters, Part A Rivers – Hydromorphology”
Measures to adapt/optimize water body maintenance	–
Brief explanation of measure groups according to Lower Saxony Guide to “Planning of measures for surface waters, Part A Rivers – Hydromorphology” 1 Constructional measures for bed design and watercourse extension 2 Measures to promote inherent dynamic development of water bodies 3 Vitalisation measures within existing profile 4 Measures for development of trees and shrubs 5 Measures to improve bed structures by incorporation of solid substrates 6 Measures to reduce inputs and loads of solids 7 Measures to restore the typical discharge behaviour of water bodies 8 Measures for development of water meadows 9 Establishment of linear continuity	

Ecological requirements and requirements relating to discharge and navigability enjoy equal priority in the course of maintenance (Section 61 Lower Saxony Water Act). In accordance with the provisions of the Federal Water Act (Section 39 (2)), water body maintenance is to be aimed at achieving and safeguarding good ecological status or good ecological potential of flowing waters in the long term. Thus water body maintenance pursuant to Section 39 (2) of the Federal Water Act must be based on the management objectives of the WFD. It must not endanger the management objectives.

“Thus water body maintenance, depending on the nature and scale of its implementation, has extensive influence on numerous factors of the ecology of flowing waters and hence on “good ecological status” or “ecological potential” within the meaning of the WFD. Nature-conserving and needs-appropriate water body maintenance thus plays an important role in achieving the objectives of the WFD. In view of this, it is necessary to take greater account of ecological concerns in the practice of water body maintenance. Rigorous use is to be made of all options and scope for action when implementing nature-conserving and needs appropriate water body maintenance in the spirit of the objectives of the WFD. At the same time, better use must be made of the opportunities that water body management offers for near-natural development of water bodies” (Wasserverbandstag 2011). In view of limited financial resources and the wide variety of claims for use of water bodies, orienting water body maintenance to the management objectives offers good prospects for cost-effective implementation of the WFP. To ensure that measures are successful in the long term, it is essential that maintenance should at the same time be adapted to the situation arising from the measures implemented.



Substance pollution

Point sources

At European level the treatment of municipal wastewater is governed by Council Directive 91/271/EEC of 21 May 1991, "Directive concerning urban wastewater treatment", as amended by Directive 98/15/EC of 27 February 1998. The requirements of the Urban Wastewater Directive largely correspond to the national requirements of Section 57 of the Federal Water Act in conjunction with Annex 1 to the German Ordinance on requirements for discharging wastewater into bodies of water (Abwasserverordnung – AbwV) in the version announced on 17 June 2004. This ordinance thus transposes the EU directive into national law.

The Urban Wastewater Directive was implemented in Lower Saxony, supplemented by the Lower Saxony Ordinance on the treatment of municipal wastewater of 28 September 2000 (KomAbwV). In particular, this laid down deadlines for connection of municipalities to the sewage system and requirements for the purification performance of treatment plants.

The aim of the EU directive is to protect the environment from adverse effects of municipal wastewater. In the case of sensitive areas, the directive requires more extensive treatment of wastewater. This is intended to largely eliminate the nutrients nitrogen and phosphorus. Lower Saxony discharges its water into the North Sea, and the North Sea with its catchment area satisfies the criteria for sensitive areas within the meaning of the EU directive. In all sewage treatment plants, purification of wastewater must be effected in accordance with the statutory provisions. The provisions of Section 60 (1) of the Federal Water Act apply to the construction and operation of wastewater treatment installations. The construction, operation and maintenance of those parts of wastewater installations that have no influence on purification performance is subject to the generally accepted state of the art (Section 60 (1) sentence 2 of the Federal Water Act).

Regional context - Point sources

In view of the technical standards of installations in Lower Saxony, discharges from municipal sewage plants only play a role in significant pressures in a small number of water bodies. For this point, therefore, the need for measures in Lower Saxony will only be very limited.

The following table shows the bodies of water where evidence has so far been found of significant pressures due to discharges from municipal installations and appropriate measures have been taken to reduce such pressures.



Table 7: Overview of water bodies with significant pressures due to discharges from municipal sewage plants

Water body number	Water body name
04046	Soeste Mittellauf bis Thülsfelder Talsperre
15021	Warne
15056	Lange Welle (Mittelgraben)
15058	Mühlengraben
17051	Berger Bach
24025	Visselbach
28008	Neetze (Oberlauf), Süschenbach, Strachau, Kalberlah, Harmstorfer Bach
28038	Röbbelbach (Ober- und Mittellauf), Gollernbach
28039	Wipperau (Mittel- und Unterlauf)
29055	Wischhafener Süderelbe
30002	Oste (Ramme-Bremervörde)
30003	Oste (Bremervörde-Oberndorf)
30043	Horsterbeck Mittellauf

As shown in the Lower Saxony contribution to the management plans for the river basins for 2015 to 2021, pressures due to salt levels occur in the Weser in particular. The salt production areas are mainly along the stretches of the Werra that pass through Thuringia and Hesse, on the Fulda near Neuhaus and, within Lower Saxony, in the Aller-Leine area with a production site close to Wunstorf. The production site of greatest relevance to the Weser River basin is on the Werra. Further information can be found in the documents “Detailed management plan 2015 – 2021 for the Weser river basin, with special reference to salt levels” and “Detailed programme of measures 2015 – 2021 for the Weser river basin, with special reference to salt levels”.

In the Ems river basin, considerable pollution also occurs on the Speller Aa due to salt resulting from discharges of wastewater from the Ibbenbüren coal mine in North Rhine Westphalia. The potash mines in the Lower Saxony Aller-Leine region also contribute to high salt levels.

List of measures - Point sources

The programme of measures includes the following types of measures for wastewater disposal:



Table 8: List of measures to reduce inputs of substances from point sources

LAWA name for measure
Measures to reduce inputs of substances via local authority wastewater discharges
Measures to reduce inputs of substances from other point sources

Diffuse inputs

Nutrients

The problem of substance pollution in rivers relates primarily to diffuse inputs of nutrients, especially nitrate and phosphate, mainly as a result of inputs from drainage and groundwater inflow. Further inputs result from soil erosion and surface run-off. Diffuse nutrient inputs resulting mainly from agricultural use have been identified as one of the most important water management issues in Lower Saxony. An overview of nutrient pollution in Lower Saxony water bodies has been made public on the website and map server¹⁰ of the Lower Saxony Ministry of the Environment, Energy and Climate Protection.

The impacts of excessive nutrient pollution in water bodies are many and varied, and ultimately result in permanent damage to the aquatic community. Transitional and coastal waters are also significantly polluted by nutrient inputs from the hinterland. The issue of nutrient pollution was the subject of further examination during the first management period: supra-regional decisions were made on the management objectives for the parameter nitrate with regard to achieving the objectives for transitional and coastal waters (cf. Chapter 2.3.2), and the state-wide analyses of the parameters nitrate and phosphate were prepared (NLWKN 2014b). It was recommended that the figure of 2.8 mg/l total nitrogen determined as a target figure for rivers flowing into the North Sea should also be used as a target figure for the hinterland waters (LAWA 2014b).

For total phosphorus (TP) the assessment of river quality was performed on the basis of the guide value from the LAWA monitoring concept (Rakon) (LAWA 2007). The figures are not uniform for the whole of Lower Saxony, but are differentiated by types of flowing water bodies. For marsh water the figure is 0.3 mg TP/l, for organic and lowland rivers 0.15 mg TP/l, and for all other water bodies 0.1 mg TP/l.

The analysis of the data from the Lower Saxony water body monitoring system (GÜN) as part of the analysis of deficits shows that the pollution situation in rivers must on the whole be classified as bad. During the period 2008 to 2011 only about 20% of the measuring stations in Lower Saxony's rivers and streams complied with the target values for total nitrogen, and only about 29% with the targets for total phosphorus (BLMP target / Rakon guide value). Analyses of pollution trends also reveal a sobering picture: although the number of measuring stations which recorded a decrease in nutrient content between 2000 and 2011 is larger than the number with rising figures, the majority of decreases took place within a small

¹⁰ <http://www.umwelt.niedersachsen.de/service/umweltkarten/interaktive-umweltkarten-der-umweltverwaltung-8669.html>

range of values. In fact, one can on the whole draw the conclusion that the figures are stagnating at a high level (NLWKN 2014b).

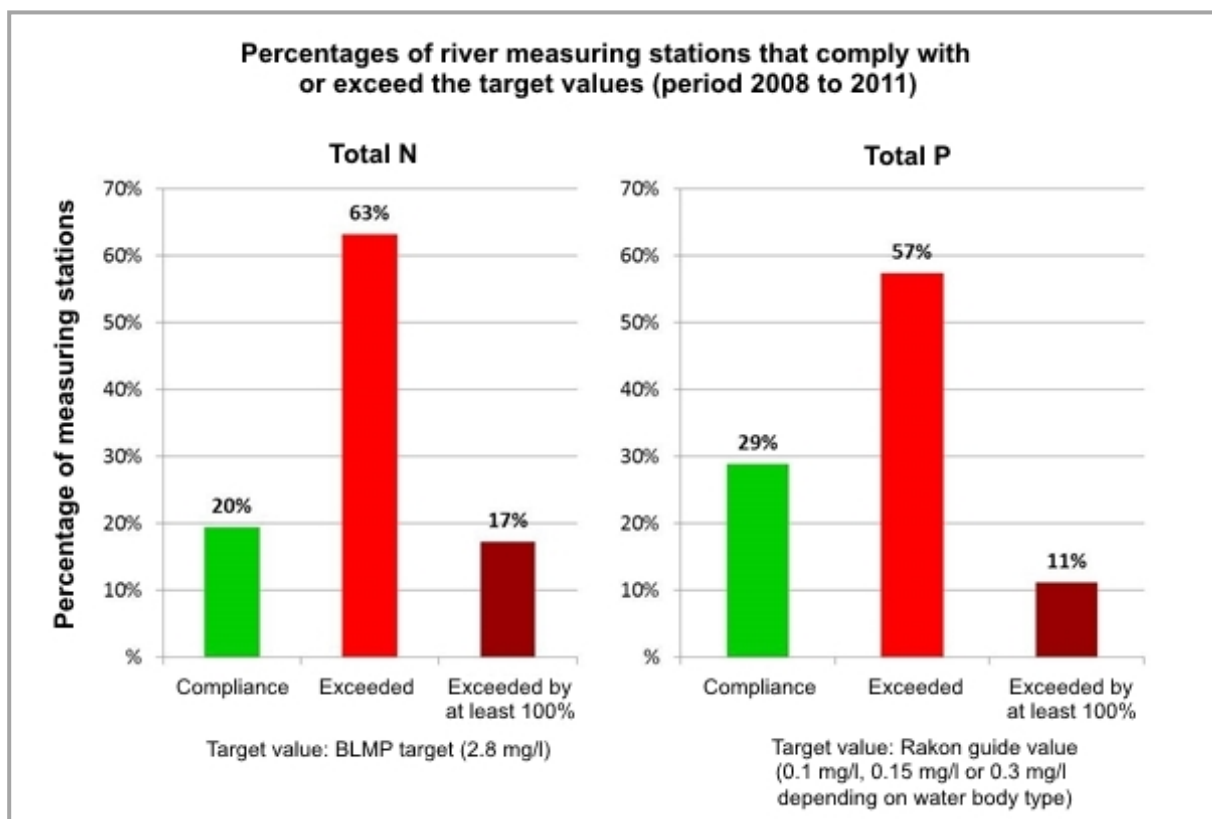


Fig. 6: Comparison of GÜN river measuring stations for nitrogen with the BLMP target value and for phosphorus with the Rakon guide value

Model calculations have been performed for the working areas Fuhse/Wietze, Große Aue and Hase. These areas were selected because they have high nutrient levels, making it possible to cover different physiographic areas and agricultural structures on a pilot basis. An analysis of the path-specific pollution situation for diffuse nutrient inputs was performed with the aid of a balance model. The balance model works on the basis of a grid with a resolution of 1 ha and determines the nitrate and phosphate inputs and the water discharge rates for every grid unit. It calculates the input paths for groundwater, interflow, drainage, erosion, run-off and direct input, each of which is shown on a differentiated basis for the various land uses. This identified hot spots where particularly high nutrient inputs from diffuse sources occur in surface waters due to agricultural uses. These analyses formed the basis for the selection of target settings for the advisory services launched in 2013 with the aim of reducing nutrient inputs in surface waters (cf. Chapter 4.3.2). In addition to the implementation of concrete measures, this project is expected to yield efficient, in-depth findings on reducing loads in surface waters. For this reason the types of measures for reducing diffuse nutrient inputs were considerably expanded. The Lower Saxony/Bremen agri-environmental programme (NiB-AUM) was also extended to include agri-environmental measures aimed at reducing nutrient inputs into water bodies. Newly incorporated items are



the measures “green strips for erosion control and water body protection” and “riparian strips”.

In addition to their structure-promoting effects, measures in the field of near-natural water body design, such as the creation of riparian strips, are frequently accompanied by effects reducing substance inputs. Furthermore, possibilities and measures for retaining substances in the water bodies themselves are also to be considered in the context of basic reductions in nutrients in surface waters.

Despite these supplementary measures it will continue to be necessary where nitrate and phosphorus inputs into surface waters are concerned – and this is essential for achieving the objectives in surface waters – to rely on the basic measures, in other words the full-coverage measures for implementing the Nitrate Directive and the Fertilisers Ordinance and on the synergies of the supplementary measures offered in the field of groundwater.

As a rule, it is difficult to provide direct evidence or measurements to support quantification of the diffuse inputs of substances and the impacts of agricultural measures. For this reason, the impacts of various emitters on water body quality were studied with the aid of computer models as part of the research project “AGRUM Lower Saxony¹¹” in the Lower Saxony parts of the Ems, Rhine, Weser and Elbe river basins. The focus here was on inputs of the nutrients nitrogen and phosphorus from diffuse agricultural sources into groundwater and surface waters, including transitional and coastal waters. The model calculations permit information on the reduction requirement that agricultural and other sources need to comply with to achieve the objectives of the WFD. This makes it possible to draw conclusions about the requirements necessary for implementing measures and the costs involved.

On the basis of assumptions about various adjustable limiting conditions in the agricultural sector, it is possible to quantify and predict impacts of management methods (including the degree of implementation of agri-environmental measures) on nutrient inputs. The results provide differentiated information for the individual areas on nutrient balance excesses, inputs, loads and concentrations. On the basis of previously defined management scenarios, comparisons of impacts and costs are possible for different constellations of measures. In the AGRUM Lower Saxony project, for example, the expected nutrient flows for the year 2021 are predicted on the basis of estimated price trends for agricultural products and agri-political regulations. One important point here is the extent to which the basic measures will contribute to achieving the objectives of the WFD and the scale of supplementary measures required. In order to answer these questions, the project includes the following individual items and analyses:

- Analyses of the actual situation taking 2007 as the “baseline year” (balance excesses, inputs into groundwater and surface waters including transitional and coastal waters).
- Development and analysis of a management scenario for the year 2021 and prediction of the impacts of nitrate and phosphate loads on groundwater and surface waters, including transitional and coastal waters.

¹¹ The full title is: “Analysis of further water protection measures to reduce nutrient inputs with the aim of achieving the environmental objectives of the Water Framework Directive in Lower Saxony – Development of an instrument for river basin wide nutrient management in Lower Saxony.”



- Determination of need for action to achieve the objectives of the WFD in surface waters and groundwater, on the basis of the scenario predicted for 2021.
- Identification of the additional need for action arising from rigorous implementation of the basic measures.
- Analysis of the impact of measures to reduce nutrients, and development of an instrument to support the selection of cost-effective measures.
- Compilation of constellations of measures that permit achievement of the management objectives for groundwater and surface waters.

The project findings to date revealed very clearly that considerable reductions in inputs from diffuse agricultural sources are necessary to comply with the management objectives for the bodies of water. A further important finding is the realisation that, assuming the present regulations are maintained, the basic measures alone will not be sufficient to ensure compliance with the management objectives of the WFD by 2021. The model calculations show clearly that a considerable need for further reductions exists even after implementation of the basic measures. The inputs into groundwater and surface waters will decrease, but the objectives will not be achieved without further efforts. It will therefore be essential to establish supplementary measures, e.g. in the form of agri-environmental measures. However, even with full-coverage implementation of agri-environmental measures on all agricultural land it would not be possible to achieve the required reductions. Implementation is limited partly by the size of the land actually available, and partly by the expected framework of costs. As a prerequisite for achieving the objectives of the WFD it is therefore essential to ensure full and rigorous implementation of the basic measures. Present knowledge also indicates that stricter interpretation of the underlying legal instruments will be necessary. Only a combination of basic and supplementary measures will produce a combined effect that is sufficient to achieve the objectives of the WFD.

Quantification of the effects of basic and supplementary measures is subject to considerable uncertainties. The impact of the Fertilisers Ordinance in particular is difficult to represent in models: Firstly, because the Fertilisers Ordinance is currently being revised and it is not yet clear what form it will take and how it will be implemented. Secondly, because in reality it is the individual farm that is responsible for fertiliser application, whereas models can only represent this in much simplified form by reducing excesses.

Further basic measures, such as the draft Lower Saxony Act for the protection and maintenance of permanent pasture, also aim at water body conservation. Sustainable achievement of the objectives of the WFD is not possible without effective contributions by the agricultural sector.

In some parts of Lower Saxony there are considerable problems due to iron clogging and water body acidification, the scale of which is still under estimated, as is their potential for damaging water body biocenoses.



Regional context - Diffuse substance pollution: Nutrients

The advisory service for reducing nutrient inputs into surface waters is currently being implemented on a pilot scale in the Hase, Große Aue and Fuhse/Wietze working areas. The measure type “measures for reducing nutrient inputs due to drainage” is also being offered there. The agri-environmental measure “Green strips for water erosion control and conservation of water bodies” can only be applied for on areas that are classified as having a water erosion potential in risk category Enat 3-5 according to DIN 19078 and included in the regional context “water erosion/green strips” or “water erosion/greening of depth contours” of the Lower Saxony Agency for Mining, Energy and Geology.

In addition, the types of measures specified in Table 9 can be implemented throughout Lower Saxony at water bodies with correspondingly high nutrient levels.

List of measures - Diffuse substance pollution: Nutrients

The following types of measures for reducing nutrient inputs are included in the programme of measures:

Table 9: List of measures for reducing nutrient inputs from diffuse sources

LAWA name for measure
Measures to reduce nutrient inputs by creating riparian strips
Measures to reduce inputs of nutrients and fine material resulting from erosion and run-off in the agricultural sector
Measures to reduce nutrient inputs due to leaching in the agricultural sector
Measures to reduce nutrient inputs due to drainage (only in the context “advice on surface water bodies”)

Priority pollutants

Further pressures on rivers result from inputs of pollutants. Increased pollutant concentrations can lead to acute and chronic toxicity in the aquatic fauna, and to pollutant accumulation in the ecosystems ranging up to total destruction of habitats. An overall treatment of the issue for all surface waters can be found in Chapter 2.3.3.

Miscellaneous anthropogenic pressures

In order to avoid other pollutant pressures resulting from accidents, measures for avoiding accidental inputs are offered for rivers. This type of measure is also intended to cater for the precautionary approach. For example, accidents involving biogas plants or slurry containers have occurred in recent years. The escaping mixtures of fermentation residues and slurry have caused great damage (fish mortality) to water bodies.



Table 10: List of measures for reducing other anthropogenic substance pollution

LAWA name for measure
Measures to avoid accidental inputs

2.3.1.2 Lakes

The inventory update in Lower Saxony has revealed that eutrophication is a significant pressure, especially for Lower Saxony's shallow lakes. The main cause of eutrophication is inputs of phosphorus compounds into the lakes. Owing to the laying of point discharges and following the modernisation of major municipal sewage plants (third purification stage and phosphorus precipitation), diffuse inputs from land areas today account for the greater part of phosphorus loads entering water bodies. Although some diffuse inputs arrive directly from shore areas, the greater part enters lakes via inflowing rivers. There are also deficits in shoreline morphology. Measures to achieve the objectives are therefore needed.

As a rule, successful rehabilitation measures – especially for lakes affected by eutrophication – have to include the entire catchment area of the water body. When planning measures for standing waters it makes sense to divide the lakes into sub-groups based on types, since depending on the type of lake there may be different reasons for failure to achieve good ecological status or good ecological potential, making it necessary to pursue different approaches. The groups distinguished are shallow lakes, gravel pit lakes, reservoirs and special cases (cf. Table 11).



Table 11: Overview of groups of lakes

Shallow lakes Shallow, unstratified lakes with large surface catchment area	Gravel pit lakes Deep, stratified lakes with small surface catchment area	Reservoirs	Special cases
<ul style="list-style-type: none"> • Steinhuder Meer • Dümmer • Zwischenahner Meer • Seeburger See • Großes Meer • Hieve • Balksee • Bederkesaer See • Dahlemer/Halemer See • Flögelner See • Alfsee • Thülsfelder Talsperre • Gartower See 	<ul style="list-style-type: none"> • Salzgitter See • Tankumsee • Großer See bei Northeim • Baggersee Schladen • Koldinger Kiessee 	<ul style="list-style-type: none"> • Okertalsperre • Odertalsperre • Sösetalsperre • Innerstetalsperre • Granetalsperre • Eckertalsperre 	<ul style="list-style-type: none"> • Maschsee • Baggersee Stolzenau • Ewiges Meer

A detailed description of the lakes in conjunction with a systematic list of the necessary measures can be found in the guide “Planning of measures for surface waters – Part B Lakes” (NLWKN 2010). The key issue for the second management planning period is reducing nutrient inputs. The existing morphological deficits are of secondary importance. To ensure broader coverage of this issue, it is planned to undertake an overall classification of the individual lakes on the basis of shore structure for the second management period.

Soundly based planning is necessary for each measure. Experience in the field of lake therapy has shown that as a rule measures only achieve the objectives if there is adequate knowledge of the lake and the processes taking place within it. During the first management period, extensive measures were implemented in the Dümmer catchment area and in the lake itself. This work will be continued (cf. Chapter 4.3.2).

New development guidelines for measures relating to lakes have been included in the new Lower Saxony development programme for the promotion of rural areas (PFEIL – Programm zur Förderung der Entwicklung im ländlichen Raum).

Hydromorphological pressures

Even if the hydromorphological pressures in standing waters are often obscured by the nutrient situation, assessments have revealed such pressures in gravel pit lakes and reservoirs in particular. Adverse structural effects on the natural habitats of flora and fauna due to steep banks, bank obstruction due to shore material deposits and bank reinforcements, and destruction of shoreline vegetation as a result of intensive leisure use



have negative effects on the biological quality components sensitive to these pressures (benthic invertebrates and macrophytes).

Regional context - Hydromorphological pressures

The types of measures listed below relate to lakes classified as artificial or heavily modified.

List of measures - Hydromorphological pressures

The following types of measures for reducing hydromorphological pressures on lakes are included in the programme of measures:

Table 12: List of measures for reducing hydromorphological pressures

LAWA name for measure
Measures to improve the water balance in lakes
Measures to improve the morphology of lakes
Measures to reduce other hydromorphological pressures in lakes

Substance pollution

Point sources

At European level the treatment of municipal wastewater is governed by Council Directive 91/271/EEC of 21 May 1991, "Directive concerning urban wastewater treatment", as amended by Directive 98/15/EC of 27 February 1998. The requirements of the Urban Wastewater Directive largely correspond to the national requirements of Section 57 of the Federal Water Act in conjunction with Annex 1 to the German ordinance on requirements for discharging wastewater into bodies of water (Abwasserverordnung – AbwV) in the version announced on 17 June 2004. This ordinance thus transposes the EU directive into national law.

The Urban Wastewater Directive was implemented in Lower Saxony, supplemented by the Lower Saxony Ordinance on the treatment of municipal wastewater of 28 September 2000 (KomAbwV). In particular, this laid down deadlines for connection of municipalities to the sewage system and requirements for the purification performance of treatment plants. The aim of the EU directive is to protect the environment from adverse effects of municipal wastewater. In the case of sensitive areas, the directive requires more extensive treatment of wastewater. This is intended to largely eliminate the nutrients nitrogen and phosphorus. Lower Saxony discharges its water into the North Sea, and the North Sea with its catchment area satisfies the criteria for sensitive areas within the meaning of the EU directive. In all sewage treatment plants, purification of wastewater must be effected in accordance with the statutory provisions. The provisions of Art. 60 (1) apply to the construction and operation of



wastewater treatment installations. The construction, operation and maintenance of those parts of wastewater installations that have no influence on purification performance is subject to the generally accepted state of the art (Section 60 (1) sentence 2 of the Federal Water Act).

Regional context - Point sources

The only point source in the standing waters sector is currently the input of nutrients and heavy metals into Steinhuder Meer from the surface water discharges of the Steinhude and Großenheidorn districts (town of Wunstorf). These discharges account for a large proportion of the critical phosphate load in Steinhuder Meer.

List of measures - Point sources

The programme of measures includes the following type of measures for wastewater disposal:

Table 13: List of measures to reduce pollution from point sources

LAWA name for measure
Construction and modification of facilities for drainage, treatment and retention of combined water and rainwater

Diffuse inputs

Nutrients

An important criterion for the classification of nutrient content (trophic potential) of standing water is the total phosphorus content of the lake water, since phosphorus is the limiting nutrient for plant growth in natural waters. The impacts of increasing nutrient availability in lakes give rise to algal blooms, for example blue-green algae, which not only have ecological consequences but also cause considerable problems relating to uses. In natural lakes it is currently evident that only standing waters achieve good ecological status. The high diffuse nutrient loads from surface catchment areas are responsible for failure to achieve the objectives in other natural waters and in various lakes classified as artificial or heavily modified. According to assessments based on the LAWA guide values (cf. LAWA 2007), the water quality in these lakes is in the critical or bad ranges as far as phosphorus is concerned (NLWKN 2014b).

Regional context - Diffuse substance pollution: Nutrients

Thanks to rehabilitation of the catchment areas in the interests of drinking water conservation, the reservoirs in the West Harz region all achieve good ecological potential. Measures to reduce diffuse substance inputs are therefore only offered for shallow lakes, gravel pit lakes and the three lakes classified as special cases.



List of measures - Diffuse substance pollution: Nutrients

Measures to reduce nutrients are essential for the Dümmer catchment area in particular. A water body advisory service was therefore put in place at the chamber of agriculture in Osnabrück, which also provides intensive support for the implementation of agricultural measures to avoid increased nutrient inputs. Use of agricultural land is to be extensified in areas subject to special flood risks. In this context, consideration is being given to the possibility of designating riparian strips. There are also plans to create a large reed polder at the Dümmer (cf. Chapter 4.3.2). However, measures to reduce nutrient inputs are also necessary in the catchment areas of many other lakes.

The following types of measures for reducing nutrient inputs into lakes from diffuse sources are included in the programme of measures:

Table 14: List of measures for reducing substance pollution due to nutrients from diffuse sources

LAWA name for measure
Measures to reduce direct nutrient inputs from agriculture
Measures to reduce nutrient inputs by creating riparian strips
Measures to reduce inputs of nutrients and fine material resulting from erosion and run-off in the agricultural sector
Measures to reduce nutrient inputs resulting from drainage
Measures to reduce nutrient inputs due to special requirements in flood areas

Miscellaneous anthropogenic pressures

In a number of artificial lakes, there are also cases of direct disturbance of the natural nutrient network due to fishery uses (leisure fishing, feeding, stocking). This is true of the lakes Tankumsee, Maschsee, Koldinger Kiessee and the gravel pit lake Schladen.

The following types of measures for reducing other anthropogenic pressures on standing waters are included in the programme of measures:

Table 15: List of measures for reducing miscellaneous anthropogenic pressures

LAWA name for measure
Measures to reduce pressures due to fisheries in lakes
Measures to reduce other anthropogenic pressures



2.3.2 Transitional and coastal waters

The findings of the assessment of Lower Saxony's transitional and coastal waters in 2014 show that across the board they fail to achieve good ecological status (coastal waters) or good ecological potential (transitional waters), and good chemical status. From the compilations on the main water management issues in 2013 and the pressures involved, it is also clear that there have been no appreciable changes in the pressure situation for estuaries and coastal waters compared with the first management period. As in the hinterland rivers, the priority fields of action in the second management period will therefore continue to be as follows:

Hydromorphology and substance pollution

The dominant pressure factor in transitional waters is hydromorphological changes, whereas in coastal waters it is nutrient inputs and their consequences. It is also necessary to take account of the effects of shipping, fishing and species that do not occur naturally in Germany (neobiota). Whereas reductions in nutrient and pollutant inputs have to be achieved mainly by means of measures in the hinterland, the structural deficits have to be combated by measures in the transitional and coastal waters. The integrated management plans¹² (IBP) provide a good basis for the planning of measures in the estuaries. The integrated management plans are among the conceptual measures notified in 2009 in Lower Saxony's first programme of measures. These plans, drawn up in a complex participatory inter-state process, already exist for the Elbe and Weser estuaries (Elbe estuary working group 2011; Weser working group 2012), and a corresponding plan for the Ems estuary is in preparation. The plans provide measures for implementing Natura 2000 and the WFD that cater not only for ecological, but also for economic, social and cultural demands on the area.

A crucial factor for the effective management of an estuary is that it is seen as an overall system crossing the borders of water body types and water bodies and is treated as such. However, we only have a limited understanding of the complex processes in the estuary; as a result there are limits to the extent to which it is possible to predict the effects of major measures interfering with the central processes. When implementing major system relevant measures in estuaries it is therefore advisable to proceed on a gradual, step-by-step basis as an iterative process supported by soundly-based monitoring of the individual measures (cf. also the TIDE project, e.g. here Roadmap Weser, Hürter et al. 2013).

Moreover, major measures in tidal zones are usually complex and technically demanding. Particularly in estuaries, various uses occur in parallel. These have to be taken into account and in some cases coordinated and integrated in a lengthy process; it is also necessary to cater today for the long term impacts of climate change and rising sea levels.

Against this background, it is necessary to plan adequate periods for development, testing and implementation of measures in the estuaries, and particularly for comprehensive, system relevant measures. One example of this demanding and lengthy process of efforts to improve the status of an estuary with excessive domination of anthropogenic factors is the

¹² http://www.nlwkn.niedersachsen.de/naturschutz/natura_2000/integrierte_bewirtschaftungsplaene_aestuarium/integrierte-bewirtschaftungsplaene-fuer-die-aestuarium-von-elbe-weser-und-ems-45640.html



Ems Master Plan 2050. The Ems master plan, for which a statement of intent was signed on 16 June 2014, was agreed between the parties (Lower Saxony government, Federal Waterways and Shipping Directorate, municipalities, environmental associations, maritime industry) at the beginning of 2015 and will run for 35 years.

Important basic technical and methodological aspects for the development and implementation of measures have been elaborated in recent years under EU projects such as ComCoast and TIDE (North Sea Region Programme 2009; Ahlhorn et al. 2010; TIDE 2014). These international projects bring together the knowledge and experience of numerous participating countries and institutions. Focal points include understanding of the system, monitoring, ecosystem services, strategies for including rising sea levels in plans, the design of integrating plans and participatory processes, development and evaluation of measures, examples of measures. In-depth studies, practical documentation and tools relating to these and other subjects that are useful for management of the major estuaries are made available in the TIDE Toolbox as products of the TIDE project (www.tide-project.eu).

Expanding the database, improving the assessment instruments (also as part of European intercalibration) and improving the knowledge situation, for example through studies and extended control examinations, remain important strategic objectives in the programme of measures in the second management period, just as in the first.

Hydromorphology

Hydromorphological changes have far-reaching impacts on the entire coastal area (FGG Ems 2013). In the estuaries, and especially in the inner sections of limnic-dominated flowing waters and transitional waters, hydromorphological changes represent a significant pressure. The most important strategic objective for the programme of measures for transitional waters is therefore the concrete design of suitable measures for reducing these pressures in the estuary. The fundamental requirement for this is a comprehensive understanding of the estuarine system.

In this connection the creation and/or further development of integrated river engineering and sediment management concepts for the estuaries of the Elbe, Weser and Ems by the Federal Waterways and Shipping Directorate is regarded as an important step. First individual measures on a limited scale, e.g. as trial and development projects, could help to accumulate experience, improve understanding of the system and develop forecasting instruments. For example, the Ems Master Plan 2050 mentioned above has a pilot function here (cf. Chapter 4.3.2).

The cooperation between federal and state authorities must be continued and deepened.

The following measures for the pressure type “discharge regulation/hydromorphology” are included in the Lower Saxony contribution to the programmes of measures for the river basins (cf. Table 16).



Table 16: List of measures for improving the hydromorphology of transitional waters in Lower Saxony

LAWA name for measure
Measures to reduce pressures resulting from tidal barriers/weirs in coastal and transitional waters
Measures to establish/improve linear continuity in weirs/barrages, cascades, conduits and other hydraulic structures in accordance with DIN 4048 and/or 19700 Part 13
Measures to initiate/permit inherent dynamic development, including support measures
Measures to vitalise the water within the existing profile
Measures to improve habitats in water bodies through changes in watercourse or bank or bed design
Habitat improvement measures in bank areas
Measures to develop water meadows and improve habitats
Connection of side waters, old branches (cross linking)
Measures to reduce pressures resulting from structures for navigation, ports, shipyards, marinas in coastal and transitional waters
Measures to reduce pressures resulting from bed load/sediment removal in coastal and transitional waters

Substance pollution

All Lower Saxony's transitional and coastal water bodies are affected by nutrient and pollutant inputs. An overall treatment of pollutant inputs for all surface waters can be found in Chapter 2.3.3. Where deposits of polluted sediments still exist on the bed of water bodies as a result of past inputs of pollutants – examples in transitional and coastal waters include port areas or side arms – these are to be dealt with under the existing provisions for handling excavated material (e.g. "Transitional provisions for handling excavated material in coastal waters" (GÜBAK; BfG 2009). In so far as is technically advisable and possible, the polluted sediments should be disposed of as part of a comprehensive sediment management programme.

Diffuse inputs

Nutrients

In coastal waters, nutrient inputs are the dominant pressure factor. Continuing and intensifying efforts in the hinterland catchment areas, especially to reduce diffuse inputs from the agricultural sector into groundwater and rivers, is regarded as a prerequisite for improving the ecological status of coastal waters. In particular, changes in the Fertilisers



Ordinance could be expected to have favourable effects on the water bodies. Regarding the strategies and concepts for the hinterland, the reader is referred to Chapter 4.3.2. To update the management plans and programmes of measures, a concept was therefore drawn up which links the reduction requirement for nitrogen to the target value for land based inputs at the transition from limnic to marine. A target value of 2.8 mg/l total nitrogen for all rivers flowing into the German North Sea can make a significant contribution to achieving the management objectives for coastal waters in the medium to long term (BLMP 2011). The target values can only be achieved by means of measures that cover the entire river basin district (coastal, traditional and in particular hinterland waters including their catchment areas). For this reason, transferring the marine ecology objectives to the hinterland requires close technical cooperation between all responsible bodies.

In this connection, LAWA has drawn up a recommendation for transferring marine ecology reduction targets to the hinterland. In transferring the above-mentioned target value of 2.8 mg/l total nitrogen to the hinterland, it takes account of the processes taking place in the water body system (substance conversion, retention and loss processes) and nutrient retention in water bodies. For Lower Saxony this also results in a target value of 2.8 mg/l for the total nitrogen concentration in hinterland waters (LAWA 2014b). Target-oriented measures therefore need to be implemented in the hinterland in particular.

Further non-negligible inputs of nutrients into the inner German Bight, and hence into coastal waters, take place via the atmosphere (also due to shipping to a significant extent) and as a result of marine currents. It is important here to make rigorous efforts to continue reducing inputs from other river basin districts and from the atmosphere, for example in the context of European cooperation or worldwide organisations such as the International Maritime Organization.

Miscellaneous anthropogenic pressures

Precautionary initiatives to reduce the risk of accidental inputs of pollutants will also be continued in the second management period as part of the work on the joint federal and state concept on pollutant accident control (especially in conjunction with the Shipping Accident Command). Here the focus is currently on further development of the concept for dealing with accidents involving the release of chemical substances, and developing a concept for investigating major pollutant accidents.

An overview of the types of measures for miscellaneous anthropogenic pressures in transitional and coastal waters in the second management cycle can be found in Table 17.

Table 17: List of measures for reducing miscellaneous anthropogenic pressures

LAWA name for measure
Measures to avoid accidental inputs



2.3.3 Priority pollutants in surface waters

The Lower Saxony contribution to the river basin management plans 2015 to 2021 states that all surface waters fall short of good chemical status because of the widespread infringement of the environmental quality standard for mercury in biota (fish). The reasons for this pollution are many and varied, and result from both present-day and historical sources. Mercury is highly mobile.

LAWA recommends the following steps for implementing measures:

1) Need for investigation

In view of the data available for the whole of Germany on investigations into mercury contamination of fish, there is reason to expect widespread infringement of the environmental quality standards for biota. The chemical status in Germany is therefore classified nationwide as “not good”. However, further studies and the establishment of uniform investigation guidelines (species and age of fish) are necessary at EU level to validate existing measurements and identify trends.

In many cases mercury sources, locations, transport and trends are often not fully clarified. This applies, for example, to accumulations in barrage sediments, erosion or releases from drainage systems. Such sources should be followed up by monitoring for identification purposes. This monitoring should focus on areas with unusually heavy pollution, because it is here that ecological damage is most likely.

2) Emission reduction measures

The “Minamata Convention¹³” sets out to curb worldwide mercury emissions and thereby reduce global atmospheric transport and deposition of mercury. In Europe the production of electricity from lignite and hard coal is currently the most important source of emissions; since improved and more far-reaching reduction technologies are undergoing tests and are to some extent already available, it is important to ensure at European level that these new findings are taken into account when describing the best available technologies. Furthermore, national efforts are being made to minimise mercury inputs from point sources and diffuse sources.

3) Objectives for the parameter mercury

In view of its long residence time in the environment and the possibility of long-distance transport, it has to be assumed on present knowledge that for a ubiquitous and non-degradable element like mercury, compliance with the environmental quality standards in biota will – if at all – only be possible in the long term, despite considerable minimisation efforts and even given extensive discontinuation of the substance inputs. An extension of the deadline for compliance with the environmental quality standards for mercury until 2021 opens up the possibility of recording the effects of the Minamata Convention and the

¹³ In October 2013 a conference to sign the United Nations Convention on Mercury was held at Minamata in Japan – the “Minamata Convention”. The aim of the Minamata Convention is to curb worldwide mercury emissions. By doing so, it serves to protect human health and the environment wherever direct emissions of mercury occur, and also wherever it is transported.
<http://www.bmub.bund.de/themen/gesundheit-chemikalien/gesundheit-und-umwelt/die-quecksilber-konvention-der-ver-einten-nationen/>



results of national efforts to reduce mercury inputs from point and diffuse sources, and through targeted sediment management.

For this reason, LAWA has declared itself in favour of harmonised use of deadline extensions with regard to the existing widespread mercury pollution.

On the basis of the studies described under 1) and the monitoring results then available, a decision can be taken on whether it is possible to set less stringent management objectives for the third management cycle for river basin districts, or for management units within them, and achieve compliance with them by 2027.

In addition to mercury, the latest assessment findings in accordance with the Surface Waters Ordinance in conjunction with the changes pursuant to directive 2013/39/EU also indicate infringements for substances from various substance groups. The relevant basis is the investigations at 140 measuring stations during the period 2010 to 2013.

Table 18: Overview of substances for which measurements revealed non-compliance

Substance (substance group)	Number of non-compliant measuring stations
Tributyl tin (other substances)	44 measuring stations
Benzo(a)pyrene (other substances)	31 measuring stations
Fluoranthene (other substances)	29 measuring stations
Benzo(ghi)pyrene (other substances)	21 measuring stations
Benzo(b)fluoranthene (other substances)	11 measuring stations
Cadmium (heavy metals)	6 measuring stations
Hexachlorobenzene (other substances)	5 measuring stations
Benzo(k)fluoranthene (other substances)	4 measuring stations
Isoproturon (pesticides)	2 measuring stations
Total hexachlorocyclohexane (pesticides)	1 measuring point

The NLWKN guide to “Planning of measures for surface waters¹⁴ Part C Chemicals” provides information about all 33 priority substances and substance groups (37 substances) listed in Annex 7 to the Surface Waters Ordinance, including their properties and use, information on possible input paths, and a list of suggested supplementary measures that can be used to achieve good chemical status (NLWKN 2012a).

The prioritisation of measures in Lower Saxony from a chemical point of view is described below. The problem substances mentioned above have one thing in common: The input substances are mainly of a diffuse character. From a technical and economic point of view it does not therefore make sense to perform relevant investigations to identify the main input paths at all measuring points in water bodies that fail to comply with the quality standards,

¹⁴ The guides in the series “Planning of measures for surface waters” can be found as background documents on the NLWKN's Water Framework Directive website (www.nlwkn.niedersachsen.de).



and to take specific measures. Since – with the exception of cadmium – the situation in the individual river basins in Lower Saxony is roughly similar or comparable, it is proposed to set priorities and to perform appropriate model investigations and implement measures in selected regions. The resulting findings can then be applied state wide on a targeted basis.

To find out more about inputs of priority substances from point sources with the aim of closing the latter, further studies, especially at sewage plants, are planned for completion by 2018 (cf. Chapter 2.5 of the Lower Saxony contribution to the management plans 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins). The necessary studies have been included in the Lower Saxony contribution to the programmes of measures for the river basins as measures to reduce pollution from other diffuse sources and also as conceptual measures.

The following type of measure is being offered to reduce pollutant loads:

Table 19: List of measures for reducing pollutants from diffuse sources

LAWA name for measure
Measures to reduce pressures from other diffuse sources

Following is a brief outline of the individual problem substances in Lower Saxony; more detailed information, including about possible measures to be taken, can be found in the NLWKN Chemicals guide.

Cadmium (substance group: heavy metals)

Brief description of substance

Cadmium is a toxic, bioaccumulating heavy metal, which is classified as a priority hazardous substance in Annex X to the WFD and in the Surface Waters Ordinance (Annex 7). The use of cadmium is restricted by national and international rules and laws. It is currently used for batteries and accumulators, pigments, catalysts, solar cells and in the glass industry.

Main input paths

The main factors responsible for the high cadmium content of a number of water bodies in the Harz are physical weathering (mechanical breakdown of polluted sediment) and chemical weathering (solution processes) of contaminated sites due to historical mining activities, foundries and the chemical/metallurgical industry, which in some cases go back several centuries.

Measures

The catchment area of the Oker, Innerste and Ilse is historically dominated by mining and foundry activities in and around the Harz region. The residues of the mining industry have considerably influenced the landscape, soils, vegetation and water bodies in the catchment



area and have resulted in long-lasting pollution with heavy metals. According to a report by the Goslar rural district council, there are some 350 known tips and historical mining sites which need to be investigated and, where appropriate, rehabilitated as part of the work on contaminated sites (Landkreis Goslar 2007). In addition to these clearly defined or suspected contaminated sites, almost all topsoils in the rural district are contaminated with heavy metals, arsenic and antimony. The pollutant retention function of the soil at the contaminated sites is so badly affected that the seepage water contaminated with arsenic and heavy metals finds its way into surface waters via the near-surface groundwater. Furthermore, contaminated tip material is transported into rivers and streams as a result of erosion. To reduce these significant pressures, measures are offered for reducing point source substance inputs from former mining activities (cf. Table 20).

Table 20: List of measures to reduce point-source inputs of substances from the mining sector

LAWA name for measure
Measures to reduce point-source inputs of substances from the mining sector

The Federal Water Act permits deadline extensions and divergent management objectives if water bodies are so influenced by natural circumstances or so adversely affected by human activities that achievement of the normative requirements for the description “good status” is impossible or would involve unreasonably high costs. In such cases it is possible to set less stringent objectives for water bodies than are laid down in the normative provisions. The deadline extensions and divergent management objectives are linked to the ban on deterioration and the requirement to take action to achieve the best possible ecological and chemical status (cf. Lower Saxony contribution to the management plans 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins).

The following procedure is suggested for setting divergent management objectives within the meaning of Section 30 of the Federal Water Act, on the lines of the contaminated site remediation strategy of the Goslar rural district under the Soil Protection Ordinance: The catchment area affected is designated as a special area with basic contamination typical of the Harz that is due to historical mining activities (water management area, Goslar rural district) (Landkreis Goslar 2007). The present key pollution sites and the resulting present-day pollution levels are to be determined by monitoring. The present basic pollution is due to ongoing erosion of sediments and to diffuse and point-source inputs of seepage water. On the basis of the results it will be possible to identify input paths that can be cut off to reduce heavy-metal inputs at reasonable cost and with reasonable prospects of success. This can be used as a basis for ascertaining area-specific “natural” background values for the water bodies that take account of historical mining activities and the typical Harz situation and are to be achieved within a defined period. Making the maximum possible reductions in existing input paths will result in a pollution level made up of total ongoing sediment erosion (mechanical, comminution and re-mobilisation) since historical times, plus inevitable diffuse



inputs. The basic pollution levels are to be determined by means of a monitoring system. The monitoring findings are to be taken as a basis for estimating the extent to which the pollution can be reduced by remediation measures. This can serve as a basis for ascertaining area-specific “natural” background values for the water bodies that take account of historical mining activities and the typical Harz situation and are to be achieved within a defined period. It is important to weigh up in the individual case whether remediation measures are possible and can be implemented at reasonable cost.

The most effective measures for reducing heavy metal pollution in the catchment area of the Oker, Innerste and Ilse can be derived from the soil protection legislation:

- Federal Soil Protection Act (Bundes-Bodenschutzgesetz) of 17.03.1998,
- Lower Saxony Soil Protection Act (Niedersächsisches Bodenschutzgesetz) of 19.02.1999, and the
- Federal Soil Protection and Contaminated Sites Ordinance (Bundes-Bodenschutz- und Altlastenverordnung) of 12.07.1999.

In the period 2011 to 2014, the NLWKN commissioned a pilot project for the Oker, Oder, Sieber, Söse and Innerste water bodies in the Western Harz region to determine the natural background concentrations for the parameters cadmium and lead, since the status assessments for the first management plan showed that both the Oker and Innerste displayed high concentrations of these substances (C & E Consulting and Engineering GmbH 2014). To obtain additional information about current qualitative and quantitative representation of the spectrum of elements in the water bodies, the study included not only cadmium and lead, but also other metals such as arsenic, iron or uranium.

The project analysed the natural causes of the substance levels in the Western Harz, determined the anthropogenic factors (e.g. mining sites, contaminated sites, industry, trade, transport) and took account of atmospheric inputs.

For the study of the water bodies it was necessary to locate measuring stations that were not affected by anthropogenic factors, in other words measuring stations on the unaffected upper reaches and source areas of the rivers, which flow through a region of the Western Harz where mining for silver, copper, lead and zinc ores has been practised for centuries. Elements associated with these ores are cadmium, arsenic, antimony and iron.

First of all the existing data were analysed and supplemented by a search of the literature. In addition, a supplementary measuring network was established and tested. This resulted in determination of the background concentrations for each of the 46 water bodies of the five rivers, and derivation of the background concentrations for the water body groups Oker, Oder, Sieber, Söse and Innerste. In the case of cadmium, for example, this is between 0.07 and 0.28 µg/l in the dissolved phase (environmental quality standard = 0.08 µg/l as annual average), and in the case of lead between 2.7 and 14.9 µg/l in the dissolved phase (environmental quality standard = 7.2 µg/l as annual average). The background figures for the metals were also determined for suspended solids/sediments and for the total phase.



Polycyclic aromatic hydrocarbons (substance group: other substances)

Brief description of substance

The substance group of polycyclic aromatic hydrocarbons (PAH) comprises several hundred individual compounds. This is a heterogeneous group from both a toxicological and ecotoxicological point of view. Benzo(a)pyrene is regarded as the lead substance or criterion for carcinogenic environmental pollution by the entire PAH substance group. Other PAH substances are benzo(ghi)perylene, benzo(b)fluoranthene or fluoranthene

Main input paths

Polycyclic aromatic hydrocarbons are mainly formed in two ways:

- by the decomposition of organic hydrocarbon material to fossil fuels such as oil and coal,
- by incomplete combustion of organic material.

Under natural conditions, PAHs are emitted into the atmosphere from forest fires, for example. Depending on their origin, coal and crude oil contain a proportion of PAH. The products made from them, e.g. tars and tar oils, contain PAHs.

The principal anthropogenic sources are inputs from household combustion, industrial plants (e.g. primary aluminium production, electrode production, coke ovens, electric steel plants, industrial combustion, graphite) and transport (fuel combustion and tyre abrasion). Shipping may also contribute to PAH emissions into the atmosphere, at least on a local scale. During turnaround times in ports, auxiliary diesel engines are used for loading operations or for temporary services.

In the air, PAHs mainly occur attached to particles, e.g. particulates, fine particulates, soot or pollen. Highly volatile PAHs such as fluoranthene mainly occur in the atmosphere in gaseous form.

Inputs into water bodies take place primarily via atmospheric paths as a result of dry and wet deposition. PAHs are mostly input on a diffuse basis as a result of surface inflows and through discharges of purified wastewater from sewage plants, but also in individual cases via direct discharge. Examples of other sources include shipping (exhaust gases, oil spills, ships paints) or the use of impregnated timber in locks, ports, bridges and the occurrence of bank reinforcements containing tar. Transport of PAHs within water bodies usually takes place on solids (adsorbed on suspended solids and sediments).

PAH pollution in suspended solids is a direct cause of PAH pollution in the entire water phase. Unlike heavy metals, for which the studies have to be performed in the dissolved water phase, organic substances, which also include PAHs, require investigation of the total water sample, including the suspended solids it contains.

A relatively large number of the measuring points showing non-compliance with the quality standards in the water phase are situated in tidal zones. These areas usually display a naturally elevated concentration of suspended solids. Studies by the NLWKN have revealed that at such locations, ubiquitous PAH pollution in suspended solids tends to result in



infringements of the quality standards in the entire water sample examined, more than at measuring points with low concentrations of suspended solids (Leuphana Universität Lüneburg & NLWKN 2010).

Measures

The approach to emission reduction aimed at achieving a decrease in pollution due to atmospheric deposition in all environmental compartments is to reduce PAH emissions and particulate emissions in the air. For this reason it is not possible to specify any concrete water management measures here.

Tributyl tin (substance group: other substances)

Brief description of substance

Tributyl tin compounds are highly toxic, bioaccumulating, have endocrine (hormone-like) effects even at very low concentrations, and also biocidal effects. Furthermore, tributyl tin in water sediments is only degraded very slowly. As a result of these properties, tributyl tin compounds are classified as priority hazardous substances.

In the past, tributyl tin was used mainly in antifouling paints for ships. However, since 2003 its use on ships has no longer been permitted in the EU, and since 2008 ships have no longer been allowed to have paints containing organic tin.

Main input paths

Elevated levels of tributyl tin were found at 44 out of 140 measuring stations investigated, including in the Steinhuder Meer. Existing studies indicate that the main input path in the Steinhuder Meer is the numerous boats for which antifouling paints containing tributyl tin have been used in the past. The tributyl tin was released into the water as a result of leaching effects, and accumulated in the sediment of the Steinhuder Meer. Since tributyl tin is very slow to degrade, this is probably a case of “legacy contamination”.

It would first be necessary to verify whether the elevated tributyl tin concentrations in the water, especially in tidal zones, are due in some cases to increased concentrations of suspended solids. Unlike heavy metals, for which the studies have to be performed in the dissolved water phase, organic substances, which also include tributyl tin, require investigation of the total water sample, including the suspended solids it contains. Depending on these findings, it may be necessary to perform further investigations to determine and balance not only concentrations, but also loads from water bodies further upstream and point-source discharges (municipal sewage plants).

Measures

Since there is already a basic measure in the form of a ban on organotin compounds on ships, the following supplementary measures can be considered:

- Monitoring of tributyl tin ban for antifouling paints on ships,



- Reduction of emissions by shipyards and boat service points, and
- Removal and remediation of highly polluted sediments.

With regard to point-source emissions, it would first be necessary to lay down requirements for wastewater treatment in municipal sewage plants and other relevant purification systems.

Hexachlorobenzene (substance group: other substances)

Brief description of substance

Hexachlorobenzene is a toxic and bioaccumulating substance. Its production in Germany was discontinued in 1993. Its use is prohibited throughout Europe. The substance is very stable from a chemical point of view, and therefore hardly degradable.

Main input paths

Despite the ban on its use, hexachlorobenzene is occasionally detected in the water bodies. Hexachlorobenzene continues to be formed as an unintentional by-product and waste product, for example in the production of basic organic chemicals in the metal industry or combustion plants. The substance also continued to be used as a fungicide until the 1970s. The input paths into the environment lead through the atmosphere (followed by dry and wet deposition), wastewater and sewage systems, and the soil (old landfill sites, soils affected by former crop protection applications, use of crop protection agents contaminated with hexachlorobenzene).

Measures

Since the use of hexachlorobenzene is already prohibited, it is necessary to modify production processes in the relevant industries. The introduction of state-of-the-art technical measures is a prerequisite for reducing emissions, especially those resulting from incineration of household and industrial waste. Where non-compliance is due to point-source inputs, there is a need to check and adapt wastewater treatment systems. Remediation of legacy contamination is essential.

Isoproturon (substance group: crop protection agents)

Brief description of substance

Isoproturon is an active ingredient of used in crop protection agents. This is a phenyl urea herbicide that is used as a selective preparatory and follow-up herbicide. The herbicide is taken up through roots and leaves. Isoproturon is used for preference against weed grasses and annual weeds in crops of winter wheat, winter barley, rye and summer wheat.

According to the Federal Office of Consumer Protection and Food Safety, there are currently (August 2014) ten products containing isoproturon approved in Germany, including six



combination preparations that also contain other active ingredients. Section 15 (2) of the Crop Protection Act (Pflanzenschutzgesetz - PflSchG) imposes certain restrictions on the use of isoproturon in Germany.

Main input paths

Pollution of surface waters with isoproturon can result from the production sector and also from agricultural activities. In Lower Saxony there is currently only one plant that produces isoproturon and develops, creates, fills and distributes preparations. It is not clear whether these production processes can give rise to inputs into the aquatic environment.

Agricultural use of the herbicide is probably the main source of isoproturon inputs in Lower Saxony. Diffuse emission sources, point source emissions and emissions into the atmosphere are probable input pathways into surface waters.

Diffuse emissions result from atmospheric deposition, inputs from near-surface groundwater, and leaching, erosion and drainage following shortly after herbicide application. Point-source emissions may be due to run-off from sealed farmyard areas if these are used for cleaning spraying equipment and disposing of residual quantities of spray products, with the result that inputs into surface waters take place via outflows of wastewater or rainwater.

The application of finely distributed sprays is hardly possible without emissions into the atmosphere. The resulting inputs into water bodies can vary depending on the properties of the spraying equipment and as a function of the temperature and wind situation.

To reduce this significant pollution, measures are offered to reduce inputs of crop protection agents from the agricultural sector (cf. Table 21).

Table 21: List of measures for reducing inputs of crop protection agents from the agricultural sector

LAWA name for measure
Measures to reduce inputs of crop protection agents from the agricultural sector

Measures

Commission Directive 2002/18/EC of 22 February 2002 amending Annex I to Directive 91/414/EEC concerning the placing of plant protection products on the market includes the introduction of the active ingredient isoproturon. The longest approval for products containing isoproturon runs out at the end of 2021.

Since the approval of isoproturon as an active ingredient in crop protection agents has several years to run and this herbicide is also used in considerable quantities, the provisions of Section 15 (2) of the Crop Protection Act for the application of crop protection agents containing the active ingredient isoproturon are of great importance. These application provisions, such as the time limits on application, are to be strictly complied with.

Operational monitoring is a possible means of identifying the origin of the pollution at defined measuring stations. This is to be done by using a relatively fine spatial and temporal grid to determine the individual situation regarding pollution with isoproturon in the working area, in



order to narrow down the input sources. If concrete input sources can be determined in this way, efforts can also be made to close the input source or take targeted measures to reduce the inputs.

Further improvements in the pollution situation are also possible by rigorous application of good professional practice in the field of crop protection. Information and training measures are to be used to make farmers more aware of water conservation issues.

During the first management period, pesticide studies were performed in the Fuhse and revealed infringements of the environmental quality standard for isoproturon. In 2012 agreement was reached between the Chamber of Agriculture (Crop Protection Office) in Hanover and the NLWKN on implementing suitable measures with the aim of reducing pesticide pollution of the Fuhse and its tributaries and thereby improving the quality of the water bodies (cf. Chapter 4.3.2.1).

For these substances, the programme of measures for the first management period includes mainly conceptual measures, because emission-oriented regulations for all substances must be regarded as exhausted from a water management point of view. Where appropriate, these may be supported by individual substance-related measures.

Hexachlorocyclohexane (substance group: crop protection agents)

Brief description of substance

Hexachlorocyclohexane is better known as Lindan. Lindan is an insecticide for which the European Commission withdrew approval as a crop protection agent in 2000. Lindan is very stable and mobile.

Main input paths

Lindan is no longer produced or used in Germany. There is a downward trend in inputs. The downward trend is confirmed by the existing findings. The main sources are inputs from sewage plants and via atmospheric deposition

Measures

The bans on use and the non-approval of Lindan in crop protection agents and biocides are the most far-reaching measures for reducing emissions of Lindan.

2.3.4 Pharmaceuticals in surface waters in Lower Saxony

Whereas under the WFD investigations relating to the substance groups of heavy metals, pesticides, industrial chemicals and “other substances” (such as tributyl tin) are obligatory and the results are required to be assessed, pharmaceuticals have so far been excluded or not regulated by binding statutory environmental quality standards. Directive 2013/39/EU merely mentions a number of substances, such as Dichlofenac, for which empirical data are first to be collected and compiled throughout Europe (“observation list”). As things stand at



present, Annex 6 to the new Surface Waters Ordinance which is due to enter into force during 2015 (river basin specific pollutants with national environmental quality standard) will not include any pharmaceuticals either.

As long ago as 2005/2006 the NLWKN undertook the first exploratory studies on pharmaceuticals. These were intensified in 2010/2011, when a state wide total of 150 measuring stations were investigated for the presence of the (“indicator”) pharmaceuticals Dichlofenac, Carbamazepin and Sulfamethoxazol (NLWKN 2013).

A proposal by the European Commission on 31.01.2012 envisaged an environmental quality standard of 0.1 µg/l (annual average) for Dichlofenac, or 0.01 µg/l in transitional and coastal waters. It was found that these environmental quality standard proposals were exceeded at 26% of the measuring stations investigated. An environmental quality standard of 0.05 µg/l for Dichlofenac is currently being discussed at European level. On this basis, 59% of the 140 measuring points investigated throughout Lower Saxony could be expected to show infringements of the environmental quality standard. In 2011 exploratory investigations were also performed throughout the state to detect the hormones 17-alpha-ethinyloestradiol (synthetic hormone used as medication) and 17-beta-oestradiol (natural hormone), but the results did not reveal anything unusual (all below the detection limit) (NLWKN 2012).

It is known that (human) pharmaceuticals tend to be input via municipal sewage plants. This was confirmed by the findings: Water body measuring stations exposed to the influence of large municipal sewage plants and with a relatively low water discharge displayed especially frequent infringements.

It is thus foreseeable that in future, if it is regulated by environmental quality standards, the pharmaceuticals substance group will prove to be very problematical for surface waters.

In view of this, a working group lead-managed by the Lower Saxony Ministry of the Environment, Energy and Climate Protection was set up in 2014 to prepare and publish a report on “Findings of the interdepartmental working group on pharmaceuticals in soils and water bodies”. Also represented on the working group in addition to the Lower Saxony Ministry of the Environment, Energy and Climate Protection are the Lower Saxony Ministry of Food, Agriculture and Consumer Protection, the Lower Saxony Ministry of Social Affairs, Health and Gender Equality, and – as well as the NLWKN – other technical authorities, namely the Lower Saxony Agency for Mining, Energy and Geology, the Lower Saxony health authority and the Water Association of Bremen, Lower Saxony and Saxony-Anhalt. Major components of this report will be the sections on “initial situation and need for action” and “precautionary measures and measures for reducing inputs of foreign material”. As far as surface waters are concerned, the report will, in addition to the findings mentioned above, include other research and study projects regarded as necessary to close existing knowledge gaps. For example, this also includes systematic investigation of municipal sewage plants in Lower Saxony for selected human pharmaceuticals and an increased focus on “veterinary drugs”. An important element of the report is the development of reduction strategies that seek to attack the problem at source. For example, efforts should be made to reduce pharmaceutical loads carried to the sewage plants in wastewater and increase the development and use of eco-friendly pharmaceuticals that are more readily biodegradable and have unproblematical metabolites.



In addition, the report naturally addresses the fourth purification stage, the relevant legal requirements, and any means necessary for treating wastewater to eliminate pharmaceuticals as far as possible. Possibilities currently under discussion for the fourth purification stage are wastewater treatment with highly oxidising agents such as ozone or, more recently, hydroxyl ions, and the use of activated charcoal. It should however be noted that strong oxidation can give rise to problematical metabolites, and that the use of activated charcoal will not permit full purification, depending on the chemical/physical properties of a pharmaceutical (for example its adsorption/accumulation properties). From the point of view of sustainable water conservation, consideration could be given to purification by means of “nanofiltration”, which filters out macromolecular compounds which also include medicinal products. However, the nanofiltration method is still under development, and is technically very demanding and therefore comparatively cost intensive.

2.4 Groundwater

Pollution with nitrates and pesticides is among the most important water management issues in Lower Saxony. The inventory update and assessment document the fact that diffuse pollution of groundwater with nitrogen is the main factor responsible for failure to achieve the management objectives. In some groundwater bodies, pesticides detected in the groundwater also contribute to bad chemical status. In addition, various groundwater bodies have high cadmium concentrations, making it impossible to comply with the requirement for good chemical status.

Good quantitative status is assured in all groundwater bodies. For this reason there is currently no need for separate inclusion of relevant measures in the programme of measures. The Federal Water Act and the Lower Saxony Water Act ensure that avoidable adverse effects are prevented in the course of authorisation procedures. For precautionary reasons, however, pilot projects designed to improve understanding of the system are planned for the four groundwater bodies for which the risk assessment for 2021 revealed an unclear or endangered situation.

A method consisting of several modules was developed to reduce nitrate pollution in groundwater. In addition to the implementation of the Nitrates Directive through the Fertilisers Ordinance and the optimisation of other regulatory instruments, this also includes a range of voluntary measures for expanding and improving water-conserving land management and our understanding of the system for substance conversion and transport processes.

It has become evident that in view of the lengthy nature of the processes, there is a need not only for classic input monitoring, in other words measuring concentrations in the groundwater, but also for creating a model to estimate substance inputs at the groundwater surface (emission) in order to establish measures and regional settings on a targeted basis. The models used, which primarily provide information on substance inputs and expected concentrations in the groundwater on the basis of agricultural structure data and knowledge of the geology and the water balance, represent the latest state of research. They nevertheless need to be further developed in various fields to bring the calculations closer to the real situation and thereby ensure greater acceptance of the necessary planning tool by



the parties involved. In those groundwater bodies that fail to reach good chemical status, the models are used to identify the subdivisions responsible for such failure, in order to limit the scale of the measures to what is absolutely necessary. To ensure widespread achievement of good chemical status in the groundwater bodies, measures are planned for those groundwater bodies that have a bad chemical status. It should be stressed here that Lower Saxony continues to give high priority to conserving drinking water and ensuring good results in the non-polluted groundwater bodies, and that the tried and tested cooperation models will be retained (cf. Chapter 4.3.3).

The Lower Saxony approach is characterised by the use of four elements:

The first element is the regulatory provisions, which form the basic module. In addition to the implementation of the Fertilisers Ordinance mentioned above, these include the Water Conservation Area Protection Provisions Ordinance (SchuVO) of 29.05.2013, the Ordinance concerning the notification of farmyard manure of 01.06.2012, and the “Autumn Decree” of 03.07.2013, which specifies the requirements for possible autumn fertiliser application on the basis of the Fertilisers Ordinance.

The second element is a range of agri-environmental measures based on voluntary action by farmers. Experience gained from the cooperation model for drinking water conservation has shown that this strategic approach has proved its value and has received a very positive acceptance in the agricultural sector. The measure “groundwater-conserving land management” under the programme for promoting rural areas in Lower Saxony and Bremen in 2007 to 2013 (PROFIL) created the first module for the implementation of the WFD. Under the redesigned development programme for promoting rural areas in the EU promotion period 2014-2020 (PFEIL), measures will continue to be offered for groundwater-conserving land management (Part II, Sustainable production methods on arable land).

As a third element, the water conservation advisory service originally offered only in drinking water catchment areas will be implemented in adapted form in the regional context according to the WFD. The aim of this advisory service is efficient use of nutrients from farmyard manure and/or mineral fertilisers to reduce nutrient inputs from agriculture without restricting productivity.

The fourth element is progress monitoring, which not only observes the degree of implementation of the measures described above, but also uses measurements and analytical calculations to determine their effectiveness. Among other things, this progress monitoring forms the basis for ongoing optimisation of the individual components of the programme of measures.

In the case of pesticide findings exceeding the prescribed quality standard for the active ingredients currently approved, a two-pronged approach will be adopted in the relevant groundwater bodies during the second management period. Not only the statutory route of tested approval will be pursued, but also the regional approach specific to the individual case of developing and implementing actions in the field (cf. Chapter 4.3.3). As a rule, finds of active ingredients no longer in use today will be ascribed to long flow times in the groundwater. In such cases, special measures would be out of proportion.



In some groundwater bodies the environmental objective is not achieved because the parameter cadmium exceeds the threshold values. Here the first key element in the strategy will be in-depth studies of the regional input pathways.

It is clear from the experience gained in the cooperation model for drinking water protection in Lower Saxony and in the advisory service provided since 2010 in the WFD context that educational and public relations work on groundwater conservation are important elements of measure planning. It is in the nature of groundwater that, as a subsurface water body, it is not so obvious to the general public as surface waters. Land users are not very aware of the relationship between groundwater recharge and the pressures on groundwater. Greater emphasis on these aspects in initial and further training, for example in agricultural vocational schools, and as part of ongoing public relations work provides a very inexpensive opportunity to raise awareness of this environmental aspect and modify their behaviour as a result. The following types of measures for groundwater will be offered in the second management cycle (cf. Table 22).

Table 22: List of measures for groundwater

LAWA name for measure
Measures to reduce leaching-induced nutrient inputs from agriculture
Measures to reduce inputs of crop protection agents from the agricultural sector
Measures to reduce nutrient inputs due to special requirements in water conservation areas
Measures to reduce other anthropogenic pressures
Conceptual measure: Preparation of concepts / studies / expertises
Conceptual measure: Research, development and demonstration projects
Conceptual measure: Information and further training measures
Conceptual measure: Advisory measures
Conceptual measure: Establishment or adaptation of promotion programmes
Conceptual measure: Voluntary cooperation arrangements
Conceptual measure: In-depth studies and checks

2.5 Areas protected under Community law

2.5.1 Water bodies used for the abstraction of water intended for human consumption

Since 2001 the basis for quality requirements for drinking water has been the Federal Drinking Water Ordinance, which implements the Drinking Water Directive (98/83/EC). In Lower Saxony, water for drinking water purification is obtained from groundwater bodies and surface water bodies.



To satisfy the quality requirements for drinking water and minimise the cost of purification, water conservation areas are set up in which additional regulations ensure the necessary protection of groundwater and surface waters intended for drinking water supplies. These regulations within the water conservation areas go beyond the regulations for state-wide implementation of the WFD, thereby ensuring special protection for water intended for human consumption.

To safeguard drinking water protection and further minimise the cost of purifying drinking water, water conservation areas will continue to be designated in future and special measures will be imposed on drinking water abstraction areas.

In this context it is a priority objective in Lower Saxony to designate all catchment areas of public water works as water conservation areas. Figure 7 and Table 23 show the situation regarding designation of water conservation areas in Lower Saxony.

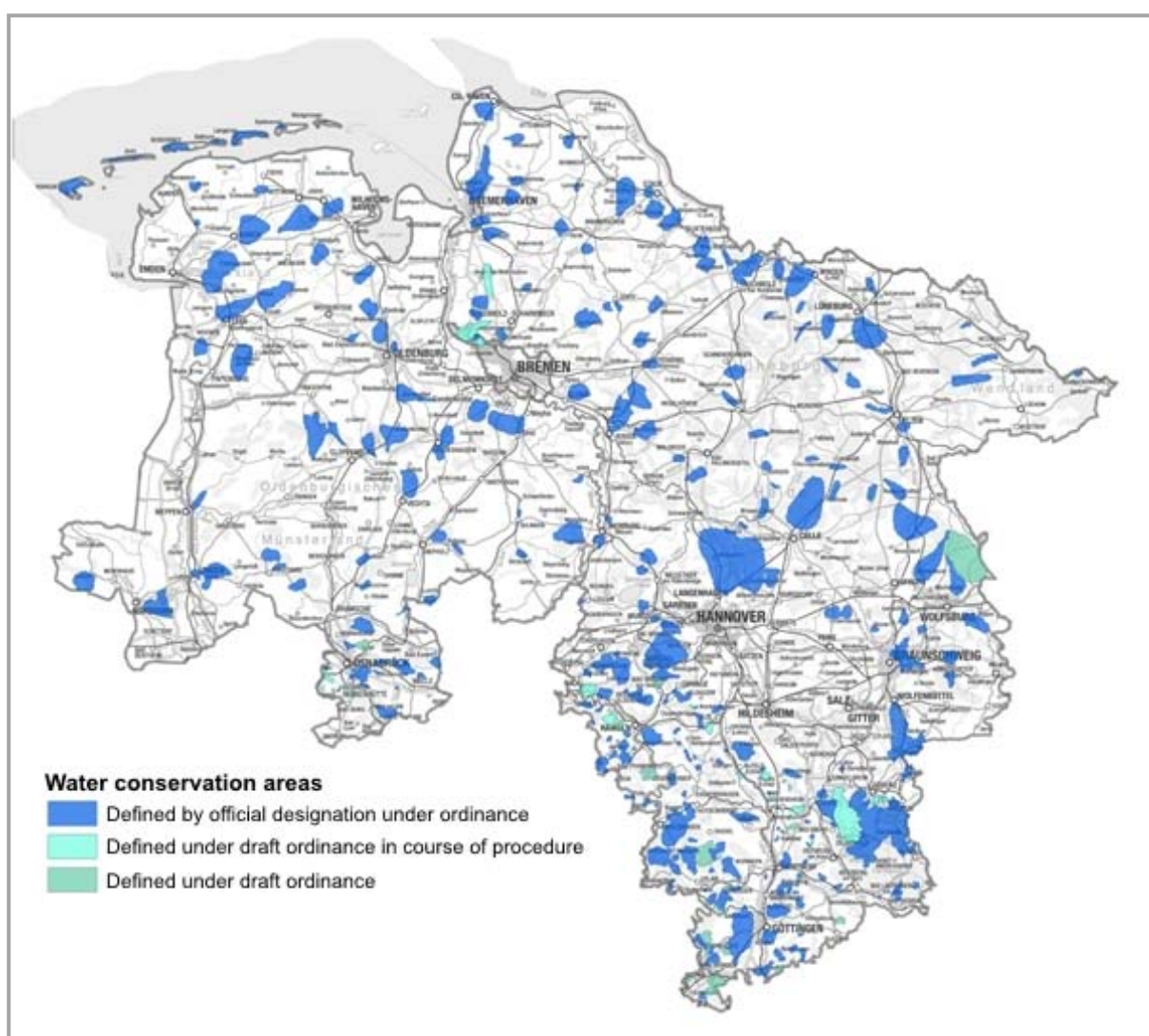


Fig. 7: Overview of water conservation areas in Lower Saxony¹⁵

¹⁵ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



Table 23: Development of number and size of designated water conservation areas in Lower Saxony

Water conservation areas		1975	1983	1997	2000	2004	2014
	Number	164	258	320	305	369	312
	Area (km ²)	1,209	1,810	2,577	4,253	4,442	4,581

Drinking water abstraction areas that are not yet designated as water conservation areas are in future to be assigned this status.

To maintain the quality of the drinking water in the long term, the Lower Saxony cooperation model for drinking water protection was developed in 1992. The model is a cooperative approach to resolving the conflicts of interests between drinking water protection and intensive farming of land in drinking water abstraction areas. The cooperation projects were established for individual or multiple drinking water abstraction areas. Today there are 74 cooperation projects covering some 300,000 hectares of farmland. The work in the cooperation projects is financed by the water abstraction charge pursuant to section 28 of the Lower Saxony Water Act.

On the one hand, the Lower Saxony cooperation model for drinking water protection ensures targeted agricultural water conservation advice that is geared to protecting water bodies. On the other hand, specifically agreed groundwater conservation measures (“voluntary agreements”) are implemented by farmers in the field. Positive impacts of implementing these measures can be seen in the case of all success parameters. For example, the farm gate balance nitrogen surplus of the farms in the drinking water abstraction areas was reduced from 95 kg N/ha in 1998 to 64 kg N/ha in 2012. Moreover, the nitrate concentrations at the progress control measuring stations in the drinking water abstraction areas also showed a download trend between 2000 and 2012, both state-wide and on a regional basis. Although there are measuring points with increasing nitrate concentrations even in the drinking water abstraction areas, the number of measuring points with decreasing nitrate concentrations is higher, with the result that on average nitrate concentrations in the drinking water abstraction areas are declining. This Lower Saxony cooperation programme between water management, agriculture and water suppliers will be continued in the future. The objectives of the WFD for groundwater will also be implemented on this long-term basis for drinking water abstraction areas in Lower Saxony.

2.5.2 Areas designated for the protection of economically significant species (fishing waters/shellfish waters)

The objectives for the protection of fishing and shellfish waters relate exclusively to water quality and are confined to a small number of parameters. Since the WFD takes a much more differentiated approach to water quality, Directive 2006/44/EC on quality required of fishing waters was repealed in 2013. For the same reason, Directive 2006/11/EC on quality required of shellfish waters was also repealed in 2013. To a very large extent, fishing waters have been taken into account in the planning of measures for flowing waters by identifying the supra-regional fish migration routes.



2.5.3 Recreational and bathing waters

The quality of bathing waters and bathing places along the North Sea coast of Lower Saxony and on rivers and lakes is regularly inspected by the health authorities in accordance with the requirements of the Bathing Waters Directive 76/160/EEC and the revised version of the same directive (2006/7/EC). The aim is to reduce and prevent pollution of bathing waters and to inform the public about the degree of water pollution. The objectives of the Bathing Waters Directive supplement the objectives of the WFD. If inspection by the health authorities reveals deficits, measures will be taken that are also in line with the requirements of the Lower Saxony contribution to the programmes of measures 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins.

2.5.4 Sensitive and nutrient-sensitive areas

In accordance with the Nitrates Directive (91/676/EEC) Lower Saxony is designated as a nutrient-sensitive area and has been notified as such to the European Commission. To implement the Nitrate Directive Germany introduced the Fertilisers Ordinance, which lays down maximum limits for inputs of mineral and organic fertilisers. The Fertilisers Ordinance is currently being revised.

Lower Saxony also introduced ordinances concerning installations for storing and filling liquid manure, slurry, solid manure and silage effluent, which will probably be superseded in the course of 2015 by the federal “Ordinance on facilities for substances dangerous to water (AwSV)”. According to the Lower Saxony Ordinance concerning the notification of farmyard manure, quantities of farmyard manure brought into circulation since 1 July 2012 and of substances containing farmyard manure as a source material or component (other substance) are to be notified to the database run by the Chamber of Agriculture. The criteria required to be satisfied for autumn fertiliser application were specified in the “autumn decree” of 2013. These ordinances and decrees are rules of good professional practice in agriculture. Their introduction and implementation are to be understood as basic measures within the meaning of Article 11 (3)a of the WFD.

In additional, supplementary measures will have to be performed in areas where the groundwater body is found to have bader chemical status as described under the WFD.

According to the Urban Wastewater Directive (91/271/EEC), the whole of Lower Saxony is designated as a sensitive area. The aim of the directive is to prescribe minimum requirements for the wastewater before it is discharged into water bodies. It is therefore necessary to treat the wastewater to reduce or eliminate nitrogen and phosphorus. As in the case of the Nitrates Directive, the implementation of the Urban Wastewater Directive is also to be regarded as a basic measure pursuant to Article 11 (3)a of the WFD. Furthermore, it may be advisable to implement supplementary measures depending on key pollution sites (cf. Chapter 2.3.1).



2.5.5 Natura 2000 areas with water-related protection objectives

Fundamentals

The water-related maintenance and development objectives in water-dependent Natura 2000 areas are to be supported by implementing the WFD. This integrating approach required in compliance with the provisions of European law presupposes intensive interaction between water management and nature conservation in the various fields of action, as was found when drawing up the first management plan in 2008.

On the basis of the experience and findings obtained in the first management period, the cooperative approach needed between water management and nature conservation has been continuously developed in recent years from a content/technical point of view and also in organisational terms, and specified in greater detail for a wide range of workflows. This applies in particular to coordination of the management objectives and measures under the WFD with the conservation aims of the Habitats Directive and Birds Directive. The conceptual basis necessary for meaningful and appropriate integration of nature conservation objectives in the WFD has been drawn up.

State of progress and conceptual basis

Coordination of projects and measures in the context of river development

The objectives of water management and nature conservation with their funding frameworks are to a large extent identical – especially as concerns the implementation of the rivers programme and the planning of water body development. The existing synergies can be used on a highly targeted basis in the practical course of state-wide project and measure implementation.

Consideration of the Habitats Directive when prioritising rivers

In connection with the implementation of the WFD, Lower Saxony has developed a technically based system of priorities for a state-wide water body context in which water-dependent Habitats Directive areas are given special attention as an important priority criterion when selecting river sections for priority treatment.

Random sampling of Habitats Directive areas on the basis of WFD assessment

The random assessment required under the Habitats Directive for the habitat types 3260¹⁶ and 3270 in Lower Saxony has largely been performed on the basis of the findings of ecological status assessment under the WFD. This approach is in line with the method developed by the Federal Nature Conservation Agency for assessing the various degrees of conservation status, which with the parameters to be assessed explicitly makes reference to

¹⁶ FFH-LRT 3260: Rivers of the planar to montane stages with *Ranunculon fluitantis* and *Callitriche Batrachion* vegetation
FFH-LRT 3270: Rivers with mud banks with *Chenopodium rubri* sp. and *Bidenton* sp. vegetation



the assessment methods and findings of operational monitoring under the WFD. The objective here was, as far as possible, to use the investigation parameters currently applied to the study sections of flowing waters (= samples) selected throughout the state for WFD monitoring for Habitats Directive sample monitoring as well. This approach and the orientation to the “measuring strategy” of the WFD made it possible to ensure effective and meaningful use of the obvious synergies between nature conservation and water management when monitoring the ecological status of the relevant water bodies, and thereby save costs.



3 Implementation of the first programme of measures (supplementary measures) and progress towards achieving environmental objectives

3.1 Measures not implemented and relevant reasons

The objectives of the WFD represent a great challenge, and it is clear that the 2009 programme of measures set in motion an implementation process that will continue until 2027 and possibly even longer. In view of the complexity of individual action fields, the strategies and concepts to some extent go beyond the first and second management cycles and envisage that the objectives will be achieved over the three possible management periods up to 2027. Measures from the first programme that are not yet completed will continue to be implemented. In 2012 an interim report on the implementation of the programme of measures was to be submitted to the European Commission. An overview is provided, for example, by the publications of the Weser River Basin Commission or the Elbe River Basin Commission on progress with implementing the measures (FGG Elbe 2012; FGG Weser 2012). A nationwide description was published in 2013 by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU 2013).

This considered all activities relating to measures from 2010 onwards. Only the supplementary measures were taken into account, because the basic measures were regarded as complete (cf. Chapter 4.2). Since the Lower Saxony programme of measures is designed as a range of offerings and therefore covered a broad spectrum of measure types from the LAWA list of measures for all water bodies in Lower Saxony, the focus for Lower Saxony is on measures already started, in progress and now completed.

There is no possibility of comparing the target and actual situations for surface waters, since in view of the need to keep the programme flexible, no state-wide differentiation of the necessary technical measures for each surface water body was undertaken in Lower Saxony in 2009. The types of measures notified were compiled from the list of measures for implementing the WFD on surface waters in Lower Saxony. A large proportion of the measures are still at the planning stage. Only a small number of measures have been completed since 2010. Implementation of the various constructional measures through to completion often takes several years. The predominant measures are concerned with reducing pollution by means of discharge regulation and morphological changes. Progress with the implementation of the measures is published at regular intervals on the map server¹⁷ of the Lower Saxony Ministry of the Environment, Energy and Climate Protection. In 2018 the European Commission will again be informed about progress with the implementation of the measures.

¹⁷ <http://www.umwelt.niedersachsen.de/service/umweltkarten/interaktive-umweltkarten-der-umweltverwaltung-8669.html>



For notification of measures relating to groundwater bodies in the field of groundwater quality, an analysis was made of nitrate, the agri-environmental programmes (e.g. the measures “no cultivation after maize” or “catch crops and undersown crops”), the nature conservation cooperation programme (e.g. the measures “special biotope types” or “visiting Nordic birds”) and the measures in the drinking water abstraction areas. The measures for reducing pesticide and cadmium pollution had not yet been completed in 2012.

The notification of state-wide measures for all surface waters and groundwater included, for example, publications, the work of the regional cooperation alliances or the agricultural advisory services for reducing nitrate inputs.

Despite the changes in assessment methods, the latest assessment results have shown that more measures are necessary and that these need to be implemented on a more targeted basis. Groundwater protection measures essentially require a longer time scale. But even here the completion of agri-environmental measures falls short of the desirable technical results in view of the current situation in the agricultural sector.

The main reasons for the delays are as follows:

- Difficulties with the provision of financial/human resources: Unforeseen problems with the provision of resources prevent/delay the start or planning of measures or the implementation of the measure:
 - ⇒ Problems with inclusion of the measure in the budget,
 - ⇒ Problems with financial planning (e.g. inadequate funds or lack of funds, budget cuts, EU funding restrictions),
 - ⇒ Lack of or inadequate availability of human resources,
 - ⇒ Lack of or inadequate own funds of private project bodies.
- Difficulties with the provision of land: Unforeseen problems with the provision or acquisition of the necessary land prevent/delay the start or planning of measures or the implementation of the measure.
- Difficulties with gaining acceptance for the measure: Lack of acceptance in the case of measures that are not legally binding prevents/delays the start or planning of measures or the implementation of the measure:
 - ⇒ Lack of or inadequate acceptance of the measure on the part of the responsible body. Planning or work steps not initiated (in time) (e.g. application for funds not submitted, order not placed with planning office),
 - ⇒ Unexpected resistance by third parties to implementation of the measure.

Lower Saxony selected the above-mentioned reasons from the LAWA nationwide list for describing the progress of measures.

In 2012, as part of the pilot project “acquisition of measures”, measures were acquired within a prescribed period and favourable and unfavourable factors were determined (NLWKN¹⁸

¹⁸ The final report on the project is one of the background documents, and can be found on the NLWKN website for the Water Framework Directive (www.nlwkn.niedersachsen.de).



2012c). The factors determined here confirm the above-mentioned reasons for delays in implementing the measures. Communication is a central component among the favourable aspects. It frequently decides whether an aspect is seen as a favourable or unfavourable factor. Other favourable elements are existing networks, small working groups and use of synergies when implementing measures.

3.2 Additional measures

No additional types of measures were planned or implemented during the first management planning period. All initiatives focused on increased implementation of the types of measures determined in 2009.

3.3 Assessment of progress towards achieving the environmental objectives

3.3.1 Surface waters

Despite the engagement and the various efforts of the actors working on the water bodies, the findings of the ecological and chemical assessments reveal that nearly all the water bodies fall short of the environmental objectives. In many cases their ecological status/potential was found to be poor or bad. Among other things, this is explained by the fact that the WFD shows up pressures which have not in the past been addressed on this scale and in such depth, or have not been explicitly described as water management objectives. Another new aspect is the biocenosis approach to the planning of measures, combined with the aim of improving entire water bodies. When considering chemical status, new standards were set with the introduction of extensive Europe-wide environmental quality standards for priority substances.

In Lower Saxony the measures were implemented on a voluntary basis. Lower Saxony supports the voluntary principle by providing funds. Spending on this during the first management period totalled EUR 68.3 million.

This permitted technical examination and assessment of the measures submitted for funding. During the first management period, control of measures on a geographical or content basis before the funding application did not take place on the scale that is necessary on the basis of present knowledge (NLWKN 2012c). These voluntary measures have not so far resulted in the implementation of all the measures necessary to achieve the management objectives for the water bodies.

All in all, the implementation of measures has fallen short of expectations. In Lower Saxony the implementation of measures is frequently unsuccessful in cases where the actors cannot devote themselves exclusively to implementing the measures, where no land is available, or where there is a lack of acceptance for necessary action. For this reason the “Lower Saxony water alliance” (cf. Chapter 4.3.2) was launched for the second management period. The pressures and impacts acting on flowing waters are known, making it possible to carry out planning and implementation of measures aimed at the deficient quality components. It



should be noted that even under ideal conditions time is needed for measures relating to river development to have an ecological impact (i.e. recolonisation and reproduction of typical stable communities and species). For this reason, action recommendations for measures have been made for all priority water bodies. The action recommendations describe a compilation based on the assessment of the actual situation for groups of measures and measure profiles in accordance with the Guide to planning measures for surface waters, Part A Rivers – Hydromorphology (NLWKN 2008a) or Part C Chemicals (NLWKN 2012a). All action recommendations for measures will be revised from 2015 onwards.

The subject of “Water body development – optimising implementation of measures” was also addressed at the LAWA level in 2013 (LAWA 2014a). Among other things, the decline in the availability of land was discussed here. The pressure on land use is increasing as a result of agricultural use, aspects of the energy transition, and speculation. However, land is an important prerequisite for dynamic water body development. No solutions were elaborated that went beyond the familiar approaches, such as the use of land consolidation procedures. In the case of lakes, the activities during the first management period focused on the Dümmer. In addition to various immediate measures to improve oxygen concentrations, long-term measures are planned here in the Dümmer catchment area (cf. Chapter 4.3.2). To this end there was also a need for various conceptual steps such as identifying and modelling the nutrient input paths in the Dümmer catchment area (Geofluss & aquaplaner 2012). The measures are being implemented in cooperation with regional actors, especially the agricultural sector, and are already showing first signs of success.

The predominant substance pollution in transitional and coastal waters takes the form of nutrient inputs (nitrate and phosphate), especially from the hinterland catchment areas of the North Sea. In spite of the efforts in recent years to reduce inputs from the hinterland, the monitoring results continue to show significant nutrient pollution that prevents the achievement of good ecological status. There is a considerable need for reduction, especially in the case of nitrate inputs.

3.3.2 Groundwater

Several programmes were implemented in the field of groundwater protection, and these are explained below. In drinking water abstraction areas covered by the priority programme for drinking water protection, the programme offered a additional advisory service on water conservation and voluntary agreements on water conservation to supplement the regulatory provisions of the conservation area ordinances in conservation areas. Advice on groundwater protection was also offered in the target context “nitrate reduction” to support the offerings of agri-environmental measures. Model and pilot projects were implemented to develop new approaches. The regulatory basis for full-coverage protection of water bodies from nutrient inputs from the agricultural sector was considered by the EU Commission to be insufficient. It will be optimised at both federal and state level. The current status assessments show the need for action. Half the groundwater bodies in Lower Saxony fall short of good chemical status.



Drinking water protection in drinking water abstraction areas

Approximately EUR 120 million was spent on drinking water protection during the period 2007 to 2013. The funding programme provides for both area-oriented measures and assistance in the field of farm management. Table 24 shows the breakdown into advisory services and specific individual measures in Lower Saxony.

Table 24: Spending on drinking water protection during the period 2007 to 2013

	Spending from 2007 to 2013
Advisory services	EUR 43 million
Voluntary agreements	EUR 76 million

The additional water protection advisory services and voluntary agreements on water-conserving land management in the drinking water abstraction areas are financed by the water abstraction charges. The additional advisory services for water conservation are co-financed by the European Community. The individual local strategies are decided in cooperation with the competent water supply companies and the farmers concerned. Examples of items financed as “voluntary agreements” during the period mentioned include cash crop cultivation, greening of fallow land, conservation of permanent pasture, and extensification and crop rotation measures. Additional burdens on farmers due to the protected area ordinances were offset pursuant to Section 93 of the Lower Saxony Water Act.

Advice on groundwater protection in the “WFD” target context

Since August 2010 advice on water conservation has been offered in especially endangered parts of the groundwater bodies classified as “not good”. A target context of 627,000 ha of farmland, subdivided into nine advisory areas, was designated for this purpose. Four engineering offices and the Lower Saxony Chamber of Agriculture were commissioned to provide these services. In view of the size of the advisory areas, a multistage advisory approach was adopted: On the one hand, the advisory bodies offered a range of advisory services for all farms in the advisory areas (by means of circulars, events etc.). On the other hand, they also offered individual advice for farms with the aim of improving nutrient efficiency on the individual farms. Here there was a special focus on the model farms that provide Lower Saxony with extensive data for impact monitoring. The advisory services became established in the target context during the last period and resulted in a demonstrable reduction in nitrate surpluses in the agricultural sector. The local advisers set up working groups, known as “groundwater groups”, for further development of the measures by farmers, advisers and the NLWKN.

The following resources were spent on advisory services during the first programme of measures:



Table 25: Funding for WFD advisory services during the period 2010 to 2014.

2010	2011	2012	2013	2014
EUR 1.2 million	EUR 1.2 million	EUR 1.2 million	EUR 2.5 million	EUR 2.6 million

Agri-environmental measures in the “WFD” target context

In the “WFD” target context, four special agri-environmental measures were offered between 2010 and 2013 through the Lower Saxony agri-environmental programme NAU/BAU:

- W2: Winter-hardy catch crops
- W3: No soil cultivation after maize
- W4: No soil cultivation after rape
- W5: Winter turnips as summer catch crop

The measures were developed further and continue to be offered in partly modified form in the follow-up programme NiB-AUM (cf. Chapter 4.3.3).

In addition to the above-mentioned measures, various research and development projects were implemented during the period 2009 to 2014. The focus here was on developing results-oriented agri-environmental measures for the entire farm.

Model and pilot project “N90”

The aim of the project is to develop measures to reduce nitrogen fertiliser levels for the entire farm. The measures are intended to ensure that farms have a reliable portion of their income for extraordinary environmental services and are at the same time easy to control and manage. Efforts will continue to be made to give farmers the maximum possible entrepreneurial freedom of action, so that advantage can be taken of their creative potential. When an N90 or N80 measure is agreed, the maximum quantity of mineral nitrogen that can be introduced into a farm on the basis of the target value method is determined, having regard to the animal and plant farmyard manure used on the farm. The extent to which the nitrogen available at farm level is used on individual areas of the farm is left to the discretion of the farm manager. It is assumed that the farm-specific nitrogen limitation results in a marked improvement in nitrogen efficiency within the farm.

The project ran from February 2012 to December 2014 and received funding totalling EUR 680,000. The project N90 is being developed into a whole-farm agri-environmental measure with the title “N_{account}” (cf. Chapter 4.3.3).

The final report on the model and pilot project N90 “Reducing nitrogen fertiliser at farm level by limiting purchases of mineral nitrogen” is available from the NLWKN website:

http://www.nlwkn.niedersachsen.de/service/veroeffentlichungen_webshop/schriften_zum_downloaden/downloads_grundwasser_trinkwasser/veroeffentlichungen-zum-thema-grundwassertrinkwasser-zum-downloaden-44047.html



Model and pilot project “Establishment of a Lower Saxony reference farm network for groundwater conservation and multi-year registration of farm-gate balances”

Farm-gate nitrate balances are used in drinking water abstraction areas and in the WFD target context as an indicator of the effectiveness of the advisory services and the area-specific measures. To be able to classify the development of farm-gate nitrate balance surpluses in the drinking water abstraction areas and in the model farms of the WFD target context as a genuine success, it is also necessary to have information about the development of farm-gate nitrate balance surpluses outside the drinking water abstraction areas and the WFD target context. Determining these reference values is the aim of this project. The project ran from February 2012 to December 2013 and received funding totalling EUR 290,000.

The final report on “Progress control of groundwater protection measures with farm-gate balances of a reference farm network outside the drinking water abstraction areas and the WFD advisory context” is available from the NLWKN website:

http://www.nlwkn.niedersachsen.de/service/veroeffentlichungen_webshop/schriften_zum_downloaden/downloads_grundwasser_trinkwasser/veroeffentlichungen-zum-thema-grundwassertrinkwasser-zum-downloaden-44047.html



4 Programme of measures

4.1 Systematics of measure planning under the Water Framework Directive

Articles 11 (3) and (4) of the WFD distinguish between “basic” and “supplementary” measures.

According to Article 11 (3) of the WFD, basic measures are as follows:

- All measures for the implementation of the EU directives mentioned in Annex VI Part A to the WFD,
- All measures designed to achieve cost coverage for the water services pursuant to Article 9 of the WFD and to promote efficient and sustainable use of water (Art. 11(3) b) and c) of the WFD),
- All measures designed to achieve the drinking water protection requirements pursuant to Article 7 of the WFD (Art. 11 (3) d) of the WFD) and
- All regulations (prohibitions, restrictions, registrations, approvals etc.) relating to uses of water bodies and other uses or influences on waters and water bodies (Art. 11 (3) e) to l) of the WFD).

The “basic measures”, as requirements for the measures to be laid down in the programmes of measures, thus include those national regulations which implement the specified EU directives and are available as national legal instruments for achieving the objectives pursuant to Articles 4, 7 and 9 of the WFD. Furthermore, the specific water-related maintenance and development measures in Natura 2000 areas also belong to the basic measures pursuant to Article 11 (3a) and Annex VI to the WFD that are to be included and described in the WFD programmes of measures. They have to be the subject of intensive coordination between nature conservation and water management and must be continuously monitored.

However, the WFD proceeds on the basis that in many cases the minimum requirements (“basic measures”) will not (or cannot) on their own achieve the objectives of the directive. For this reason Article 11 (4), sentences 1 and 2, of the WFD provides for further measures (“supplementary measures”) which must be “planned and taken” to achieve the objectives pursuant to Article 4 of the WFD. It is therefore a compulsory requirement to lay down and implement such measures.

Here the WFD explicitly mentions legal instruments as well (cf. Annex VI Part B to the WFD). Thus state regulations which go beyond the implementation of EU directives but which contribute to achieving the environmental objectives of the WFD belong to the “supplementary measures” within the meaning of Article 11 (4).



According to Article 11 (4) of the WFD, supplementary measures are as follows:

- All further measures necessary to achieve the objectives pursuant to Article 4 of the WFD, especially the measures mentioned in Annex VI Part B to the WFD (Art. 11 (4) sentences 1 and 2 of the WFD,) and
- All measures for “additional protection” of water bodies. According to Article 11 (4) sentence 3 of the WFD, the term “supplementary measures” also covers measures which are not necessary to achieve the objectives, but which can be taken by a member state to achieve additional protection of or additional improvements in the water bodies going beyond the management objectives. In that case they are to be included in the programme of measures.

As well as the above-mentioned basic and supplementary measures pursuant to Article 11 (5), the WFD also distinguishes “additional measures”. Such measures are only to be decided if monitoring or other data indicate that the management objectives will not be achieved.

4.2 Basic measures pursuant to Article 11 (3) of the WFD

According to Article 11 (2) of the WFD, every programme of measures contains “basic” measures (Art. 11 (3) WFD) and, where appropriate, “supplementary” measures (Art. 11 (4) WFD – cf. Section 36 of the Federal Water Act in conjunction with Section 117 of the Lower Saxony water act).

Article 11 (3) of the WFD provides an exhaustive list of the basic measures. A common feature of these is that they have to be implemented in the member states in the form of general abstract provisions in corresponding acts, ordinances and binding instruments for the protection of the environment, and especially of water bodies.

The following overview (Table 26) contains a description of the basic measures to be taken pursuant to Article 11 (3) of the WFD and details of the relevant general abstract provisions at federal level and for Lower Saxony (columns 2 and 3) that are of importance to the Lower Saxony contribution to the programmes of measures 2015 to 2021 for the river basins. The European Commission has admonished Germany to take stronger action against pollution of water by nitrates. In view of what it regards as the inadequate implementation of the Nitrates Directive in Germany, the Commission has initiated proceedings for infringement of treaty obligations. Germany has reacted to this by revising the Fertilisers Ordinance, which is still going through the parliamentary process at the time of preparing this document.


Table 26: Legal transposition of the “basic measures” listed in Article 11 (3) of the WFD

EC directives	German federal law	Lower Saxony
Art. 11 para. 3a Measures to transpose Community water conservation provisions including the measures pursuant to the legal requirements of Article 10 and Annex VI Part A:		
➤ Directives in accordance with Art. 10 (2) (1st to 3rd indent):		
Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 concerning industrial emissions (integrated pollution prevention and control) in the corrected version of 19.06.2012 (OJ L 158, p. 25)	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially sections 54,57,60 WHG • Federal Immission Control Act (Bundesimmissionsschutzgesetz) in the version of 17 May 2013 (BGBl. I p. 1274), as most recently amended by Section 1 of the Act of 02 July 2013 (BGBl. I p. 1943); • Closed Cycle and Waste Management Act (Kreislaufwirtschaftsgesetz) of 24 February 2012 (BGBl. I p. 212), as most recently amended by Section 44 IV of the Act of 22 May 2013 (BGBl. I p. 1324); • Ordinance on the authorisation and monitoring of industrial wastewater plants of 2 May 2013 (BGBl. I p. 973, 1011) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477)
Council Directive 91/271/EEC of 21.05.1991 concerning urban wastewater treatment, as most recently amended by Regulation 1137/2008 of 22.08.2008 (OJ L 311 p. 1)	<ul style="list-style-type: none"> • Wastewater Ordinance (Abwasserverordnung) in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 1 of the Ordinance of 02.09.2014 (BGBl. I, p. 1474) 	<ul style="list-style-type: none"> • Ordinance on the treatment of municipal wastewater of 28 September 2000 (Nds. GVBl. p. 248)
Council Directive 91/676/EEC of 12.12.1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources, as most recently amended by Regulation 1137/2008 of 22.08.2008 (OJ L 311 p. 1)	<ul style="list-style-type: none"> • Fertilisers Ordinance in the version of 27 February 2007 (BGBl. I p. 221), as most recently amended by Section 5 (36) of the Act of 24 February 2012 (BGBl. I p. 212) 	<ul style="list-style-type: none"> • Ordinance on installations for handling substances dangerous to water and on specialist enterprises (Anlagenverordnung -VAwS) of 17 December 1997 (Nds. GVBl. p. 549), as amended by the Ordinance of 24 January 2006 (Nds. GVBl. p. 41)



EC directives	German federal law	Lower Saxony
➤ Directives according to Art. 10 (2) (fourth indent): directives issued pursuant to Art. 16 WFD (not yet passed)		
➤ Directives according to Art. 10 (2) (sixth indent): other relevant provisions of Community law (other than Annex VI Part A)		
Directive 2006/118/EC of the European Parliament and of the Council of 12.12.2006 concerning the protection of groundwater from pollution and deterioration – as amended by the corrigendum of 31.05.2007 (OJ L 139 p. 39)	<ul style="list-style-type: none"> • Groundwater Ordinance in the version of 09 November 2010 (BGBl. I p. 1513) 	<ul style="list-style-type: none"> • Lower Saxony ordinance concerning protection provisions in water conservation areas (SchuVO) in the version of 09 November 2009 (Nds. GVBl. p. 431), as amended by the Ordinance of 29 May 2013 (Nds. GVBl. p. 132) Ordinance concerning determination of the suitability under water legislation of construction products and construction types by means of evidence pursuant to the Lower Saxony Building Code (WasBauPVO) of 25 February 1999 (Nds. GVBl. p. 69), as amended by Section 8 of the Ordinance of 13 November 2012 (Nds. GVBl. p. 438)
Directive 2006/113/EG of the European Parliament and of the Council of 12 December 2006 on the quality required of shellfish waters – as most recently amended by Regulation 1137/2008/EC of 22.10.2008 (OJ L311 p. 1)		<ul style="list-style-type: none"> • Ordinance on the quality required of fishing waters and shellfish waters of 15.05.2007 (Nds. GVBl. p. 189), as most recently amended by the corrigendum of 02.08.2007 (Nds. GVBl. p. 434)
Directive 2000/76/EG of the European Parliament and of the Council of 04 December 2000 on waste incineration – as most recently amended by Regulation 1137/2008/EC of 22.10.2008 (OJ L311 p. 1)	<ul style="list-style-type: none"> • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) 	<ul style="list-style-type: none"> • Ordinance on discharges of wastewater from waste incineration plants (AbwAbfVerbrennVO) of 29.04.2003 (Nds. GVBl. p. 190), as amended by the Ordinance of 12 December 2006 (Nds. GVBl. p. 590)
Council Directive of 19 March 1987 on the prevention and reduction of environmental pollution due to asbestos (87/217/EEC,) as most recently amended by Regulation 807/2003 of 14.04.2003 (OJ L 122 p. 36)	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) 	



EC directives	German federal law	Lower Saxony
➤ Legal provisions pursuant to Annex VI Part A (except where already mentioned in Art. 10 of the FWD):		
Directive 2006/7/EC of the European Parliament and of the Council of 15.02.2007 concerning the management of bathing water quality and repealing Directive 76/160/EEC, as most recently amended by Regulation 596/2009 of 18.06.2009 (OJ L188 p. 14) and corrigendum of 29.12.2002 (OJ L 359 p. 77)		<ul style="list-style-type: none"> Lower Saxony ordinance on the quality and management of bathing waters (Badegewässerverordnung – BadegewVO) of 10 April 2008 (Nds GVBl. p. 105)
Birds Directive 2009/147/EC of 30.11.2009, as most recently amended by Directive 2013/17/EU of 13.05.2013 (OJ L158 p. 193)	<ul style="list-style-type: none"> Federal Nature Conservation Act (Bundesnaturschutzgesetz) in the version of 29 July 2009 (BGBl. I p. 2542), as most recently amended by Section 2 (124) and Section 4 (100) of the Act of 07 August 2013 (BGBl. I p. 3154); Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); 	<ul style="list-style-type: none"> Lower Saxony act implementing the Federal Nature Conservation Act (NAGBNatSchG) of 19.02.2010 (Nds. GVBl. p. 109)
Council Directive of 15 July 1980 on the quality of water for human consumption (80/778/EEC) (Drinking Water Directive), in the version amended by Directive 98/83/EC of 03.11.1998 (OJ L330 p. 37), as most recently amended by Directive 2013/64 EU of 17.12.2013 (OJ L 353 p. 8)	<ul style="list-style-type: none"> Drinking Water Ordinance (Trinkwasserverordnung) in the version of 02 August 2013 (BGBl. I p. 2877), as most recently amended by Section 4 (22) of the Act of 07 August 2013 (BGBl. I p. 3154) 	
Council Directive 96/82/EC of 09.12.1996 on major accidents (Seveso Directive), as most recently amended by Directive 2012/18/EU of 04.07.2012 (OJ L197 p. 1)	<ul style="list-style-type: none"> Twelfth ordinance implementing the Federal Immission Control Act (Hazardous Incidents Ordinance) in the version of 8 June 2005 (BGBl. I p. 1598), as most recently amended by the first ordinance amending the Hazardous Incidents Ordinance of 14 August 2013 (BGBl. I p. 3230) 	



EC directives	German federal law	Lower Saxony
Council Directive 85/337/EEC of 05.07.1985 on the assessment of the effects of certain public and private projects on the environment, in the codified version of Directive 2011/92/EU of 13.12.2011 (OJ L26 p. 1)	<ul style="list-style-type: none"> • Environmental Impact Assessment Act in the version of 24 February 2010 (BGBl. I p. 94), as most recently amended by Section 10 of the Act of 25 July 2013 (BGBl. I p. 2749); • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); 	<ul style="list-style-type: none"> • Lower Saxony Environmental Impact Assessment Act (NUVPG) in the version of 30 April 2007 (Nds. GVBl. p. 179), as most recently amended by the Act of 19 February 2010 (Nds. GVBl. p. 122)
Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment and especially of soils when using sewage sludge in the agricultural sector, as most recently amended by regulation 2009/219/EC of 11.03.2009 (OJ L87 p. 109)	<ul style="list-style-type: none"> • Sewage Sludge Ordinance of 15 April 1992 (BGBl. I 1992, 912), as most recently amended by Section 5 (12) of the Act of 24 February 2012 (BGBl. I p. 212) 	
EC Regulation 1107/2009 of 21.10.2009 concerning the placing of plant protection products on the market, as most recently amended by Regulation 518/2013 of 13.05.2013 (OJ L158 p. 72)	<ul style="list-style-type: none"> • Crop Protection Act of 06 February 2012 (BGBl. I 148, 1281), as most recently amended by Section 2 (111) and Section 4 (87) of the Act of 07.08.2013 (BGBl. I p. 3154) 	
Council Directive 92/43/EEC of 21/05/1992 on the conservation of natural habitats and wild fauna and flora (Habitats Directive), as most recently amended by Directive 2013/17/EU of 13.05.2013 (OJ L135, p. 193)	<ul style="list-style-type: none"> • Federal Nature Conservation Act in the version of 29 July 2009 (BGBl. I p. 2542), as most recently amended by Section 2 (124) and Section 4 (100) of the Act of 07 August 2013 (BGBl. I p. 3154); • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); 	<ul style="list-style-type: none"> • Lower Saxony act implementing the Federal Nature Conservation Act (NAGBNatSchG) of 19.02.2010 (Nds. GVBl. p. 104)



EC directives	German federal law	Lower Saxony
(Art. 11 para. 3b): Measures deemed appropriate for the purposes of Article 9		
	<ul style="list-style-type: none"> • Wastewater Charges Ordinance in the version of 18 January 2005 (BGBl. I p. 114), as most recently amended by Section 1 of the Act of 11 August 2010 (BGBl. I p. 1163) 	<p>Lower Saxony act implementing the Wastewater Charges Act (Nds. AG AbwAG) in the version of 24 March 1989 (Nds. GVBl. I p. 69), as most recently amended by Section 41 of the Act of 20.11.2001 (Nds. GVBl. p. 701) Water abstraction charge pursuant to Section 21 ff. of the Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477)</p>
Art. 11 para. 3c: Measures to promote efficient and sustainable water use in order to avoid compromising the achievement of the objectives specified in Article 4 of the WFD;		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); (especially section 5 (1) 2 and 3, and Section 6 (1) 4 of the Federal water act) • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) (especially section 3 (1) and section 3 (2) of the Wastewater Ordinance) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) Section 91 Designation of water conservation areas and Section 92 Protection provisions Section 87 Management objectives • Assistance programmes • Ordinance of 3 September 2007 concerning financial assistance for cooperative protection of drinking water abstraction areas (Nds. GVBl. p. 436) Quantitative management of groundwater – RdErl. d. MU v. 29.05.2015 - 23-62011/010 - (Nds. MBl. p. 790) guidelines concerning provision of grants for drinking water protection projects in drinking water abstraction areas in the context of promoting the development of rural areas (drinking water protection cooperation programme) – RdErl. d. MU v. 23.11. 2007 – 23-01373/10/03 – (Nds. MBl. p. 1727)



EC directives	German federal law	Lower Saxony
Art. 11 para. 3d: Measures to meet the requirements of Article 7, including measures to safeguard water quality in order to reduce the level of purification treatment required for the production of drinking water		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); • Surface Waters Ordinance in the version of 20 July 2011 (BGBl. I p. 1429) (especially Section 7 of the Surface Waters Ordinance) • Groundwater Ordinance in the version of 09 November 2010 (BGBl. I p. 1513) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) Section 88 Local water supplies Section 91 Designation of water conservation areas, and Section 92 Protection provisions Section 87 Management objectives
Art. 11 para. 3e: Controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls shall be periodically reviewed and, where necessary, updated. Abstractions or impoundments which have no significant impact on water status can be exempted from these controls by the member states.		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 8, 9, 12, 33, 87 WHG 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477), especially Section 60 Quality of surface water bodies Quantitative management of groundwater – RdErl. d. MU v. 29.05.2015 - 23-62011/010 - (Nds. MBl. p. 790)



EC directives	German federal law	Lower Saxony
Art. 11 para. 3f: Controls, including a requirement for prior authorisation of artificial recharge or augmentation of groundwater bodies. The water used may be derived from any surface water or groundwater, provided that the use of the source does not compromise the achievement of the environmental objectives established for the source or the recharged or augmented body of groundwater. These controls shall be periodically reviewed and, where necessary, updated.		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 8, 9, 12, 48 WHG • Surface Waters Ordinance in the version of 20 July 2011 (BGBl. I p. 1429) • Groundwater Ordinance in the version of 09 November 2010 (BGBl. I p. 1513) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477)
Art. 11 para. 3g: For point-source discharges liable to cause pollution, a requirement for prior regulation, such as a prohibition of the entry of pollutants into water, or for prior authorisation, or registration based on general binding rules, laying down emission controls for the pollutants concerned, including controls in accordance with Articles 10 and 16. These controls shall be periodically reviewed and, where necessary, updated.		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 8, 9, 12, 57 WHG • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) • Ordinance on the authorisation and monitoring of industrial wastewater plants of 2 May 2013 (BGBl. I p. 973, 1011) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) especially Section 16 regular verification of authorisations and permits, and power to enact subsequent provisions



EC directives	German federal law	Lower Saxony
Art. 11 para. 3h: For diffuse sources liable to cause pollution, measures to prevent or control the input of pollutants. Controls may take the form of a requirement for prior regulation, such as a prohibition of the entry of pollutants into water, prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated.		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 8, 9 (2), 12, 38 WHG • Act concerning the environmental compatibility of detergents and cleaners - WRMG - in the version announced on 17 July 2013 (BGBl. I p. 2538), as most recently amended by Section 4 (74) of the Act of 07 August 2013 (BGBl. I p. 3154); • Federal Soil Protection Act of 17 March 1998 (BGBl. I p. 502), as most recently amended by Section 2 (98) and Section 4 (74) of the Act of 07 August 2013 (BGBl. I p. 3154); • Federal Soil Protection and Contaminated Sites Ordinance of 12.07.1999 (BGBl. I p. 1554), amended by Section 5 (31) of the Act of 24 February 2012 (BGBl. I p. 212) • Fertilisers Ordinance in the version of 27 February 2007 (BGBl. I p. 221), as most recently amended by Section 5 (36) of the Act of 24 February 2012 (BGBl. I p. 212) • Crop Protection Act of 06 February 2012 (BGBl. I 148, 1281), as most recently amended by Section 2 (111) and Section 4 (87) of the Act of 07.08.2013 (BGBl. I p. 3154) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) especially Section 16 Regular verification of authorisations and permits, and power to enact subsequent provisions Section 87 Definition of management objectives



EC directives	German federal law	Lower Saxony
<p>Art. 11 para. 3i: For any other significant adverse impacts on the status of water identified under Article 5 and Annex II, in particular measures to ensure that the hydromorphological conditions of the bodies of water are consistent with achievement of the required ecological status or good ecological potential for bodies of water designated as artificial or heavily modified. Controls for this purpose may take the form of a requirement for prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated.</p>		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 8, 9, 12, 27, 29, 47, 48 WHG • Surface Waters Ordinance in the version of 20 July 2011 (BGBl. I p. 1429) • Groundwater Ordinance in the version of 09 November 2010 (BGBl. I p. 1513) • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) especially Section 16 Regular verification of authorisations and permits, and power to enact subsequent provisions Section 87 Definition of management objectives



EC directives	German federal law	Lower Saxony
Art. 11 para. 3j: Prohibition of direct discharges of pollutants into groundwater subject to the following provisions: (....)		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154) (especially section 48 of the Federal Water Act) • Groundwater Ordinance in the version of 09 November 2010 (BGBl. I p. 1513) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477) especially Section 9 Authorisation and permit procedures Section 12 Authorisation procedures for industrial plants and similar installations Section 15 Content of authorisation <u>Ordinance on installations for handling substances dangerous to water and on specialist enterprises (Anlagenverordnung -VAwS-) of 17 December 1997 (Nds. GVBl. p. 549), as amended by the Ordinance of 24 January 2006 (Nds. GVBl. p. 41)</u>
Art. 11 para. 3k: In accordance with action taken pursuant to Article 16, measures to eliminate pollution of surface waters by those substances specified in the list of priority substances agreed pursuant to Article 16(2) and to progressively reduce pollution by other substances which would otherwise prevent Member States from achieving the objectives for the bodies of surface waters as set out in Article 4;		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 27, 32 WHG 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. p. 477), especially through the possibility, by means of subsequent orders pursuant to Section 16 (1), of imposing additional requirements on the quality of substances to be introduced or input, thereby making it possible to reduce existing pollution due to point sources.



EC directives	German federal law	Lower Saxony
Art. 11 para. 3I: Any measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.		
	<ul style="list-style-type: none"> • Federal Water Act in the version of 31 July 2009 (BGBl. I p. 2585), as most recently amended by Sections 2 and 4 of the Act of 07 August 2013 (BGBl. I p. 3154); especially Sections 62, 63 WHG • Federal Immission Control Act in the version of 17 May 2013 (BGBl. I p. 1274), as most recently amended by Section 1 of the Act of 02 July 2013 (BGBl. I p. 1943); • Wastewater Ordinance in the version of 17 June 2004 (BGBl. I p. 1108), as most recently amended by Section 6 of the Ordinance of 02 May 2013 (BGBl. I p. 973) • Environmental Damage Act in the version of 10 May 2007 (BGBl. I p. 666), as most recently amended by Section 4 of the Act of 23 July 2013 (BGBl. I p. 2565) • Ordinance on installations for handling substances dangerous to water of 31 March 2010 (BGBl. I p. 377) 	<ul style="list-style-type: none"> • Lower Saxony Water Act (NWG) of 19 February 2010 (Nds. GVBl. I p. 64), as most recently amended by Section 13 of the Act of 18 December 2014 (Nds. GVBl. P. 477) especially Section 131 Regulation of water hazards <u>Ordinance on installations for handling substances dangerous to water and on specialist enterprises (Anlagenverordnung -VAwS-) of 17 December 1997 (Nds. GVBl. p. 549), as amended by the Ordinance of 24 January 2006 (Nds. GVBl. p. 41)</u>



4.3 Supplementary measures pursuant to Article 11 (4) of the WFD

4.3.1 Third-party measures

In addition to the water authorities, a large number of other authorities and institutions such as rural districts, municipalities, the Chamber of Agriculture or nature conservation associations are involved in the implementation of the WFD. For example, the implementation of compensatory and substitute measures or the use of substitute payments within the meaning of the WFD by public authorities, rural districts and municipalities can be an important building block on the way to achieving the objectives. Particularly in the case of the measures for transitional and coastal waters in the first management cycle, it is clear what how important compensatory and substitute measures can be for realising the objectives of the WFD. Another example is the Aller project: linking habitats to increase biological diversity (www.aller-projekt.de). The Aller project is run jointly by Aktion Fischotterschutz e.V., Volkswagen AG and the German Federal Agency for Nature Conservation – Federal Programme for Biological Diversity. It aims to develop and network near-natural sections of water bodies and water meadows in the catchment area of the Aller. The Federal Waterways and Shipping Directorate is responsible for implementing the measures relating to continuity (fish ladders etc.) on federal waterways (cf. Chapter 5.1).

4.3.2 Surface waters – measures until 2021

The programme of measures for the second management planning period is based on experience from the first management period. The major issues discussed with the public in connection with important water management matters remained the same in 2013 as those that had dominated the implementation of measures on surface waters since 2009 and before. For this reason, the present Lower Saxony contribution to the programmes of measures is very largely based on the programme of measures dating from 2009.

4.3.2.1 Rivers and lakes

A new aspect for the second management period is the strong focus of implementation on waters that have a high recolonisation potential and currently have a moderate ecological status or potential. Following the conceptual elaboration of the nutrients complex in the first management period, 2013 saw the launch of a pilot advisory service for agriculture – linked to the groundwater advisory service – to reduce nutrient inputs into selected flowing waters and the Dümmer lake.

Lower Saxony continues to offer a range of promotion instruments for the implementation of measures. In the second management period there will be new development guidelines for lakes (cf. Chapter 5.2).



Various examples of projects that illustrate the broad spectrum of activities on water bodies in Lower Saxony are outlined below.

Lower Saxony water alliance

Numerous development and modification measures have been implemented in recent years. However, many of these measures have only had localised effects and have not led to improvements in the entire water body. Achieving the objectives of the WFD often depends largely on the hydromorphological conditions in the water bodies (near-natural character, structure, water balance etc.). Studies confirm a correlation between the ecological status of the water bodies and the quality of the water body structures. Structural deficits frequently act as factors limiting the achievement of the objectives.

For example, the ecological status of rivers at the beginning of the first management period in 2009 was largely "not good", and this situation did not show any basic improvement by 2013. Indeed, as a rule the assessments tended to show a deterioration, for a wide variety of reasons. In the second management period, therefore, the existing strategy will be implemented more rigorously and consistently (NLWKN 2014a).

The following factors should be noted:

- Not all water bodies have the same preconditions for showing good developments within a relatively short time.
- One cannot therefore treat all water bodies in the same way with a view to success.
- What is needed is the right measures in the right place in adequate quality and quantity.
- There is a need for professional "carers" who devote close attention to the necessary measures and the potential responsible bodies.

The basic aspects are explained in the Guide to planning of measures for surface waters, Parts A and D (NLWKN 2008a and 2011).

In future, two options will be pursued in parallel with a view to mutual support:

First option, regional context:

Compact, compressed regional context to ensure effective achievement of the WFP objectives in the selected waters/water bodies.

Water bodies especially capable of development are selected and designated in accordance with uniform state-wide criteria (key water bodies, Table 35 in Appendix). In the key water bodies it is then necessary to draw up concrete plans for and implement the technical requirements and measures and the rough costs of achieving the objectives on the basis of the action recommendations (water body development plans, renaturing concepts, implementation concepts etc.).



Second option, organisational structures:

Establishment of supporting organisational instruments and structures for implementing the objectives of the WFD by means of increased acquisition and implementation of measures.

Establishment and installation by Lower Saxony of a system of cooperation partners (maintenance associations/ municipalities) with central support and local assistance with the aim of developing rivers in the regional context mentioned under Item 1.

In parallel with technical aggregation of the key implementation areas, practical support for the bodies responsible at the local level is to be stepped up by means of additional personnel. In a first phase, partners were sought for a defined period who were willing and able to take part in such a project and make a constructive contribution to its design. In the key areas selected on technical grounds, agreements were made with regional cooperation partners to increase personnel-intensive implementation activities on flowing waters. In the course of a cooperation strategy which is to be of basically long-term design, a limited selection of nine maintenance associations will first receive financial support for the appointment of a “water body coordinator” and be co-ordinated by the NLWKN. The annual cost of this will be around EUR 500,000.

One aim of this project is to increase implementation of measures on the key water bodies. In the interests of efficient water conservation, this will give priority to more targeted and rigorous development of worthwhile water bodies of supra-regional importance and temporarily placing less emphasis on other water bodies which will therefore be modified more slowly. The outline concept for the future implementation of the WFD in the field of flowing waters, and further information on the project “Lower Saxony water alliance” can be found on the following website:

http://www.nlwkn.niedersachsen.de/wasserwirtschaft/flussgebietsmanagement_egwrrl/oberflaechengewaeser/ergaenzende_massnahmen/gewaesserallianz-niedersachsen-132369.html.

Advisory services for surface waters with the aim of reducing nutrient inputs

Since 2014 an agricultural advisory service has been offered in three pilot areas to improve nutrient efficiency with a view to reducing nitrate and phosphate inputs into surface waters. In addition, farm-specific water conservation measures (agri-environmental measures) are being offered to farms managing land in the target context. The three pilot areas are located in parts of the Lower Saxony WFD working areas Hase, Große Aue and Fuhse/Wietze, and cover a total area of approx. 4,759 km². The area of agricultural land is approximately 2,703 km², and that of the drinking water abstraction areas is approximately 278 km². The advice offered in the three pilot areas, described as water conservation advice, also aims to reduce nitrate inputs into the groundwater. The water body conservation advice is thus made up of groundwater conservation advice and advice on surface waters. Until the end of 2014 the advisory service, like the groundwater advice, was financed from state resources. From 2015 onwards, financing is to be provided from EAFRD resources (cf. Chapter 5.2). For the



advisory phase from 2016 onwards, the target context is to be revised on the basis of the latest status assessment.

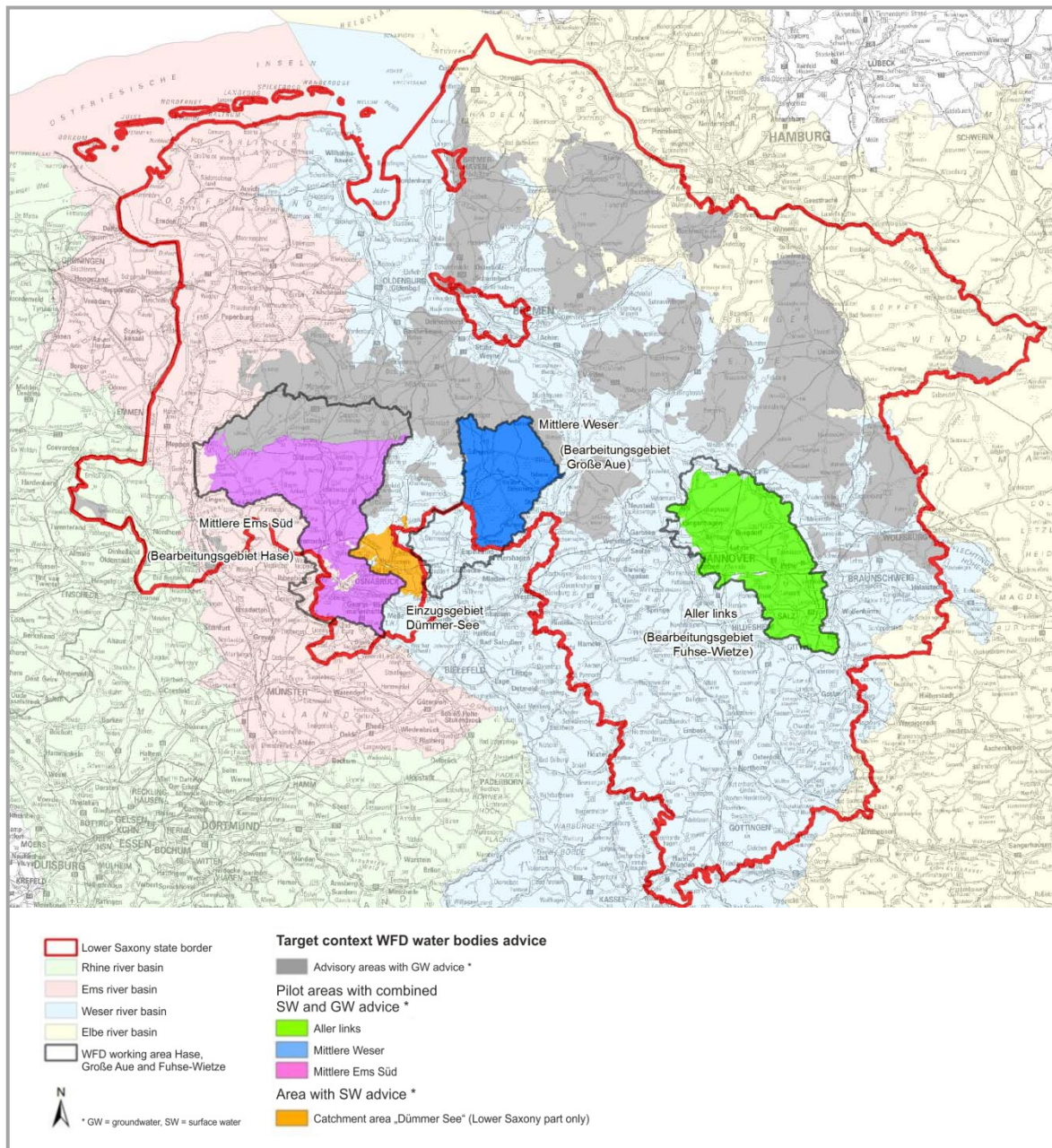


Fig. 8: Target context WFD water conservation advice¹⁹

A new aspect of advisory content for the protection of surface waters is in particular consideration of the parameter phosphate and the input paths run-off, erosion and drainage, and also activating and raising awareness of the issue in the field.

¹⁹ Source: topographic map: Excerpt from the geobasic data of the Lower Saxony survey and cadastral administration. 2014.



Reducing nitrate inputs into surface waters also contributes to improved achievement of the objectives for transitional and coastal waters through compliance with the target value for total nitrogen at the transition from limnic to marine.

The three pilot areas were selected on the basis of a distinct need for action in relation to their nutrient situation, which was determined by means of data analyses and model calculations. A need for action was identified if a high nutrient concentration was observed in the water bodies over a large area. This approach was pursued separately for nitrate and phosphate. When selecting the areas, attention was also paid to geographical and physiographical distribution, and to different agricultural framework conditions. Furthermore, the areas were to be situated directly adjacent to the target context for groundwater protection which had been established since 2010.

The following agri-environmental measures, geared specifically to the objectives of water conservation, are offered in the context of grants for agri-environmental measures in Lower Saxony and Bremen (NiB-AUM):

- Organic farming – additional promotion of water conservation
- Cultivation of winter-hardy catch crops and undersown crops
- No soil cultivation after maize
- Cultan methods

The above-mentioned agri-environmental measures can only be agreed within the target context of the WFD and in the drinking water abstraction areas. In addition, it is possible to implement further NiB-AUM measures which can also be offered outside the target context. Special mention should be made here of agri-environmental measures which act especially on the input paths erosion and run-off (cf. Table 27).

Table 27: Agri-environmental measures to reduce erosion and run-off

Measure	Context
Green strips for water erosion control and conservation of water bodies	The relevant areas must be classified with a water erosion potential in risk category Enat 3-5 according to DIN 19708 and be included in the regional context “water erosion/green strips” or “water erosion/greening of depth contours” of the Lower Saxony Agency for Mining, Energy and Geology.
Riparian strips	For surface waters

Various indicators and measurands are recorded to register the success of the advice and the effectiveness of the agri-environmental measures implemented: Indirect indicators at farm level such as a farm-gate balances or field/stall balances, and directly measurable parameters such as soil samples, nitrate concentrations in seepage water, nutrient concentrations in drainage water and phosphate concentrations in the topsoil. This impact monitoring will also be used to test the procedure for selection and sampling of drainage



systems and to assess the contribution of drainage systems to the overall pollution of water body systems. These findings will help with the future implementation of further measures for nutrient reduction in surface waters.

Area management plan: Altes Land

Altes Land is a water rich region used for intensive fruit farming, with strong conflicts of use between economic and ecological aspects: The fruit farmers in the dense system of waters of the Altes Land are unable to comply with the nationwide distance requirements under crop protection law for the use of crop protection agents close to water bodies. An existing exception (the Altes Land Crop Protection Ordinance) permits deviation from the agent-specific distance regulations under crop protection law, subject to certain conditions.

The instrument of an area management plan is to be used in the near future to optimise aquatic habitats in the entire Altes Land from a water management point of view and give fruit farmers an indication of how they can act in a more ecological fashion. Until the beginning of 2015, this reorganisation process was located in the regional cooperation body Aue/Lühe-Schwinge, whose members include not only the local and regional actors, but also water management factors operating statewide. Up to that point, the costs totalled EUR 300,000.

With the entry into force of the new Altes Land Ordinance 2015, responsibility for implementing the ordinance and for area management was transferred to the fruit growing research establishment in Jork-Moorende. The NLWKN and the regional cooperation body Aue/Lühe-Schwinge are represented on the working groups set up for this purpose.

The bodies of water in the Altes Land are not rivers, but marsh waters in which the focus has for centuries been on the technical function of land drainage. Here it is hardly possible to apply the usual methods of river development. The NLWKN and the regional cooperation body Aue/Lühe-Schwinge therefore made an early start on elaborating possibilities for WFD-compliant development of marsh waters. Here mention must be made of the marsh water pilot project and various feasibility studies which took place between 2006 and 2008 at the request of and with the cooperation of the regional cooperation body Aue/Lühe-Schwinge.

Making use of the preliminary work already available, the following water management measures are included as modules in the area management plan: side waters, regeneration waters, water-friendly maintenance, increase in the diversity of structures and habitats, improved continuity (fish locks, dyke sluice control), water body networking.

The area management plan will first be drawn up as an outline plan intensively co-ordinated with the actors involved, and this will be followed by concrete draft plans. Only then will a start be made on the modification measures that will move the region forward on the way to developing the entire water body network of the Altes Land to achieve good ecological potential.



Pollution of the Fuhse with crop protection agents

The inventory in 2010 and 2011 included studies of crop protection agents in the Fuhse, which revealed infringement of the environmental quality standard for Isoproturon. Further investigations carried out in 2011 in the catchment area of the Fuhse showed that other crop protection agents also displayed elevated concentrations, especially of Ethofumesate, which is used as a herbicide in beet growing (NLWKN 2013b). However, this is not subject to any binding environmental quality standards.

With the aim of reducing pesticide pollution of the Fuhse and associated waters and thereby improving the quality of the water bodies, the Chamber of Agriculture (Crop Protection Office) in Hanover and the NLWKN reached agreement in 2012 on implementing suitable measures.

The Chamber of Agriculture envisages measures including an inventory of critical areas, area localisation by means of hotspot selection, registration of operating parameters (farming type, crop, crop protection strategies used, equipment technology etc.) and an assessment of these parameters. This will be followed up by drafting consistent farm-specific action recommendations and advisory concepts. A crucial aspect here will be the development of prevention strategies for the use of critical crop protection active ingredients, to make it possible to substantially reduce their application quantities or even replace them altogether. This will be supported by further crop protection agent studies in the Fuhse catchment area, to identify and document the effects of the proposed measures. A total of EUR 50,000 is available for the project for the period from 2011 to 2015.

4.3.2.2 Lakes

In Lower Saxony there are approximately 27,000 small and large lakes, of which 27 with an area of more than 50 ha are subject to the objectives of the WFD. Of these, only eleven lakes are of natural origin, whereas the remaining standing waters are reservoirs or artificial excavations. The three largest natural lakes in Lower Saxony (Steinhuder Meer, Dümmer, Zwischenahner Meer) are of great regional significance (ecology, water management, nature conservation, tourism etc.).

The present pollution of lakes is due to excessive supplies of inorganic plant nutrients, especially phosphate. The excessive supply of phosphate is responsible for a dominance of phytoplankton. Typical effects of over-fertilisation with phosphate include use problems on the lakes due to blooms of toxic blue-green algae, which also result in turbidity of the water and hence in germination and growth problems for higher aquatic plants (macrophytes). In extreme cases this can lead to “dead lakes”, ranging from oversaturation of the water with oxygen to oxygen deficiency resulting in fish mortality. During the second management period, the water body development plan for Bederkesaer See will be completed. A key item in the second management period as well is the rehabilitation of the Dümmer.



Rehabilitation of Dümmer

For natural reasons the Dümmer is going through a silting-up process, which has however been considerably speeded up by anthropogenic influences during the last fifty years. The Dümmer displays considerable eutrophication. It is suffering from excessive pollution with nutrients which badly affect the ecology of the lake. The underwater vegetation which previously existed has largely disappeared, and regular algal blooms occur. Although these are typical of many shallow lakes, they represent a great nuisance for the various leisure uses of the lake. The Dümmer and the land surrounding it are an EU bird sanctuary and a Habitats Directive area. The resulting obligations for Lower Saxony in relation to the EU are taken into account.

In 1987 the government of Lower Saxony adopted the “concept for long-term rehabilitation of the Dümmer area”. Extensive implementation of the measures described in the concept in the last 25 years has reduced the phosphate loads from municipal sewage plants from 9 tonnes to less than 0.6 tonnes, and re-routing of a tributary with a high level of nutrient pollution – the Bornbach – has succeeded in more than halving phosphate inputs into the lake. In recent years, however, it has become apparent that further rehabilitation measures are necessary. The Dümmer rehabilitation concept was to identify a conflict situation due to competing use claims between water management, nature conservation and agriculture, having regard to tourism issues, and to propose possible solutions. The focus of water management activities was on reducing nutrient inputs to improve water quality and maintain an open surface on the lake.

On the basis of the Dümmer rehabilitation draft drawn up in 2012 and the resulting implementation concept, a start was made in 2013 on the targeted implementation of measures. For planning further measures it was essential to optimise and define the data from the Dümmer catchment area. Since then, additional mobile samplers have been installed on three water bodies and further physico-chemical investigations have been conducted on another 16 water bodies. Investigations are currently in progress to determine the extent to which increasing the discharges into the Mittelland Canal can help to reduce the pollutant loads.

A considerable proportion of the inputs of dissolved phosphate into the Dümmer arrives via the Venner Moorkanal. A phosphate precipitation unit using aluminium hydroxide chloride has been installed here to precipitate the phosphate, which means that it is no longer available for feeding increased algal growth in the Dümmer.

If conditions are unfavourable in the summer months, heavy nutrient inputs in the winter months can result in increased occurrence of blue-green algae. These can have considerable adverse effects on tourist uses of the Dümmer. For this reason, the adjacent municipalities were provided with financial resources to take immediate action to counteract such situations. Blue-green algae are to be kept away from bathing beaches by means of submerged walls; the water is aerated; nitrate is used against dead blue-green algae and the



resulting odour problems; and blue-green algae adhering to aquatic plants are removed by mechanical means and disposed of.

Since external remediation measures always have to be carried out before restoration measures in the lake itself, the main target area for rehabilitation of the Dümmer is the lake's catchment area, over 70% of which is used for intensive farming. A water body advisory service was put in place at the Chamber of Agriculture in Osnabrück, which also provides intensive support for the implementation of agricultural measures to avoid increased nutrient inputs. Use of agricultural land is to be extensified in areas subject to special flood risks. In this context, consideration is being given to the possibility of designating riparian strips.

An important aspect of rehabilitation of the Dümmer is the construction of a large reed polder, which is intended to fix the remaining phosphate loads in the Hunte and thereby bring about a sustainable reduction in the lake's trophic potential. The declared development target for good ecological status of the Dümmer is a macrophyte-dominated shallow lake without blue-green algae dominance, with natural shore areas and a dynamic natural water level situation.

In addition to the measures already mentioned, mention must also be made of the ongoing desludging measures, the purchase of land for the reed polder, and measures in the fisheries sector to promote the growth of underwater vegetation.

Financial resources spent on this, including the completed re-routing of the Bornbach stream, currently total around EUR 25 million. As well as the Bornbach re-routing, this includes the annual desludging and the financing of the two advisor positions at the Chamber of Agriculture.

4.3.2.3 Transitional and coastal waters

Integrated management plans (IMP) have been set up under Article 6 (1) of the Habitats Directive for the major estuaries which are under considerable pollution pressure, and hence for the transitional waters of the Elbe, Weser and Ems. In addition to Natura 2000 objectives (Habitats Directive, Birds Directive) and WFD objectives, these plans also take account of economic, infrastructural and regional aspects.

In view of the present ecological status of the Ems estuary, and particularly the lower Ems, the need for action is particularly great here. At the end of 2014, the Ems steering group therefore drew up the Ems Master Plan 2050 to bring about sustainable improvements in water body quality and restore typical estuarine habitats and a natural sediment dynamic. At the beginning of 2015 this was adopted by the parties concerned (Lower Saxony government, Federal Waterways and Shipping Directorate, municipalities, environmental associations, maritime industry). (Project period 2015 to 2050).

Among other things, this is to create a pilot polder to reduce turbidity. The extensive programme of measures is to restore important estuarine ecosystem services, especially the capacity to regulate the nutrient balance. The objectives and measures of the master plan



are to be supported by measures financed under the EAFRD programme PFEIL (2014 to 2020).

Ems Master Plan 2050

The aim of the Ems master plan is, having regard to a healthy and dynamic ecosystem, to establish the sustainable development and optimisation of the Ems estuary with regard to safety, natural character, and accessibility while maintaining the Ems as an efficient federal waterway.

The following measures are important elements of the agreement:

- As an immediate measure to improve the quality of the water body, Lower Saxony will create and operate a tidal storage basin as a pilot project in the area between Emden and the Herbrum weir (widening of a former arm of the Ems to cover 20 to 25 ha in the foreland above the town of Papenburg). The federal authorities and the rural districts of Emsland and Leer are supporting Lower Saxony with the acquisition of the necessary land for this measure.
- A start is being made on planning to create typical water-meadow habitats in the region of the bend in the Ems near Coldemüntje, while retaining the existing line of the protective dyke.
- On the basis of the existing feasibility study, Lower Saxony will immediately commission further studies on optimal tidal control using the Ems barrage to reduce suspended solid loads and the sedimentation volume in the lower Ems. The federal authorities will provide Lower Saxony with technical support.
- The federal level – GDWS – will immediately commission a feasibility study on the installation of a riverbed threshold at the Ems barrage. This will be lead-managed by the federal authorities; Lower Saxony will provide technical support to the federal level.
- Lower Saxony will establish a nature conservation station in the field as a branch of division IV of the NLWKN. This will in particular serve the interests of field research and play an active part in public relations work.
- On its own responsibility, Lower Saxony will without delay set up a land management system for areas designed to restore a near natural habitat. As soon as the land management system is in place, it will be possible to decide the period in which Lower Saxony will be in a position to make land available. Lower Saxony has set itself the target of making a total of 700 ha available over a period of 35 years, in order to achieve the rehabilitation objectives. The “Ems Master Plan 2050” lays down milestones.
- The federal level – GDWS – will take measures to improve ecological continuity at the Herbrum weir by 2021.



- Lower Saxony will investigate whether improvements in ecological continuity are also possible at Knockser Siel and Oldersumer Siel.

For the budget years 2015 to 2018, Lower Saxony has allocated resources totalling EUR 22 million to finance the tidal storage basin pilot project, the feasibility study for optimisation of tidal control with the Ems barrage, the nature conservation station and the land management system for the period 2015 - 2018.

The integrated management plan for the Ems which is currently being negotiated is to be used as a basis for consultants to plan further measures.

PFEIL 2014-2020

PFEIL, the programme for rural areas of Lower Saxony and Bremen, also provides for measures on the Ems in the focus area 4B, "Improving water management", for the promotion period 2014 to 2020. The instrument "transitional waters and coastal waters" serves to achieve the objectives of the Marine Strategy Framework Directive, especially in the Ems estuary. The aim is to improve environmental status, which is endangered in particular by diffuse pollution from the agricultural sector. It is intended to promote water management projects for restoring good ecological status in transitional and coastal waters:

- Investments to establish natural habitats in transitional and coastal waters, especially regeneration of seagrass,
- Investments to restore a dynamic natural tide situation (e.g. creation of tidal polders),
- Projects to combat eutrophication of coastal waters,
- Investments to restore natural sediment dynamics in transitional waters,
- Preliminary conceptual work and surveys, and
- Subsequent control studies including supporting quality assurance measures.

The projects on the Ems have a pilot character and can be expected to produce basic findings that will be of use when planning measures in the estuaries and catchment areas of the Weser and Elbe as well.

The projects mentioned are connected with further measures planned in the lower Ems/Ems-Dollart region at the present state of negotiations. A priority aspect here is an integrated concept of the Waterways and Shipping Directorate (WSV) for river engineering and sediment management.

Tidal Elbe and tidal Weser

The elaboration of the above-mentioned integrated concepts by the WSV is planned for all major estuaries (Elbe, Weser and Ems) in the second management plan. For this purpose it is already possible to make use of results from numerous studies and preliminary projects. For the tidal Elbe a first concept was presented which seeks to bring together new



approaches in engineering and sediment management (HPA & WSV 2008). Concepts for the Elbe and the tidal Weser have recently been presented which focus exclusively on sediment management (BfG 2014a, 20104b, www.fgg-elbe.de). An extensive dialogue process for evaluating and updating the river engineering and sediment management concept has been started for the tidal Elbe between Hamburg and Cuxhaven (www.dialogforum-tideelbe.de).

Studies on numerous issues of relevance in this context are also available from the TIDE project (TIDE 2014), including on questions of sediment management (Bioconsult & NLWKN 2013), the possibilities for damping the transient tide wave in the mouth of the estuary (HPA & MOW 2013), the reactivation of side arms (Bioconsult & NLWKN 2012) and a holistic concept such as morphological management (Port of Antwerp 2012).

It can be assumed that all the above-mentioned expected plans and concepts which address central hydromorphological and ecological processes in the estuary are open-ended plans which will have to be further adapted and developed on the basis of increasing experience with the implementation of measures. In order to foster this iterative process from various quarters, a start should be made during the second management period in cooperation with the competent offices of the waterways and shipping directorate on relevant targeted individual measures in the estuaries of the Elbe and Weser (e.g. controlled reactivation of side streams on a test basis).

A whole range of suitable measures for transitional and coastal waters are also available from various studies and plans. These can make a limited contribution to improving water body quality and are therefore to be advocated for technical reasons, although they do not address central hydromorphological processes. Assuming the other conditions necessary were satisfied, such measures could be implemented gradually and independently of the existence of an overall concept for a large area. Examples include measures of limited geographical scope in zones of transition from aquatic to terrestrial (for analysis of numerous examples, see Saathoff et al. 2013) and measures for safeguarding and developing sublittoral habitats (KÜFOG & NLWKN 2011; further studies are currently in preparation, e.g. on large-scale registration and, where appropriate, designation of specific sublittoral habitats).

Sediment relocation outside the estuaries is taking place on a limited scale as part of the maintenance work on ports and access routes on the East Frisian coast (mainland and islands), and also on a large scale in the maintenance of the Jade and its port facilities. On the other hand, sand is being obtained from the coastal waters on a considerable scale, e.g. for beach replenishment and constructional purposes. As far as possible, therefore, investigations should be carried out in the second management period to determine the extent to which sand requirements and excavated material from maintenance work can be brought together in a sediment management concept for the coast, and possibly linked in a further step with the sediment management concepts for the Ems, Weser and Elbe estuaries. In the context of drafting the MSFD programme of measures, consideration is being given to the establishment of management systems for sand extraction.



Further improvements are to be made in the continuity and networking of coastal and inland waters. A contribution to considerable improvements in conditions is to be made by the planned measures in the estuaries, such as measures at dyke sluices and weirs and improvements in abiotic conditions along fish migration routes and in spawning grounds. In coastal waters the results of various preliminary studies on ecological and technical matters indicate that at present only measures relating to individual dyke sluices can be considered. These measures could be started as soon as all the preconditions are satisfied.

Regarding inputs of nutrients and pollutants, the measures planned in the context of the WFD can be expected to be supported and reinforced by measures to implement the MSFD. For example, the competent federal/state bodies have adopted an extensive list of measures in the field of agriculture in particular with a view to reducing nutrient inputs. Furthermore, not only input balances of heat and salt are being calculated as part of various studies in 2014/2015, but also inputs of numerous pollutants into transitional and coastal waters, differentiated by inputs of river origin and direct discharges. Where this reveals indications of a relevant reduction potential, it will be necessary to investigate the extent to which suitable measures are available, especially at the sources involved. The findings are also to be seen in connection with the planned reviews of whether discharges authorised in the past are still in line with the state-of-the-art.

4.3.3 Groundwater – measures until 2021

In line with the remarks on the strategy, the second management period will also see the implementation not only of conceptual measures (further training, research projects and preparation of concepts and expertises, further development of water conservation measures), but also of measures to reduce nutrient inputs from the agricultural sector within drinking water abstraction areas and in the WFD target context, including the associated advisory measures. The conceptual measures, and especially the preparation of concepts, studies and expertises, are not confined from the outset to a particular context.

The measures to reduce nutrient and pesticide inputs and for cadmium pollution are offered for those groundwater bodies where a need is identified.

Measures relating to designated areas with bad chemical status due to cadmium or crop protection agents are to be developed jointly with the experts in the field (approach specific to the region and the individual case) in a three-stage integrated process:

Stage 1: Verification of data surveys and resulting assessments, and identification of input sources and input paths,

Stage 2: regional discussions to determine observation areas and areas for measures, and also potential measures, support for implementation of measures,

Stage 3: Development of state-wide recommendations for measures and actions on the basis of regional experience.

However, a priority need for research is seen in relation to cadmium, to obtain information on regional paths for cadmium input into the groundwater. This will be followed by the development of regionally adapted measures via the three stage integrated process.



The measures for reducing pollution with crop protection agents also include, in addition to verification of the existing data and assessments which were completed with the 2014 assessment, regional discussions (involving local experts) to determine observation areas and areas for measures, and also possible measures depending on the input sources and paths. As well as implementing the measures developed at regional level, the aim is to develop state-wide recommendations for measures and action as the need arises on the basis of experience with these regional processes .

To reduce nitrate inputs, the relevant measures context shown in Fig. 9 offers measures for groundwater-conserving land management. The measures context identified was the “especially endangered” areas in which effective groundwater protection is both necessary and possible. Here, farmers are offered advice on groundwater protection. The aim of this groundwater protection advice is to reduce nutrient surpluses and outputs by increasing nutrient efficiency and applying adapted cultivation techniques (making use of agri-environmental measures). The advice continues to pursue the multistage approach, which comprises a standard advice module plus farm-specific advice.

Water conservation advice on surface waters to reduce nutrient inputs into the working areas Fuhse/Wietze, Hase and Große Aue is integrated in the groundwater protection advice (cf. Chapter 4.3.2). The water body conservation advice is thus made up of groundwater conservation advice and advice on surface waters.

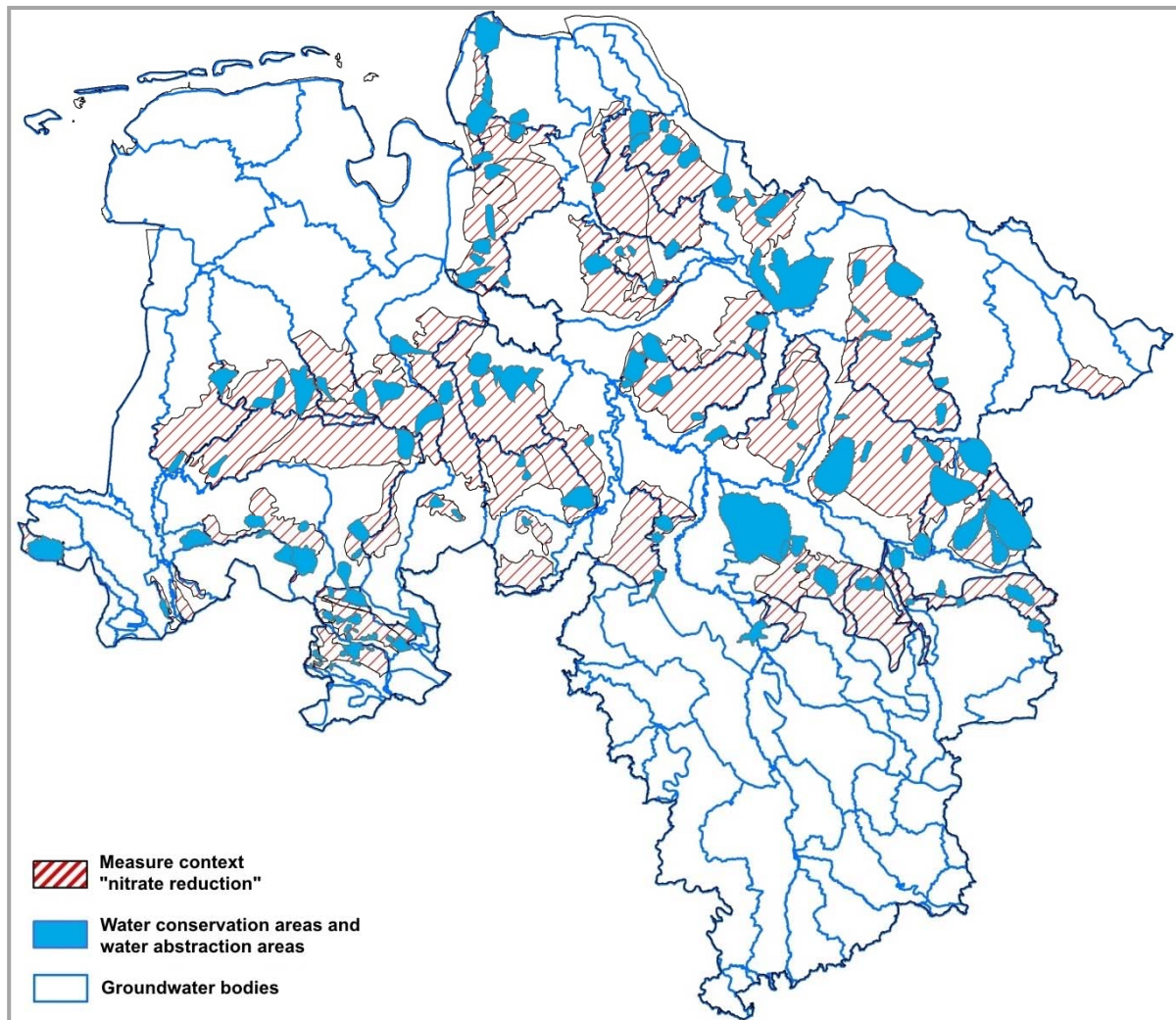


Fig. 9: Measures context for reducing nitrate inputs by means of agri-environmental measures and advice

The advisory context comprises a total of approx. 13,400 km². This corresponds to 26.9% of the area of Lower Saxony. The agricultural area is roughly 8,000 km², and that of the water conservation/water abstraction areas within the context is approximately 1,000 km². On the basis of the 2015 assessment, the context is being expanded by around 700 km²; despite good assessments, 550 km² remain within the context and are subject to ongoing impact monitoring until the end of the next management cycle (2021).

A further target context was created for the agri-environmental measures. This consists of several individual settings with water conservation objectives. This context shows an integrated approach to objectives of groundwater protection and protection of rivers and lakes. The context comprises:

- The target context WFD water conservation advice (groundwater protection and surface waters),
- The drinking water abstraction areas according to the Lower Saxony priority programme,
- The Dümmer catchment area (cf. Chapter 4.3.2.2)



The agri-environmental measures offered under the new Lower Saxony agri-environmental programme NiB-AUM are shown in Table 28. In addition to these measures, other measures from the NiB-AUM programme have a positive impact on water conservation. The complete programme can be seen on www.aum.niedersachsen.de.

Table 28: Farm-specific water conservation measures

Measures to reduce nutrient inputs in the assistance context “Water conservation”
Additional promotion of “water conservation” in organic farming
Winter planting with catch crops and undersown crops (variant: “Winter-hardy catch crops”)
Cultan method for applying mineral fertilisers
No soil cultivation after maize

A whole-farm agri-environmental measure with the name “N_{account}” is developed from the model and pilot project “N₉₀” which ran from 2012 to 2014 (cf. Chapter 3.3.2). In future this measure will be included in the list of agri-environmental measures for the above-mentioned “water conservation” assistance context.

4.3.4 Protected areas – measures until 2021

4.3.4.1 Water bodies used for the abstraction of water intended for human consumption

In Lower Saxony drinking water is obtained from surface water bodies and groundwater bodies. The water-conserving land management measures carried out since 1992 continue to be implemented in the form of voluntary agreements in the Lower Saxony drinking water abstraction areas, including designated drinking water conservation areas. These are measures to reduce nutrient inputs from land management. The basis for these agreements is the Lower Saxony cooperation programme (cf. Chapter 4.3.3). These management measures are supplemented by model and pilot projects (Section 28 of the Lower Saxony Water Act) which serve to improve understanding of the system and to further develop effective measures.

4.3.4.2 Areas designated for the protection of economically significant aquatic species

In view of the fact that Directive 2006/44/EC on quality required of fishing waters and Directive 2006/113/EC on quality required of shellfish waters were repealed in 2013 and the fact that the issues relating to fishing waters and shellfish waters are discussed in the planning of measures for surface waters, no special measures are needed for areas designated for the protection of economically significant aquatic species.



4.3.4.3 Recreational and bathing waters

To protect holidaymakers from infections and dangerous substances, the European Union enacted the Bathing Waters Directive (76/160/EEC), which was replaced in 2006 by Directive 2006/7/EC concerning the management of bathing water quality. The present directive was transposed into national law by means of the Bathing Waters Ordinance (BadegewVO) of 10 April 2008. This makes special demands on the quality of bathing waters, especially from a hygiene point of view.

In general, the basic and supplementary measures to be taken to achieve the objectives of the WFD are aimed at improving bathing water quality by reducing substance inputs and associated blooms of cyanobacteria. They are compatible with the protection objective of the protected area.

The bathing water profile is a supplement to the water management requirements already laid down by the WFD with the aim of protecting bathers from health risks. The bathing water profiles were drawn up by 2011. An overview of the bathing waters in Lower Saxony can be found in the Lower Saxony Bathing Waters Atlas (Badegewässer-Atlas Niedersachsen) (www.apps.nlga.niedersachsen.de/eu/batlas/).

This makes appropriate to use of the data obtained from monitoring and assessment of water bodies under the WFD. In the event of non-compliance with the objectives of the Bathing Waters Directive they can form the basis for the planning and implementation of further management measures.

4.3.4.4 Sensitive and nutrient-sensitive areas

Germany, and hence lower Saxony, has been designated in its entirety as a nutrient-sensitive area within the meaning of the Nitrates Directive. Above and beyond the basic measures for implementing the Nitrates Directive, priority is given to offering measures for reducing nutrient inputs by the agricultural sector, especially for groundwater. Action programmes are carried out on the entire agricultural area of Germany to protect water bodies from contamination by nitrate from agricultural sources in accordance with the Nitrates Directive (91/676/EEC). As a result, no use is made within Germany of the opportunity to designate endangered areas. The Nitrates Directive is transposed at national level by means of the Fertilisers Ordinance (DüV), and in the federal states to some extent by means of regulations in plant-related ordinances and the state water acts. The European Commission has admonished Germany to take stronger action against pollution of water by nitrates. In view of what it regards as the inadequate implementation of the Nitrates Directive in Germany, the Commission has initiated proceedings for infringement of treaty obligations. Germany has reacted to this by revising the Fertilisers Ordinance, which is still going through the parliamentary process at the time of preparing this document. The Ordinance on installations for handling substances dangerous to water (AwSV) will probably enter into force as a uniform federal ordinance at the beginning of 2016, when it will supersede the state ordinances.

In addition to the basic legal requirements resulting from the implementation of the Urban Wastewater Directive, supplementary measures within the meaning of the WFD will be



offered, also with a view to possible pollution resulting from point-source inputs of wastewater.

4.3.4.5 Natura 2000 areas

Specification of nature conservation requirements

In the water-dominated or water-dependent Natura 2000 areas, the water body specific and water-related maintenance objectives for the relevant habitat types and species are to be incorporated in the WFD implementation process and the “enforcement of water resources management measures”, in order to ensure a favourable conservation status of these habitat types and species on a long-term basis. To this end it is necessary to elaborate and localise as precisely as possible the concrete conservation objectives and the measures necessary to achieve these objectives in the areas concerned.

A start has been made on elaborating these nature conservation “Hints for the conservation and development of water dependent habitat types in Lower Saxony waters and water meadow landscapes”. These working aids are intended to characterise the requirements and demands of these habitat types with regard to location and water balance, run-off dynamics or water quantity, and to give more concrete shape to the resulting water-related objectives and measures.

Establishing the action programme “Lower Saxony waterscapes”

The action programme “Lower Saxony waterscapes” is creating a programmatic action framework run jointly by the state’s water resources and nature conservation authorities for the maintenance and development of Lower Saxony waterscapes with their water-dominated communities and habitats. Such an action programme, which is intended to serve as guideline, orientation and action basis for the promotion and implementation of measures, can bring the existing water-related and water meadow related programmes in the field of water management and nature conservation “under one roof” from a conceptual and operational point of view – without depriving established working and organisational structures or assistance instruments of their independence. This “blue-green” programme makes it possible to forge stronger links than in the past between the concrete objectives and measures of water management and nature conservation in the field of water body and water meadow development – and thereby to place much stronger emphasis on water meadows in the implementation of projects and measures. In this way it can bundle strengths, harmonise assistance arrangements and make better use of synergies.

The programme context of the action programme is largely based on the context of the updated priority waters/water bodies under the WFD with the key waters selected in the Lower Saxony water alliance. The potential water meadow areas were geographically delimited for this purpose. Also included in the context description were the areas of special nature conservation importance selected in accordance with nature conservation criteria. These include, for example, the “old” regional settings of the state nature conservation



programmes in the water meadows of streams and rivers in Lower Saxony. Furthermore, certain flood precaution areas with a special need for action were included in the regional context, as were flood areas with “retention potential”.

Because of the largely congruent objectives of the Federal Nature Conservation Act and the WFD, this programme and regional context for Lower Saxony’s waterscapes, which was drawn up as part of the action programme on the basis of the flowing water priorities of the water management sector and the nature conservation target areas is of considerable importance for the design of a state-wide biotope network geared to water body and water meadow landscapes as well. The action programme is therefore also intended to support the establishment of a state-wide water body and water meadow network along the rivers in accordance with Section 21 (5) of the Federal Nature Conservation Act. To this end a continuous networked system of near-natural water landscapes with typical location-specific plant and animal species is to be developed and safeguarded on a permanent basis throughout Lower Saxony.

At the state-wide planning level, there are plans to include the context of priority waters as priority areas for the state-wide biotope network when updating the Lower Saxony regional policy programme.

4.3.5 Catering for climate change

Current climate research findings confirm that climate change (partly) caused by human beings is taking place. The assessment reports of the United Nations Intergovernmental Panel on Climate Change (IPCC) from the years 2007 and 2013/2014 show that the observed warming is also associated with changes in the global hydrological cycle. Projections for the future suggest that in the 21st century there may be a further increase in temperature, changes in the distribution of rainfall in time and space, and also in the frequency of extreme weather events. Accordingly, it is possible that changes may also occur in the high and low water levels of rivers and in groundwater levels. These developments will however vary from one region to another.

The impacts of climate change can therefore be expected to bring considerable changes for the population of Lower Saxony and its economic situation, which will also present the water management sector with new challenges. Conceivable examples are an increase in the intensity and frequency of floodwater events, limitations on the supply of water, low water levels in rivers during lengthy phases of drought, restrictions on the use of drinking water and non-potable water, increasingly stringent requirements for discharges of wastewater and cooling water into rivers.

Lower Saxony has therefore launched various initiatives to investigate the possible impacts of climate change on a regional basis and to quantify the effects on the various sectors, especially the water management sector. Firstly, various projects were initiated in 2008/2009 in cooperation with technical authorities and research establishments (e.g. KLIFF, KliBIW) to analyse climate change and its impacts for the Lower Saxony region from a scientific point of view, and also in relation to water management practice – especially in the KliBiW project.



Secondly, in 2008 a government commission on climate change mitigation was set up consisting of representatives of associations and the administration, and also industrial and scientific circles, to address issues and challenges arising from climate change and climate change mitigation in Lower Saxony. This gave rise to the “Recommendation for a Lower Saxony climate adaptation strategy” and the “Recommendation for a Lower Saxony climate change mitigation strategy” (MU 2012a). The “Recommendation for a Lower Saxony strategy on adaptation to the impacts of climate change” (MU 2012b) lists fields of action for possible measures by the water management sector. The fields of action mentioned are flood control, low-water management and aquatic ecology, groundwater protection, domestic water supplies, basic data and research needs. The recommendation cites specific measures for the individual fields of action. These require differentiated consideration and assessment for the individual case in question before they are implemented.

The findings of the KliBiW project to date indicate changes in the climate and hence also changes in the present and future water balance in Lower Saxony. The future signals are based on a collection of selected climate models which represents a spectrum of possible developments. The studies used the climate models REMO and WETTREG as members of this collection. The PANTA RHEI model was used to simulate the impacts of climate change on the water balance. Some of the findings of the analyses are summarised briefly below.

During the period 1951 - 2005 the mean annual temperature in Lower Saxony increased by approximately $+1.3^{\circ}\text{C}$. Annual precipitation increased by about $+10\%$, with a marked (significant) increase in winter and a slight decrease in summer. Heavy rainfall events increased in the winter in particular (around $+20\%$), while the maximum duration of drought periods in summer rose by rather more than 30% . High water discharges (peak values) during the period 1966 - 2005 show – sometimes significant – downward trends in the summer, but otherwise the trends tend to be mixed or slightly upward, but not significantly so. With the exception of the winter months, low water levels display a downward tendency, and this is significant during the summer in particular (about -20%).

The future situation is shown as a change compared with the mean for the period 1971 – 2000, in one case for the time interval 2021 – 2050 (near future) and in the second case for 2071 – 2100 (distant future). The framework condition chosen for the climate projections was the “moderate emission scenario” A1B of the IPCC. On this basis, the mean annual temperature would show an increase of about $+1^{\circ}\text{C}$ by 2050 (bandwidth $+0.8$ to $+1.3$), and about 2.6°C ($+2.3$ to 3.1) by 2100, with the largest temperature rise taking place in winter. In both periods considered, the annual precipitation would remain more or less unchanged, though there would be a seasonal shift towards the end of the 21st century, in other words an increase in precipitation in winter (and autumn) and a decrease in summer. The frequency and intensity of heavy rainfall events could increase in the autumn in particular, whereas hardly any increase can be expected in the summer.

The information on future changes in the water balance focuses on selected levels in the catchment area of the Aller and Leine. On this basis the mean discharges, at least on larger river sections, will increase – especially in winter – by around $+20\%$ (2021 – 2050) or nearly



+50% (2071 - 2100). In summer there would be no significant changes. How flood water discharges develop depends not only on the time interval under consideration, but also on the scale of the event and the size of the catchment area. In large catchment areas the discharge for smaller events (HQ5) could in future show a larger increase than for major events (HQ100). In smaller catchment areas, the increases seem to be almost identical. On the whole, the increases up to 2100 would be about twice as large as the increases up to 2050. On present knowledge, low water levels do not display any clear tendencies up to 2050. Only in the second half of the 21st century could low water discharges fall, and the maximum duration of low-water periods could even show a marked increase.

This information is currently confined to the selected model collection (REMO, WETTREG) and the selected study period (ALO). The planned increase in the study period and the expansion of the model collection for future studies is intended to further underpin the information from the existing climate impact analyses on change trends and their bandwidths in Lower Saxony. In this connection, work is currently in progress on investigating the water management impacts for the hinterland, with special reference to the impacts of flooding, in a follow-up project (further phase of the KliBiW project) running until the end of 2015.

4.3.6 Public relations – measures until 2021

Implementation of the WFD objectives can only be successful if the public continues to be informed about the objectives and approaches and is, where possible, involved in the planning and implementation of measures. This is of special importance, since the target requirements call for the input of extensive financial resources, and implementation is only possible with the support of the general public and the engagement of a wide variety of institutions. The existing involvement of the public in connection with the preparation of the management plans and programmes of measures must therefore be continued during the phase of implementing measures during the second management period as well.

For this reason the following groups of measures in the field of public relations are planned throughout Lower Saxony.

- Stepping up technical advice for municipalities, associations etc. on matters of water body development and maintenance. Among other things, water body maintenance events have been offered since 2012 for third-order water bodies.
- Setting up regular round tables, e.g. on regional/local issues relating to water management and nature conservation (such as holding an annual Wümme Day).
- Continuing the WFD information exchange with special focus on municipalities in Lower Saxony (www.wrrl-kommunal.de)
- Running “publicity oriented” events such as talks and information events in the individual areas, e.g. the four river basin forums planned for 2015 in particular.
- Stepping up public involvement, e.g. by means of theme-specific information and display tableaux etc. The Lower Saxony water body competition “Flowing Stream” (“Bach im Fluss”) has been held since 2010. Municipalities, associations, societies and



other actors can present measures to the public here. Successful contributions are published in a brochure.

- Implementing measures together with amateur fishing and nature conservation associations (e.g. gravel incorporation measures for river-bed structure improvement). To this end, the “Rules for awarding grants to assist small-scale measures on rivers to achieve the objectives of the Water Framework Directive” (in short: Assistance rules for small-scale measures) were adopted. These assistance rules are aimed exclusively at private-sector institutions such as nature conservation associations.
- Inclusion and involvement of local fishing clubs, for example in function and progress control studies of measures relating to progress control studies of fish migration facilities (fish traps, catches).
- Involvement of regional or local associations in matters relating to the fish stocks situation; using the often well-founded knowledge of local fishing clubs about water-specific occurrence of fish species.
- Involvement of interested associations in the presentation (“marketing”) of measures and in targeted public relations work.
- One major task of the water body conservation advisory services is to inform the technical public. Reports on the findings and work of the Lower Saxony water body conservation advisory service appear regularly in the agricultural periodical “Land & Forst”.

4.4 Additional measures pursuant to Article 11 (5) of the WFD

Additional measures pursuant to Article 11 (5) of the WFD are necessary if the monitoring data or other data obtained during the current programme of measures reveal that – contrary to expectations – the management objectives laid down for the water body will probably not be achieved. The Lower Saxony programme of measures is designed as a range of offerings which is to be continuously updated. Nearly all the measures mentioned in 2009 will continue to be offered. New developments emerging during the last management period or more detailed aspects of specific issues will be taken up in the updated programme of measures. It is therefore possible to dispense with additional measures.

4.5 Strategies for implementing the requirements of other directives

Requirements from other directives are largely satisfied by the basic measures (cf. Chapter 4.2). However, the supplementary measures in particular cater for the rules and requirements underlying the areas protected under Community law. One focal aspect



addressed by Lower Saxony is interaction with the requirements resulting from the implementation of the Habitats Directive and the Birds Directive (cf. Chapter 4.3.4).

Various supplementary measures, particularly in the field of reducing diffuse nutrient inputs, serve the interests of implementing not only the WFD, but also the MSFD or the Nitrates Directive. Reduced nutrient concentrations in coastal waters are also essential for achieving the objectives of the MSFD. In addition to measures published in the programme of measures of the MSFD by 2015, WFD measures in inland waters are also essential here. But the requirements formulated in the Flood Risk Management Directive are also to be taken into account in management planning and observed in concrete measures.

For this reason the measures for implementing the Flood Risk Management Directive and the MSFD were included in the LAWA list of measures. During the revision of the LAWA list of measures and their impact on the objectives of the WFD, the Flood Risk Management Directive and the MSFD were analysed and – in so far as was possible at this level – assessed.

The LAWA list of measures judges the measures in three categories (M1-M3).

- M1: Measures that support the objectives of the other directive
- M2: Measures that could lead to a conflict of objectives and must therefore be the subject of individual examination
- M3: Measures not relevant to the objectives of the other directive (cf. Table 33 in the Appendix).

The measure type “measures for natural water retention, e.g. through flood areas provided by relocating dykes further from the water, rehydration of wetlands, moorland protection projects and reforestation in the catchment area” is notified explicitly for water bodies in the Lower Saxony risk areas pursuant to the Flood Risk Management Directive. This measure type not only supports the objectives of the Flood Risk Management Directive, but also takes up the objectives of nature conservation.

4.6 Cost-effectiveness of measures

When selecting measures for the programme of measures, it is essential to take account of economic cost-effectiveness criteria. The requirement in Annex III to the directive states: “The economic analysis shall contain enough information in sufficient detail (taking account of the costs associated with collection of the relevant data) in order to:

- [...]
- (b) make judgements about the most cost-effective combination of measures in respect of water uses to be included in the programme of measures under Article 11 based on estimates of the potential costs of such measures.”

The LAWA list of measures is a compilation of practicable and cost effective measures that are suitable for eliminating/reducing a specific pressure. The selection of these specific



measures ensures that the resulting combination of measures is the most cost effective for a water body, in other words achieves maximum effectiveness at minimum cost.

A number of guidelines and other documents have been prepared and projects carried out at European and national level which describe suitable approaches and methods for demonstrating cost effectiveness, in this case mainly various approaches to cost benefit analysis, and applying them in exemplary cases. In Germany this way of using explicit cost-benefit analyses it is only used if needed for individual measures and selected bundles of measures. The findings to date show that the range of tools for cost-benefit analysis (or cost effectiveness analysis) can in everyday practice result in meaningful solutions as a basis for decisions, but can also reach its limits. This last aspect is due among other things to the fact that when using these methods it is necessary to compare several alternative measures in order to obtain information as a basis for decision-making. Detailed information on how cost effectiveness is ensured when planning and implementing measures in Lower Saxony can be found in the Guide to planning of measures for surface waters, Part D (NLWKN 2011).

Experience shows that the situation at water bodies is usually highly complex and that in practice alternatives are not always available or have to be eliminated at an early stage in the decision process for reasons of effectiveness or on practical grounds. Furthermore, cost effectiveness is not a fixed attribute of the individual measures, but a result of the entire measure identification and selection process. A ranking of individual measures on the basis of a unidimensional cost-effectiveness relationship is therefore only possible and expedient under certain conditions.

In view of the large number of individual and bundled measures, performing explicit cost-benefit analyses for each individual measure would be out of proportion, mainly because of the methodological input required. The financial input for obtaining explicit proof must also be in proportion to the cost of the measure itself. In particular, this is not the case with minor measures (cf. Chapter 5.2) involving low financial cost. Instead of explicit profitability calculations, therefore, it is the practice in Germany to use other methods integrated in the planning procedure to ensure cost effectiveness in the planning of measures. From a methodological point of view this approach is based on the meta-criterion of organisational efficiency.

The presence of existing water management structures and processes makes it possible to pursue other methods of ensuring cost effectiveness. In Germany, the measures are identified or planned, selected and prioritised in firmly established and legally regulated water management structures and processes. These processes and structures already use a wide variety of mechanisms and instruments to ensure the cost effectiveness of measures. When measures to implement the WFD pass through several planning and/or selection phases, the measures are defined and prioritised on a step-by-step basis. The question of the cost effectiveness of measures arises in all phases of measure identification and selection; ultimately cost effectiveness is part of the result of the entire planning and selection process. The mechanisms and instruments contributing to cost effectiveness are different in the

individual phases and supplement each other. Although the procedure for identifying and selecting measures may vary depending on the federal-state, the type of water body, the type of measure, the natural region and many other parameters, it is generally true throughout Germany that a large number of similar mechanisms are used at the various decision levels and thereby ensure the (cost-) efficiency of measures in the context of decision processes. The main instruments and mechanisms used in Germany to support the selection of cost-effective measures include procedural rules for efficient and economical performance of public-sector projects. Budget law provides for appropriate profitability analyses for measures with a financial impact that are taken by state and municipal bodies. In the case of state-assisted construction projects a technical and economic examination is necessary in the grant allocation procedure. The process of inviting tenders for measures in accordance with the contract award provisions (VOB, VOL, VOF) also ensures cost effectiveness when performing measures in a market competition situation. In addition to these requirements regarding explicit profitability analysis, the existing structures and processes and their interaction also play a role in the selection of cost-effective measures. For example, the structural or procedural organisation of an institution involved in the decision process may also contribute to the selection of cost-effective measures (cf. Fig. 10).

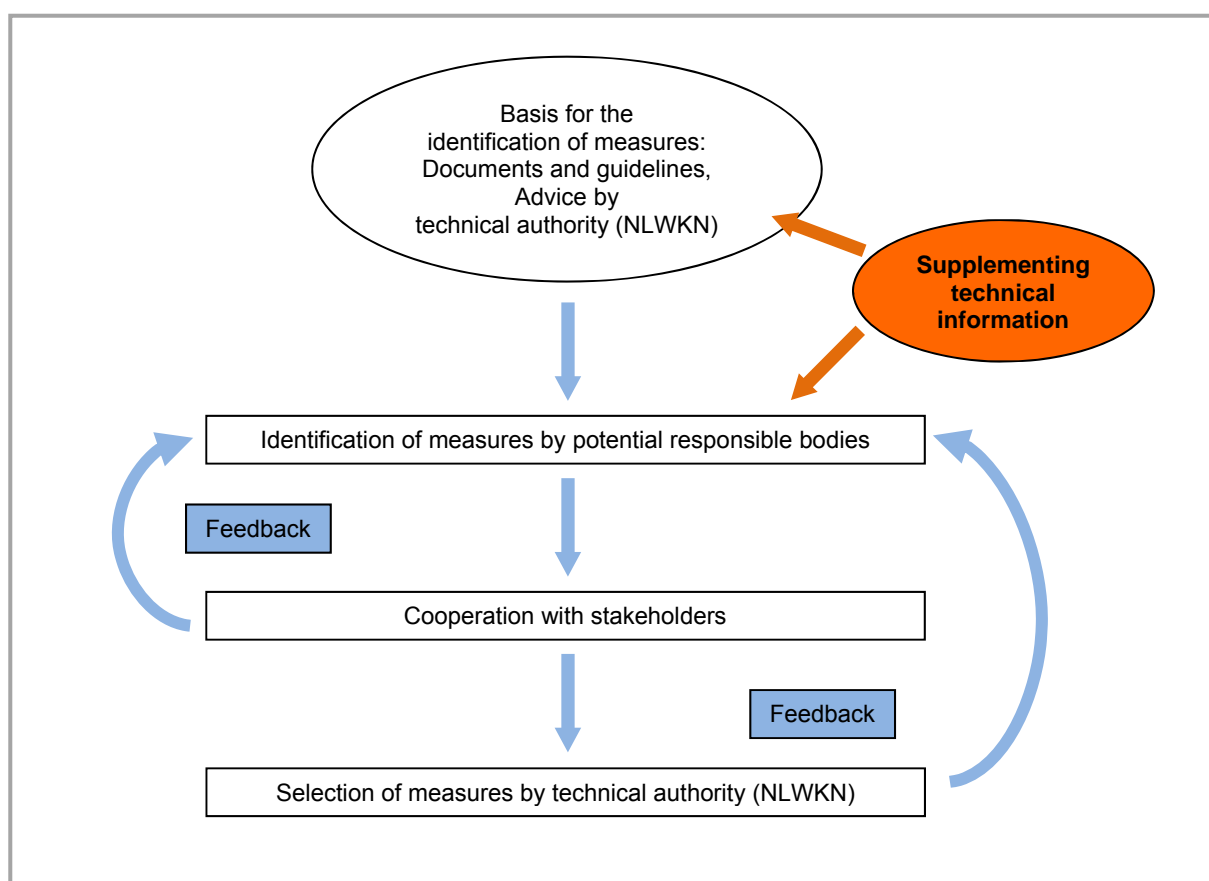


Fig. 10: Process of measure identification and selection (MU NI 2013, modified)

In line with these arguments, Lower Saxony continues to pursue the process-oriented approach developed here. The questions for investigation that were still open from the last



management cycle were included, and the framework conditions and work structures for the selection of measures were examined with a view to further optimisation. The first findings include supplementing and stepping up technical information. A new framework concept for selecting suitable water bodies and work areas in the field of planning measures for surface waters sets new and supplementary focal points intended to support the identification and selection of measures (cf. Chapter 4.3.2).



5 Implementation of measures – procedure, responsible bodies and financing

5.1 Competence

According to Article 3 of the WFD, the competent river basin authority of the federal state in the catchment area is responsible for implementing the programme of measures pursuant to Article 11, Annex VI WFD/Section 117 Lower Saxony WaterAct. For the parts of the Elbe, Weser, Ems and Rhine river basins in Lower Saxony this is the Lower Saxony Ministry of the Environment, Energy and Climate Protection. The ministry coordinates and monitors implementation of the measures by private and public sector bodies in their local sphere of responsibility (e.g. water and soil associations, cities and municipalities). The Federal Waterways and Shipping Directorate is responsible for implementing measures relating to continuity (fish ladders etc.) on federal waterways. In the course of implementation of the specific measures, the competent state authority gives the Federal Waterways and Shipping Directorate an opportunity to verify that the measure is compatible with the management of the federal waterways. Measures that modify the status of the federal waterway that is necessary for fulfilling its purpose may only be implemented with the consent of the competent branch of the Federal Waterways and Shipping Directorate.

5.2 Financing

Under the Lower Saxony Water Act, the federal state is responsible for implementing the WFD in Lower Saxony. Lower Saxony can basically take legislative and administrative action to oblige water users to contribute to satisfying the management objectives of the WFD (good status of water bodies, preventing deterioration) by means of restrictions, prohibitions or positive action, i.e. through financial measures in particular. In recent decades this has been done on a large scale in Lower Saxony by means of legislation at federal and state level. Lower Saxony has supported this input by means of equally substantial financial resources, and there are plans to provide appropriate assistance for investment measures based on the requirements of the WFD. As in the past, this is preferably to be done by using the state's income from wastewater charges and the water abstraction charge, which in turn represents a major building block with regard to the WFD requirement to take account of environmental and resource costs. In addition, use is also to be made of assistance available under the EU programmes. For the EU assistance period 2014 to 2020, Lower Saxony and Bremen have set up a joint interstate development programme for assisting rural areas. The draft of the PFEIL programme was submitted to the European Commission in July 2014 and approved in 2015. The programme authorises several assistance measures designed to support the Lower Saxony programme of measures for implementing the WFD in the fields of groundwater, rivers, lakes, and transitional and coastal waters.



In Lower Saxony there are plans to increase the water abstraction charge pursuant to Section 21 of the Lower Saxony Water Act, among other things to improve the financing of the WFD programme of measures. No further special legislative measures to support the implementation of measures are currently planned by Lower Saxony, and present knowledge indicates that there is no need for such measures.

The Lower Saxony contribution to the programmes of measures in the river basins is designed as a planned range of offerings for the responsible bodies, which are in particular represented in the regional cooperation alliances. In Lower Saxony this range of offerings is to be given financial support, preferably with grants from the federal state. The funding instruments used for this purpose are the income from the wastewater charge and the water abstraction charge, and also EU assistance from the EAFRD and fishery funds. Where Lower Saxony is itself the owner of the water body, it will ensure financing of the measures from its own resources. In addition, Lower Saxony expects the actors to gear their future activities to the management objectives of the WFD. This means, for example, that use should be made of the possibility of placing compensatory measures for encroachments on nature and landscape along rivers if this is capable of contributing to the achievement of WFD requirements (using synergies). When it comes to concrete activities, for example the design of water body maintenance, Lower Saxony also expects water users to make contributions that do not affect the state budget.

In the field of the EAFRD-financed river development guidelines it will probably be possible to make investments (total costs) on a scale of over EUR 60 million for the implementation of measures for the second management cycle in the flowing waters sector up to 2021 (cf. Table 29).

In the period 2014 to 2015 the Lower Saxony water alliance project will receive annual assistance of EUR 500,000. There has yet to be a decision under budget legislation on the continuation of this programme. For implementation of the “rules for awarding grants to assist small-scale measures on rivers to achieve the objectives of the Water Framework Directive”, Lower Saxony will provide EUR 250,000 from its own resources.

In the field of lake development measures, it will probably be possible to invest about EUR 10 million by 2021 under the new EAFRD-financed latest development rules (cf. Table 29).

One item of special importance in the Lower Saxony programme of measures is improving the water quality of the Lower Ems to implement the Ems Master Plan 2050. A sum of EUR 22 million is planned for this purpose. Further measures in the Ems estuary are to be funded via the new EAFRD-financed rules for improving water quality in transitional and coastal waters.

It is not possible to quantify the contribution expected from third parties for improvements to surface water quality, e.g. in the course of compensatory measures.

In the field of groundwater, Lower Saxony will be spending more than EUR 80 million in the current management period, largely for EU-cofinanced agri-environmental measures in the WFD target areas and for area-based measures financed by Lower Saxony in the field of drinking water protection. Furthermore, it will probably be possible to make more than



EUR 50 million available for advisory services in drinking water abstraction areas and in WFD target areas in the next management period.

Lower Saxony will supplement this with the activities that continue to be necessary in the fields of WFD monitoring, scientific support for measure and management planning, economic analysis, public relations work and other model projects.

Table 29: Overview of Lower Saxony assistance rules in PFEIL 2014 - 2020

Guidelines for granting funds for the promotion of river development measures (in short: River development guidelines):

Assistance can be granted for the following:

- ⇒ Investment in near-natural water body development by creating water body development areas in the water meadows sector (e.g. re-connection of old branches, establishment of water meadow forests)
- ⇒ Creation and design of riparian strips and protective plantings (e.g. to permit inherent dynamic water body development and/or reduce substance inputs)
- ⇒ Improving the ecological continuity of water bodies (e.g. through fish migration facilities such as diversions or fish-ways)
- ⇒ Improving water retention in the landscape (e.g. by extending the length of river sections, relocating dykes further from the water)
- ⇒ Conceptual preliminary work, planning and surveys and subsequent control studies including supporting quality assurance measures (e.g. feasibility studies, authorisation plans, progress control, monitoring)
- ⇒ Other expenditure essential to the implementation of the project, including compensation payments (e.g. expenditure on the protection of historic buildings when converting dam structures at historic water mills)

The above-mentioned funding makes use not only of Lower Saxony's own assistance funds and the contributions usually required from the responsible bodies themselves, but also considerable assistance from the European Union's EAFRD fund.

Rules for awarding grants to assist small-scale measures on rivers to achieve the objectives of the Water Framework Directive (in short: Assistance rules for small-scale measures):

The measures that can be assisted are the same as for the river development guidelines. But this guideline is aimed exclusively at private sector institutions, such as nature conservation associations and fishing clubs, and the amount of assistance is limited to EUR 15,000 per measure. Apart from the responsible bodies' own contribution, these measures are funded exclusively from Lower Saxony's own resources.



Guidelines for granting funds for the promotion of lake development measures (in short: Lake development guidelines)

Assistance can be granted for the following:

- ⇒ Investments aimed at near-natural lake development by creating water body development spaces in shore areas and establishing and designing riparian strips and protective plantings
- ⇒ Investments in reducing substance inputs (point sources and diffuse sources)
- ⇒ Desludging
- ⇒ Improving water retention
- ⇒ Developing innovative methods for lake remediation and restoration
- ⇒ Preliminary conceptual work and surveys
- ⇒ Accompanying and follow-up control studies including supporting quality assurance measures
- ⇒ Other necessary expenditure directly and objectively associated with the above-mentioned measures.

The above-mentioned funding makes use not only of Lower Saxony's own assistance funds and the contributions usually required from the responsible bodies themselves, but also considerable assistance from the European Union's EAFRD fund.

Guidelines for granting funds for the promotion of measures to improve water quality in transitional and coastal waters (in short: Transitional and coastal water development guidelines)

Assistance can be granted for the following:

- ⇒ Investments to establish natural habitats in transitional and coastal waters, especially regeneration of seagrass
- ⇒ Investments to restore a dynamic natural tide situation (e.g creation of tidal polders)
- ⇒ Projects to combat eutrophication of coastal waters
- ⇒ Investments to restore natural sediment dynamics in transitional waters
- ⇒ Preliminary conceptual work and surveys, and
- ⇒ Follow-up control studies including supporting quality assurance measures

The above-mentioned funding makes use not only of Lower Saxony's own assistance funds and the contributions usually required from the responsible bodies themselves, but also considerable assistance from the European Union's EAFRD fund.



Guidelines for granting funds to water conservation projects in drinking water abstraction areas and in WFD target areas under the European agricultural fund for rural development (in short: Water conservation advice guidelines):

Assistance can be granted for the following:

- ⇒ Additional water conservation advice in drinking water abstraction areas (water-conserving farming)
- ⇒ Water conservation advice in the WFD target context with the aim of achieving and maintaining good status/potential (water-conserving farming)
- ⇒ Model and pilot projects for developing, demonstrating and progress control of water-conserving farming systems and measures
- ⇒ Compensation for restrictions on agricultural, silvicultural or horticultural soil use under voluntary agreements in drinking water abstraction areas

Apart from funding from Lower Saxony's own resources, the above-mentioned assistance also makes considerable use of funding from the European Union's EAFRD fund (exception: compensation for restrictions on soil use under voluntary agreements is financed exclusively from Lower Saxony's own resources).

Guidelines for granting funds to agri-environmental measures in Lower Saxony and Bremen (NiB-AUM):

The measures that can be assisted under these guidelines include the following:

- ⇒ Organic farming, additional promotion of water conservation
- ⇒ Cultivation of winter-hardy catch crops and undersown crops
- ⇒ Cultan methods for applying mineral fertilisers
- ⇒ No soil cultivation after maize
- ⇒ Green strips for water erosion control and conservation of water bodies

Apart from funding from Lower Saxony's own resources, the above-mentioned assistance also makes considerable use of funding from the European Union's EAFRD fund (the first five measures listed are financed entirely from EU resources).

5.3 Monitoring and control

5.3.1 Implementation control

This monitoring step comprises the control of planning-compliant implementation of the measure. A list of measures for implementing the WFD on surface waters in Lower Saxony was created for this purpose. Progress with implementing the measures is published at regular intervals on the map server²⁰ of the Lower Saxony Ministry of the Environment, Energy and Climate Protection. Implementation control for the groundwater sector is via the existing control instruments of the EAFRD programmes.

²⁰ <http://www.umwelt.niedersachsen.de/service/umweltkarten/interaktive-umweltkarten-der-umweltverwaltung-8669.html>



5.3.2 Progress control

The success of measures for achieving the management objectives is verified partly by means of the Lower Saxony monitoring programme for surface waters and groundwater. The precise structure of the monitoring system for surface waters and groundwater was described in the monitoring reports for the river basins and in the report on the programme for monitoring implementation of the Water Framework Directive in Lower Saxony in the Elbe, Weser, Ems and Rhine river basins (NLWKN 2007).

Depending on the measure, it is also necessary in some cases to perform additional local effectiveness studies. Here the principal need is for intensive studies of the biological and chemical quality components that are to be fostered by the measure. The implementation of measures in past years has demonstrated the importance of progress controls. Even today, the effectiveness of certain measures as far as their impact on aquatic fauna and flora is concerned has still not been adequately investigated and confirmed in detail. Progress controls are an important step in improving the quality of measures, and also in obtaining information about the scale of measures. Efficiency with regard to achievement of objectives is only ensured if the right measures for the individual case are selected on a targeted basis. In 2012 the information sheet²¹ on monitoring support for measures was published as guidance for experts and potential responsible bodies (NLWKN 2012d). To increase our knowledge about the efficiency of measures, biological monitoring will be carried out for various examples of measures.

In the field of groundwater, progress monitoring is an important element in verifying the effectiveness of the measures.

5.4 Uncertainties

Uncertainties with regard to achieving objectives despite implementing the measures can exist as a result of developments that have so far been unpredictable or are basically impossible to predict with sufficient certainty. Uncertainties exist if it is not yet possible to define the implementation of measures adequately in terms of timing or impact. In addition to uncertainties in the field of hydromorphology and the pollution of waters with nutrients, unforeseeable influences include climate changes and unpredictable extreme events such as floods.

It is also important to ensure that the data for assessment are regularly updated. If this gives rise to situations that require a departure from the current method, it becomes necessary to modify the existing programme. In particular, this relates to information about which of the quality components were responsible for the bad assessment findings and how many measures achieved the targeted result. In the past, it has not always been possible to make clear forecasts about the effectiveness of measures. In such cases progress control can demonstrate that planned follow-up measures may no longer be necessary or that there is a need for a shift of focus. It should also be noted that there may be an additional need for

²¹ The information sheet on monitoring support for measures is one of the background documents, and can be found on the NLWKN website for the Water Framework Directive (www.nlwkn.niedersachsen.de).



measures which could not be foreseen during the management cycle at the time of drawing up the programme, but which make sense from a technical point of view. Such measures could make it necessary to adjust plans accordingly. In various cases the implementation of a measure may also involve impacts that have to undergo legal review in the courts. This may also give rise to a need to correct the planning measures.

Further uncertainties with regard to implementation are also associated with the question of availability of land for implementing the measures. All in all, such uncertainties inevitably create a need for considerable flexibility in the planning and implementation of measures. This flexibility is ensured by the programmatic design of the programme of measures.

5.5 Timetable

As far as reporting is concerned, the WFD requires not only an update in 2021 and a further update in 2027, but also an interim report (Article 15 (3) WFD) (cf. Chapter 3). This is to be prepared within three years after publication of each management plan or after each update, and describes the progress made with implementing the programme of measures. The next interim report is to be submitted to the European Commission at the end of 2018.



6 Summary

The Lower Saxony contribution to the programmes of measures for 2015 to 2021 for the Elbe, Weser, Ems and Rhine river basins pursuant to Section 117 of the Lower Saxony Water Act or Article 11 of the WFD includes a list of the legal provisions as basic measures and the types of supplementary measures pursuant to Article 11 (2) to (4) of the WFD.

Chapter 1 provides an introduction to the Lower Saxony contribution to the programmes of measures in the river basins. Lower Saxony has once again designed the existing Lower Saxony contribution to the programmes of measures as a range of offerings. Chapter 2 is a very important chapter, which explains the strategies and concepts for achieving good status in surface waters and groundwater in Lower Saxony. On the basis of the updated inventory, the important water management issues and the assessment findings, it sets out for both surface waters and groundwater the types of supplementary measures needed to achieve the management objectives in the second management cycle and beyond. The supplementary types of measures are based on the list of measures drawn up by LAWA as a basis for notifying the measures to the European Commission. Accordingly, 51 types of measures to be offered for surface waters and groundwater in Lower Saxony were selected from the LAWA list. These types of measures also have recourse to the first programme of measures and the experience gained during their implementation. The chapter also explains aspects relating to the use of surface waters and groundwater bodies in conservation areas. Chapter 3 describes the implementation of the 2009 programme of measures. It provides a brief outline of successes and problems.

The basic measures are set out in Chapter 4. A common feature of basic measures is the fact that they have to be implemented by means of abstract general provisions in relevant acts, ordinances and binding instruments for the protection of the environment and especially of water bodies in Lower Saxony. In its presentation of the supplementary types of measures, Chapter 4 of the present contribution explicitly describes measures that are new or particularly important for Lower Saxony. The relevant types of measures for each water body are described in the Appendix. No differentiated description is provided of the location, size and design of the individual type of measure. This is due to the programmatic approach of the Lower Saxony contribution to the programmes of measures for the river basins, since a certain flexibility in implementing the measures needs to be ensured in view of the long planning period. Aspects of implementation, especially information on financing, are addressed in Chapter 5.



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7.1 Directives

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Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive).

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

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Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (Drinking Water Directive).

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Appendix



The following tables show the types of measures offered for surface waters and groundwater bodies in Lower Saxony during the second management period.

Table 30: Types of measures for surface waters in Lower Saxony

RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe river basin							
Flowing waters							
Elbe	DE_RW_DENI_30055	Achthöfener Fleth	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31019	Ahlenrönne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30065	Ahrensbach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30066	Ahrensbach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL05OW01-00	Aland (OL=Milde; ML=Biese) – von Uchte bis Mündung (NI)	–	–	–	–	–
Elbe	DE_RW_DENI_30011	Alpershausener Mühlenbach mit Sotheler Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL06OW23-00	Alte Dumme	–	29	–	69,76	–
Elbe	DE_RW_DENI_27012	Alte Jeetzel	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31039	Altenbrucher Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31012	Ankeloher Randkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28082	Appelbeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28067	Ashauser Mühlenbach (Unterlauf) u. Deichgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28069	Ashauser Mühlenbach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_28018	Aubach, Pferdebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30061	Aue (Oste)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30010	Aue (Ramme)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28049	Aue (Stederau) Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28046	Aue (Sterderau) Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30005	Aue- Tostedt-Heidenau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30017	Bade	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30022	Barcheler Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28092	Barnstedt-Melbecker Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30052	Basbecker Schleusenfleth mit Hackemühlener Bach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30076	Bever (bis auf Abschnitt oh. Mündung)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30024	Bever Abschnitt oh. Mündung	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28034	Bienenbütteler Mühlenbach, Natendorfer Bach, Varendorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30041	Blumenthaler Schleusenfleth	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28042	Borger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28096	Bornbach, Wrestedter Bach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29002	Borsteler Binnenelbe	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEMV_SBOI-0100	Brahlstorfer Bach	–	–	–	69,73	–
Elbe	DE_RW_DENI_36013	Bremsenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_27013	Breselenzer Bach, Breustianer Mühlenb., Grabower Mühlenb.	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30057	Brucher Schleusenfleth	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28041	Bruchwedeler Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28002	Brummelbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28023	Brunau (Oberlauf)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28025	Brunau (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28024	Brunau-See	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30045	Burgbeckkanal Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30046	Burgbeckkanal Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30072	Buschhorstbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29053	Bützflether Süderelbe	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27005	Clenzer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36012	Dambach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27014	Dannenberger Landgraben, Gedelitzer Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29045	Deinster Mühlenbach mit Westerbeck (= Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28031	Dieksbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27019	Drawehner Jeetzel	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30047	Düdenbütteler Bach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30048	Düdenbütteler Bach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_30025	Duxbach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30026	Duxbach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28097	Eisenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28032	Eitzener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_MEL08OW01-00	Elbe (Geesthacht bis Rühstädt)	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEHH_el_01	Elbe (Ost)	–	–	–	74	–
Elbe	DE_RW_DENI_28063	Elbe-Seitenkanal (Elbe bis Schiffshebewerk Scharnebeck)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28064	Elbe-Seitenkanal (Schiffshebewerk Scharnebeck bis Schleuse Uelzen)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28065	Elbe-Seitenkanal (Schleuse Uelzen bis Einmündung in den Mittellandkanal)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31033	Emmelke Mittel- und Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31032	Emmelke Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29026	Este (Buxtehude-Cranz)	18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28087	Este (Moisburg-Buxtehude)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28086	Este (Seggerheide - Moisburg)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28088	Este (Stadtgebiet Buxtehude)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28077	Este (Welle - Seggerheide)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28076	Este Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28044	Esterau (Oberlauf), Soltendiecker Graben, Wellendorfer	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28045	Esterau (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_30021	Fahrendorfer Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30075	Fallohbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36007	Feldgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31021	Fickmühlener Randkanal (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31022	Fickmühlener Randkanal (Unterlauf) mit Hymendorfer Abzug	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31015	Flögelner Seeabfluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL06OW19-00	Flöt- und Mühlengraben	–	–	–	69	–
Elbe	DE_RW_DENI_28001	Forst Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29044	Fredenbecker Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29057	Freiburger Schleusenfleth Oberlauf (tidefrei)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29058	Freiburger Schleusenfleth Unterlauf (tidebeeinflusst)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28058	Gerdau (Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28056	Gerdau (Oberlauf)	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28047	Gerdau Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30060	Geversdorfer Schleusenfleth	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28089	Goldbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31026	Gösche	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31041	Gr. Medemstader Wettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31030	Gr. Siedenteiler Wettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_51003	Graben 100	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30033	Gräpeler Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29043	Grenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30051	Große Rönne	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30049	Großenwördener Seekanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_SAL18OW01-00	Großer Graben	–	29	–	–	–
Elbe	DE_RW_DENI_29037	Guderhandvierteler Schöpfwerkskanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30054	Hackemühlener Bach Mittellauf mit Heßeler Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30053	Hackemühlener Bach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31010	Hadelner Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27018	HAG Prezelle-Gartow, Bürgermoorgaben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31017	Halemer Seeabfluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28054	Hardau (Mittellauf), Räber Spring, Stahlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28052	Hardau (Oberlauf)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28051	Hardau (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28053	Hardau-See	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27024	Harlinger Bach, Metzinger Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29050	Harschenflether Wettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28095	Häsebach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_28029	Hasenburger Mühlenbach, Südergellerser Bach, Osterbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31025	Hauptvorfluter Steinau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29049	Heidbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30056	Herrenfleth	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28035	Höhnkenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30039	Hollener Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29001	Hörne-Götzdorfer Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30043	Horsterbeck Mittellauf	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30042	Horsterbeck Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30044	Horsterbeck Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38003	Ichte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30050	Ihlbecker Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28013	Ilmenau (Lüneburg - Oldershausen)	–	35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28012	Ilmenau (Oldershausen - Mündung)	–	35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28061	Ilmenau (Uelzen - Lüneburg)	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL06OW01-00	Jeetze – von Purnitz bis oh. Lüchow (NI)	–	–	–	69,76	–
Elbe	DE_RW_DENI_27031	Jeetzel (Lüchow - Lüggaue)	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27022	Jeetzel (Lüggaue - Mündung)	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36015	Jerxheim-Söllinger Randgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30006	Kalber Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_51002	Karoxbosteler Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27026	Kateminer Mühlenbach, Pommoisseler Gr., Ventschauer	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29061	Kattenbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28040	Klein Liederner Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_39008	Knickgraben, Haar-Kührener Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30013	Knüllbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27006	Köhlener Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28094	Kolkbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28093	Kolkhagener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27011	Köngshorster Kanal, Tarmitzer Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_39007	Krainke, Kaarßen-Prilipper Graben	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30059	Krummendeicher Wettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30012	Kuhbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27015	Kupernitzkanal, Rantzaukanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30058	Laaker Fleth	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_39004	Laaver Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36014	Lahbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30040	Lamstedter Kanal mit Sether Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28014	Landwehrgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31037	Landwehrkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_29029	Landwettern	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEMV_SUDE-2100	Langenheider Bauerngraben	–	–	–	69	–
Elbe	DE_RW_DEMV_EMEL-0700	Löcknitz	–	–	–	–	–
Elbe	DE_RW_DENI_28026	Lopau (Ober- u. Mittellauf), Ehlbeck	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28028	Lopau (Unterlauf)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28027	Lopau-See	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27020	Lübelner Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27008	Lüchower Landgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27016	Luciekanal, HAG Prezelle-Lomitz, Panie-Buhn-Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28017	Luhe (Mittellauf Luhmühlen - Winsen)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28020	Luhe (Mittellauf Schwindebeck - Luhmühlen)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28091	Luhe (Oberlauf)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28016	Luhe (Unterlauf)	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29031	Lühe-Aue Mittellauf 1	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29032	Lühe-Aue Mittellauf 2	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29030	Lühe-Aue Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29033	Lühe-Aue Unterlauf	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28009	Marschwetter, Ilau-Schneeagr., Bruchwetter, Neetze (Unterl.)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28007	Mausetalbach, St. Vitusbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_31029	Medem	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27028	Meetschower Hauptgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30071	Mehde-Aue	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30034	Mehe (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30035	Mehe Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30036	Mehe Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36011	Missaue	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28083	Moisburger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31038	Moorauae	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28085	Moorbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEHH_mo_01	Moorburger Landscheide, Moorwettern, Hohenwischer Schleusenfleet, Alte Suederelbe (Abschnitt Fliess	18	28	–	63,69,70,72,73,75,77,79	–
Elbe	DE_RW_DENI_31042	Moorwettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31023	Mühe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29035	Mühlenbach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29036	Mühlenbach Unterlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28006	Neetze (Ellringen - Neetze)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28003	Neetze (Neetze - Echem)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28008	Neetze (Oberlauf), Süschenb., Strachau, Kalberlah, Harmstorfer B.	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28004	Neetze-Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_31020	Neuenwalder-Ahlener-Randkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30062	Neuhaus-Bülkau-Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28019	Nordbach, Oelstorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27004	Nördlicher Mühlenbach (Schnegaer Mühlengraben)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29060	Nördlicher Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30069	Nördlicher Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27030	Nördlicher u. Südlicher Schaugraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30027	Oereleer Kanal Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30028	Oereleer Kanal Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL03OW03-00	Ohre – Verteilerwehr bis Wehr Calvörde	–	–	–	70	–
Elbe	DE_RW_DEST_MEL03OW04-00	Ohre – von Quelle bis Verteilerwehr	–	29	–	76	–
Elbe	DE_RW_DENI_30073	Osenhorster Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36005	Ostbach (Soltau)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30003	Oste (Bremervörde-Oberndorf)	9	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30004	Oste (Oberndorf bis Mündung)	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30001	Oste (Quelle -Einmündung Ramme)	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30002	Oste (Ramme-Bremervörde)	9	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30020	Oste-Hamme-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29051	Osterbeck Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29052	Osterbeck Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_30029	Oste-Schwinge-Kanal (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30030	Oste-Schwinge-Kanal (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30077	Otter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28062	Pattenser Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28080	Perlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27021	Prisserscher Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30070	Pulvermühlenbac	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28075	Radenbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28015	Raderbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30007	Ramme (Ober- und Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30008	Ramme (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30064	Remperbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28057	Rheinmetallsee	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28038	Röbbelbach (Ober- u. Mittellauf), Gollernbach	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28037	Röbbelbach (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28011	Roddau, Hausbach, Düsternhoopenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEMV_ROEG-0300	Rögnitz	–	–	–	63,65,69,70,71,72,73,74,79	–
Elbe	DE_RW_DENI_28081	Rollbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_39005	Rosiener Schöpfwerksgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29054	Ruthenstrom	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_28005	Sauerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28010	Schleusengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28074	Schmale Aue Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28073	Schmale Aue Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_SAL18OW15-00	Schöninger Aue – von Missaue bis Mündung	–	–	–	–	–
Elbe	DE_RW_DEST_SAL18OW14-00	Schöninger Aue – von Mühlenbach aus Völpke (Mittellauf=Kupferbach) bis Missaue	–	–	–	–	–
Elbe	DE_RW_DEST_SAL18OW13-00	Schöninger Aue – von Quelle (OL=Wirbke) bis Mühlenbach aus Völpke	–	–	–	69	–
Elbe	DE_RW_DENI_29039	Schöpfwerkskanal Hollern-Steinkirchener Moor/Agathenburger Moorwettern	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28066	Schöpfwerkszubringer Hoopte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28060	Schwienau (Oberl.), Wriedeler B., Oechtringer B., Schliepbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28059	Schwienau (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28021	Schwindebach, Ham-Bach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29041	Schwinge Mittellauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29040	Schwinge Oberlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29042	Schwinge Unterlauf	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_MEL06OW26-00	Seege – von Seegraben bis Gartower See (NI)	–	29	–	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_27027	Seege (Gartow - Mündung)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28048	Seehalsbeeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28070	Seeve Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28072	Seeve Oberlauf mit Nebengewässern	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28068	Seeve Unterlauf	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEHH_se_01	Seevekanal	–	–	–	69,79	–
Elbe	DE_RW_DENI_30018	Selsinger Bach Oberlauf	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30019	Selsinger Bach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28071	Seppenser u. Reindorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36004	Soltau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38008	Sprakelbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28078	Sprötzer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28084	Staersbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38001	Steinaer Bach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38002	Steinaer Bach	–	28,29,30,35	–	–	–
Elbe	DE_RW_DENI_29034	Steinbeck (Lühe-Aue)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29046	Steinbeck (Schwinge)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30067	Stinstedter Abfluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31027	Stinstedter Randkanal Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31028	Stinstedter Randkanal Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31040	Straßdeichwettern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DEMV_SUDE-1950	Sude	–	28	–	69,71,72,73,75,79	–
Elbe	DE_RW_DEMV_SBOI-0500	Sude, Unterlauf	–	28	–	65,69,72,73,74,75,79	–
Elbe	DE_RW_DENI_29059	Südlicher Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30068	Südlicher Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27017	Südöstlicher Randgraben, Trebeler Hauptgr., Feinhöfengr.	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_39009	Sumter Kanal, Gülstorfer Graben, Forstgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27023	Taube Elbe-Gümser Schleusengr.-HAG, Dannenberger Marsch	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28098	Tostedter Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28099	Tostedter Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36003	Triftgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30074	Twiste Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30016	Twiste Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38004	Uffe	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38005	Uffe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30009	Viehgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28033	Vierenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_30038	Wallbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DEST_SAL17OW07-00	Warme Bode	–	–	–	69	–
Elbe	DE_RW_DENI_36006	Westerbach/Wiesengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Elbe	DE_RW_DENI_30037	Westerbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38006	Wieda	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38007	Wieda	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_31034	Wilster	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_36002	Winnigstedter Tiefenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28039	Wipperaue (Mittel- u. Unterlauf)	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28043	Wipperaue (Oberlauf), Dalldorfer Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29056	Wischhafener Schleusenfleth	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_29055	Wischhafener Süderelbe	9	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28090	Wittenbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_28036	Wohbeck	–	28,29,30,3	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27001	Wustrower Dumme (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_27002	Wustrower Dumme (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Elbe	DE_RW_DENI_38009	Zorge	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Standing waters							
Elbe	DE_LW_DENI_30063	Balksee	–	27,28,31	–	–	96
Elbe	DE_LW_DENI_31011	Bederkesaer See	–	27,28,31	–	–	96
Elbe	DE_LW_DENI_31016	Flögelner See	–	27,28,31	–	–	96
Elbe	DE_LW_DENI_27009	Gartower See	–	27,28	–	80,86	96
Elbe	DE_LW_DENI_31018	Halemer-/Dahlemer See	–	27,28,31	–	–	96



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Transitional waters							
Elbe	DE_TW_DESH_T1.5000.01	Übergangsgewässer der Elbe	5	35	–	79	–
Coastal waters							
Elbe	DE_CW_N3.5000.04.01	Außenelbe Nord	–	35	–	–	96
Elbe	DE_CW_N4.5000.04.02	Hakensand	–	35	–	–	96
Elbe	DE_CW_N4_5900_01	Westliches Wattenmeer der Elbe	–	35	–	–	–
Weser river basin							
Flowing waters							
Weser	DE_RW_DENI_26024	Abbehauser Sieltief / Utergadinger Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15003	Abzucht	16,18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16016	Adamsgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24076	Ahauser Bach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24032	Ahauser Bach und Ahauser Mühlengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26120	Ahe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08021	Ahle	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17066	Ahnsbecker Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17016	Ahrbeck	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21081	Akebeeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25071	Aldorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26065	Alfgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14014	Aller	18	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14044	Aller	18	28,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22001	Aller	–	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17001	Aller I	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17002	Aller II	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18023	Allerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13030	Allerbeeke Oberlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13024	Allerbeeke Unterlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14046	Allerkanal	18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20016	Alme	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22019	Alpe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22018	Alpe (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20017	Alpebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12003	Alte Aller	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16019	Alte Aue	–	28,29,30,31,32,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16046	Alte Fuhse (Knickgraben)	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21085	Alte Leine	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22005	Alte Leine	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21010	Alte Leine/Hallerbruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26055	Alte Lune	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12048	Alte Weser	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26058	Alte Weser	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15026	Altenau	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15028	Altenau	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25048	Altonaer Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26119	Altwistedter Lune	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17069	Alvernscher Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17042	Angelbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23005	Annengr.Unterl. / Heidkruger Bäke	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23010	Annengraben Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12002	Arberger Kanal, Lienertgraben, Brede-Ehrs Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21046	Arnumer Landwehr	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17019	Aschau	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26089	Aschwardener Flutgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26108	Aschwardener Flutgraben Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17035	Aue	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19037	Aue	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21057	Aue	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18006	Aue (z. Gande)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18009	Aue (z. Leine)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18012	Aue (z. Leine)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_25055	Aue + Zuflüsse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16035	Aue/Erse	–	28,29,30,31,32,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16053	Aue/Erse	18	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16041	Auebach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14029	Ausbütteler Riede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21013	Auter Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21012	Auter Fluss	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_21014	Auter Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13008	Bahrenborstel-Scharringhäuser Entlastungsgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12043	Bannseeegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19042	Barbiser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25085	Bardenflether Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12012	Bärenfallgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25069	Bargeriede Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25070	Bargeriede Unterlauf mit Drentweder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26033	Barkenbuschschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24016	Bartelsdorfer Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24044	Bassener Mühlengraben I	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24045	Bassener Mühlengraben II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19022	Beber (Pöhlder Bach)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_19048	Beber (Pöhlder Bach)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10013	Beberbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14012	Beberbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15037	Beberbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26070	Bederkesa-Geeste-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24013	Beek	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24064	Beek	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16050	Beeke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22006	Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25066	Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20021	Beffer/Lindenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24011	Benkeloher Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17051	Berger Bach	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12004	Berkelsmoorgraben, Goldbach und Langwedeler Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16039	Berkumer Schölke/Glindbruschölke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25039	Berne Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20009	Beuster	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08014	Beverbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18032	Beverbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18033	Beverbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14018	Beverbach/Bokensdorferbach	–	28,3	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26048	Beverstedter Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18022	Bewer	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15038	Bickgraben	16	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16028	Billerbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26121	Billerbeck Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26050	Billerbeck Unterlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18051	Bischhauser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25035	Blankenburger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22033	Bleckwedeler Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12007	Blender Emte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12018	Blenhorster Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26022	Blexer Sieltief / Blexer Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16025	Blöckengraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_26112	Blumenthaler Aue	–	33	–	–	–
Weser	DE_RW_DENI_26109	Blumenthaler Aue Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26094	Blumenthaler Aue Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22007	Böhme I	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22008	Böhme II	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22009	Böhme III	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14017	Bokensdorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_18030	Bölle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22013	Bomlitz mit Riesbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21022	Bornau	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25010	Bornbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12055	Borngraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14001	Bottendorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26026	Braker Sieltief/ Dornebbe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26074	Brameler Randgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21042	Bredenbecker Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19044	Brehme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15042	Breite Beeke (Salzd. Gr.)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19021	Bremke	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08009	Brevörder Bach (Glesse)	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_25096	Brockumer Pissing	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW496262_4_8	Brockumer Pissing	–	–	–	–	–
Weser	DE_RW_DENI_25054	Brookbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12024	Bruch- u. Kolkgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17024	Bruchbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17059	Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20002	Bruchgraben	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21048	Bruchriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_24020	Bruchwiesenbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15032	Brückenbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17038	Brunau/ Ö. I	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17039	Brunau/ Ö. II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14021	Bruneitzgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26015	Brunner Bäke Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26016	Brunner Bäke Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10027	Brünnighäuser Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14010	Bruno/Hässelbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15057	Brunsolgraben (Rote Riede)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12037	Bückeburger Aue (Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12058	Bückeburger Aue (oberer Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12040	Bückeburger Aue (oberer Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12057	Bückeburger Aue (unterer Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12049	Bückeburger Aue (Unterlauf in Nds.)	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12017	Bückener Mühlenbach (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12015	Bückener Mühlenbach (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21034	Bullerbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14020	Bullergraben	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25044	Bümmersteder Fleth	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20013	Büntebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_21033	Büntegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16030	Burgdorfer Aue	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16063	Burgdorfer Aue	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26008	Butteler Bäke	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12062	Calle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26001	Crildumer- / Mühlintief	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25014	Dadau Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25078	Dadau Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24027	Dahnhorstgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08028	Daspe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10005	Deckberger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26059	Dedestorfer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24047	Deichschlot	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23003	Delme + Welse in Delmenhorst	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23009	Delme Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23025	Delme Oberlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23004	Delme Unterlauf oberhalb Delmenhorst	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25052	Denghauser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21017	Desbrockriedegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21061	Despe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18020	Diesse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_18021	Diesse	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20006	Dingelber Klunkau	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25043	Dingsteder Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20004	Dinklarer Klunkau	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20005	Dinklarer Klunkau	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26123	Dohrener Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26107	Doorgraben - Ost	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19005	Dorster Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26084	Dorumer Wasserlöse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18054	Dramme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26039	Drepte Mittellauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26038	Drepte Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26040	Drepte Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25089	Drielaker Kanal / Tweelb. Randgr.	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22041	Dröpper Fleet	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18011	Düderoder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23028	Dummbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16054	Dumbruchgraben	18	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18043	Dungbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23011	Dünsener Bach Mittel- u. Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23006	Dünsener Bach Unterl. / Pultern	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_24080	Dunzelbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08030	Dürre Holzminde	–	35	–	–	–
Weser	DE_RW_DENI_22004	Düshorner Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08013	Eberbach (Oberlauf Forstbach)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18010	Eboldshauser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15011	Ecker	16	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15010	Ecker ab Talsperre	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15007	Ecker bis Talsperre	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15009	Eckergraben	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15015	Eckergraben	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24046	Eckhoffgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16021	Edder	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08008	Eichelbach	–	28,29,30,35	–	–	–
Weser	DE_RW_DENI_21006	Eilveser Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21030	Eimbeckhäuser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12059	Eiter und Benkengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12005	Eiter Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14048	Elbeseitenkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25051	Ellenbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26004	Ellenserdammer Tief + NG / Marsch	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19030	Eller/Obere Eller	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_19038	Ellerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_11004	Else Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_11008	Else Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25028	Elsflether Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25007	Elze Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26114	Emder Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10022	Emmer	–	28,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14007	Emmerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14008	Emmerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21005	Empeder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26003	Ems-Jade-Kanal bis Upschört	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26032	Ems-Jadekanal bis Wiesens	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13025	Eschbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW45696_0_6	Eschenbach	–	–	–	69,72	–
Weser	DE_RW_DENI_18036	Espolde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18038	Espolde	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17045	Esseler Kanal mit Nordkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14053	Essenroderriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18008	Eterna	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24077	Everser Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10004	Exter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26021	Fedderwarder Sieltief / Eckwarder Sieltief Nord	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24029	Federlohmühlenbachbach I	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24030	Federlohmühlenbachbach II	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23032	Finkenschbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24072	Fintau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25049	Flachsbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17003	Flettmarscher Abzugsgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24010	Florgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16047	Flöte	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13015	Flöte	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16052	Flöth	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21077	Flöttenbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_20007	Flussgraben	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16010	Flußgraben/Neuer Graben	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08012	Forstbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21040	Fösse	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25027	Freistätter Moorkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26066	Frelsdorfer Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26030	Friedeburger Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21086	Fuchsbach mit Schille	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_12019	Führser Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12022	Führser Mühlbach (Oberlauf) und Nebengewässer	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16031	Fuhse	–	28,29,30,31,32,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16045	Fuhse	18	28,29,30,31,32,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16062	Fuhse	–	28,29,30,31,32,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15034	Fuhsekanal	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16015	Fuhsekanal	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16018	Fuhsekanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14004	Fulau	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_42.1	Fulda/Wahnhausen	2,3,4,10,18	–	–	–	–
Weser	DE_RW_DENI_22015	Fulde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12031	Fulde (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12026	Fulde (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26052	Gackau Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26053	Gackau Unterlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18004	Gande	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18005	Gande	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18050	Garte (mit Thüringen)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_26064	Geeste	–	–	–	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26061	Geeste Mittellauf (bis Einmündung Grove)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26062	Geeste Mittellauf (uh. Grove bis Einmündung Seekanal)	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26060	Geeste Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26063	Geeste Unterlauf 1 (bis Tidesperrwerk)	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25040	Geestrandgraben West/ Berne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26007	Geestrandtief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12032	Gehle (Oberlauf in Nds.)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21053	Gehlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10026	Gelbbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21049	Gestorfer Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25087	Gew 4969386	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24036	Giersdorf-Schanzendorfer Mühlengraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19040	Gillersheimer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24023	Gilmerdinger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21065	Glasebach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21062	Glene	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15029	Glue Riede (Ahluemer Bach)	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15052	Glüsig (Lauinger Mühlenr.)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22038	Gohbach mit Schmobach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14054	Gosebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26096	Gr. Fedderwarder Tief + NG	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15025	Gr. Graben (Alte Ilse)	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25100	Graft (Bruchkanal) mit Hauptgraben Düversbruch	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25005	Gräfte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20037	Grane	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20043	Grane	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24026	Grapenmühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14045	Graslebener Mühlengraben	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12061	Graue	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26079	Grauwalkkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14031	Gravenhorster Riede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25022	Grawiede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14049	Grenzgaben Rade	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25008	Grenzkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10015	Grießebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21009	Grindau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18044	Grone	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13001	Große Aue	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22011	Große Aue inkl. Heibach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26078	Große Beek	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21002	Große Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19015	Große Kulmke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19017	Große Lonau	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19020	Große Söse	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_12045	Großenheidorngraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26067	Grove	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18047	Grundbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18049	Grundbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25033	Haaren Oberl. / Putthaaren	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25081	Haaren Stadtstrecke Oldenburg	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25034	Haaren Unterl. + Unterl. Ofener Bäke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17021	Haberlandbach I	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17022	Haberlandbach II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23024	Hache Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15030	Hachumer Bach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19010	Hackenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25057	Hageler Bach Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25058	Hageler Bach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21004	Hagener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19033	Hahle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_19032	Hahle/Obere Hahle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24022	Hahnenbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26054	Hahnenknoop-Hetthorner-Moorkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17006	Hahnenmoorgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26009	Hahner Bäke Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26117	Hahner Bäke Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16024	Hainholzbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21052	Haller Bach (incl. Rambke)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21051	Haller Fluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22042	Halsebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10020	Hamel Bach	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10016	Hamel Fluss	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24054	Hamme I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24055	Hamme II	–	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24056	Hamme III	–	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19003	Hammenstedter Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16033	Harlake	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18042	Harste	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15017	Hasenbeeke	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22027	Haßberger Hauptgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08031	Hasselbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14034	Hasselbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17041	Hasselbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24028	Hasselbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10017	Hastebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21032	Haster Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12060	Hauptkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26103	Hauptpumpgraben Jaderaußendeich	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25082	Hausbäke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22028	Häußlinger Hauptvorfluter	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26020	Hayenschlooter Sieltief / Eckwarder Sieltief Süd	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_488138.1	Hebenshäuser Bach	–	–	–	–	–
Weser	DE_RW_DENI_16022	Hechtgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14013	Heestenmoorkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14030	Hehlenriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14036	Hehlinger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15048	Heiligendorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25101	Heiligenloher Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21082	Heinser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26104	Hekelner Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18026	Helle (Hellenbach)	–	35	–	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_10009	Hemeringer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25045	Hemmelb.Kanal / Hemmelsbäke + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16005	Hengstbeeke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20029	Hengstebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10019	Herksbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW4594_0_6	Herrengaben	–	–	–	69,70,71,72,73,74,75	–
Weser	DE_RW_DENI_13009	Herrenriede und Landriede	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21078	Heßbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_43632.1	Hessenbeeke	–	–	–	69	–
Weser	DE_RW_DENI_10007	Heßlinger Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08019	Hilkenbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26110	Hinnebecker Fleth (Unterlauf)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26091	Hinnebecker Fleth Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21044	Hirtenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17057	Hohe Bach I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17058	Hohe Bach II	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_26098	Hohens Tief / Poggenb. Leide + NG	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10008	Hollenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25083	Holler Moorkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21020	Holpe-Hülse-Reeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08015	Holzminde	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_23031	Hombach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26097	Hooksieler Tief + NG	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26105	Hörsper Ollen	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21015	Horster Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16032	Horstgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26099	Horumer- / Grimmenser Tief + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17036	Hötzingen Aue	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_23018	Huchtinger Fleet	–	–	–	71	–
Weser	DE_RW_DENI_23017	Huchtinger Fleet Oberlauf mit Große Wasserlöse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17061	Hudemühlener Meiße und Feldgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10014	Humme Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10012	Humme Fluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_41974.1	Hungershäuserbach	3,10	–	–	–	–
Weser	DE_RW_DENI_25002	Hunte ab Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25073	Hunte Tidebereich	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25080	Hunte von Dümmer bis Einmündung Grawiede	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25017	Hunte von Einmündung Wimmerbach bis Dümmer	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25019	Hunte von Grawiede bis Wildeshausen	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25092	Hunte von Wildeshausen bis Ellenbäke	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_25076	Hunte/ Staustrecke Kraftwerk Ol.	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25074	Hunte/ Wildeshausen - Wardenburg	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25001	Hunte-Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25060	Huntloser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21047	Hüpeder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22044	Idsinger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21079	Ihme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18014	Ilme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18019	Ilme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18027	Ilme	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12054	Ils (Oberlauf in Nds.)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08002	Ilse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEST_WESOW21-00	Ilse - Unterlauf	–	–	–	69	–
Weser	DE_RW_DENI_16027	Immensen-Arpk.Gaben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26115	Indiekkanal und neuer Indiekkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_42004	Ingelheimbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20001	Innerste	16	35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20039	Innerste	16	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20045	Innerste	16	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20046	Innerste	16	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25084	Ipweiger Moorkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14002	Ise	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14003	Ise	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14005	Isebeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08022	lthalbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26006	Jade	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26116	Jade - Oberlauf / Rasteder Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17013	Jafelbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20034	Jerstedter Bach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16007	Johannisgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22017	Jordanbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21003	Jürsenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17012	Kainbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20011	Kalte Beuster	16	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_26027	Käseburger Sieltief + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25050	Katenbäke + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14037	Katharinenbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14040	Katharinenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16061	Katjefuhse	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16055	Katzhorngraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW46654_0_8	Kilverbach	–	–	–	69,72	–
Weser	DE_RW_DENI_25042	Kimmerbäke, Brookbäke, Berne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_21076	Kirchdorfer Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24068	Kirchenfleet	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14019	Kleine Aller	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14022	Kleine Aller	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22012	Kleine Aue	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13020	Kleine Aue Oberlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13021	Kleine Aue Unterlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14051	Kleine Brunsroderriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12008	Kleine Eiter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17028	Kleine Örtze	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19012	Kleine Steinau	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19018	Kleine Steinau + Schindelgraben	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13011	Kleine Wickriede Mittellauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13012	Kleine Wickriede Oberlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13013	Kleine Wickriede Unterlauf und Bramkamper Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_24052	Kleine Wümme	12	–	–	71	–
Weser	DE_RW_DEHB_24053	Kleine Wümme	–	–	–	69	–
Weser	DE_RW_DENI_23033	Klosterbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23013	Klosterbach Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23007	Klosterbach Unterlauf / Varreler Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14006	Knesebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25064	Korrbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16034	Köttjermühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17018	Köttelbeck	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12009	Krähenkuhlenfleet	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16043	Krähenriede	18	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19028	Krebsgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14028	Kronriede (Graben Nr.7)	18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15022	Krummbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16042	Krummbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18017	Krummes Wasser / Hillebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17060	Krusenhausener Bach mit Prahleeke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13018	Kuhbach Oberlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13019	Kuhbach Unterlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_24071	Kuhgraben	–	–	–	72	–
Weser	DE_RW_DENI_13039	Kuhlenkamper Beeke und Pöpser Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20008	Kupferstrang (Trilkeb.)	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25075	Küstenkanal östl. Vehnedüker	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15060	Laagschunter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17010	Lachte I	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_17011	Lachte II	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_11006	Laerbach und Twisselbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25016	Lahrer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20044	Lakebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20012	Lamme	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20015	Lamme	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25059	Landriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12006	Landwehr mit Steinwätern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17031	Landwehrbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25062	Landwehrbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21043	Landwehrgraben	–	28,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15005	Lange	16	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_15056	Lange Welle (Mittelgraben)	9,18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19029	Langenhagen-Hilkeröder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13010	Langer Graben und Schafdammgraben	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13002	Langhorst-Kuhlengraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14042	Lapau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14043	Lapau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26077	Lavener Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25094	Lecker Mühlbach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25004	Lecker Mühlbach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_23019	Leester Mühlenbach mit Unterlauf Hombach und Gänsebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22043	Lehrde I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22032	Lehrde II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16026	Lehrter Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18001	Leine	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18057	Leine	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18058	Leine	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18059	Leine	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18060	Leine	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21060	Leine Bergl.	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21068	Leine, Despe-Innerste	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21019	Leine, Ihme-Westtaue	–	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21069	Leine, Innerste-Ihme	–	31,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21001	Leine, Westtaue-Aller	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08033	Lenne Oberlauf mit Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08032	Lenne Unterlauf	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24007	Lesum und Hamme	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17052	Liethbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25053	Lohmühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21039	Lohnder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_25065	Lohne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08011	Lonaubach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_26042	Lune Mittellauf 1	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26043	Lune Mittellauf 2	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26118	Lune Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26044	Lune Unterlauf 1	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26045	Lune Unterlauf 2	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24015	Lünzener Bruchbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15054	Lutter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15055	Lutter	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17015	Lutter	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18045	Lutter	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18046	Lutter	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20024	Lutter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19023	Lutter + Krumme Lutter	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26002	Maade / Upjeversches Tief	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12016	Mahler Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10011	Mainbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19006	Markau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20027	Markau	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_24070	Maschinenfleet	–	–	–	73	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_22040	Meesegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24018	Mehlandsbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12030	Mehringer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18002	Meierbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17055	Meierbach I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17056	Meierbach II	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18007	Meine	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17049	Meiße Mittellauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17048	Meiße Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17050	Meiße Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26090	Meyenburger Mühlengraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26081	Misselwardener Wasserlöse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16057	Mittellandkanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12042	Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14047	Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21071	Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25013	Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW73101_68_106	Mittellandkanal	–	–	–	–	–
Weser	DE_RW_DENI_12035	Mittellauf Rottbach (Mittellauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12046	Mittelweser zwischen Aller und Bremen	18	35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12001	Mittelweser zwischen Aller und NRW	18	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_22021	Moorbeeke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18031	Moore	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25029	Mooriemer Kanal	–	28,29,30,3	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24034	Moorkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25025	Moorkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13016	Moorkanal zur Flöte	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21038	Möseke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26037	Motzener Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17008	Müdener Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17043	Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26092	Mühlenfleth	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15058	Mühlengraben	9,18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16008	Mühlengraben/Trendelgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15019	Mühlenilse	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14032	Mühlenriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14033	Mühlenriede	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24051	Müllersdammgraben und Tüschendorf-Worphauser Graben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19034	Muse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10010	Nährenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25102	Natenstedter Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_19035	Nathe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19036	Nathe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20030	Neile	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20032	Neile	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15049	Neindorfer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13004	Nendorfer Moorkanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW452_0_33	Nethe	–	–	–	69,71,72,73,74,76	–
Weser	DE_RW_DENI_20018	Nette	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20023	Nette	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_26082	Neue Aue	–	–	–	–	–
Weser	DE_RW_DENI_16017	Neue Aue	–	28,29,30,31,32,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21011	Neue Auter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26028	Neue Heete	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25036	Neuenhuntofer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22022	Neuer Eilter Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24069	Neugrabenfleet	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26101	Neustädter- / Gödenser Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08026	Nieme	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23034	Nienstedter Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_4298.1	Nieste	–	–	–	70,74,79	–
Weser	DE_RW_DENI_26013	Nordender Leke Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26012	Nordender Leke Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26113	Nordgeorgsfehn-/Großefehnkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17044	Obere Drebber	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12013	Obere Eiter (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25063	Obere Lethe + NG	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26010	Obere Wapel + NG (Bekhauser Bäke)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26072	Obere Wittgeeste	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_23030	Ochtum	–	–	–	–	–
Weser	DE_RW_DENI_23020	Ochtum Oberlauf	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23001	Ochtum Tidebereich	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19009	Oder	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19024	Oder	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19027	Oder	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19026	Oder bis Talsperre	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19046	Oderteich	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19039	Oehrsche Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20028	Oelberbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21054	Oeseder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25032	Ofener Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25031	Ofenerdieker Bäke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15044	Ohe/Losebacht	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_15013	Ohebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15001	Oker	16	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15002	Oker	16,18	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15036	Oker ab Schunter	16	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15035	Oker bis Talsperre	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26122	Oldendorfer Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26106	Ollen	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20022	Ortshäuser Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17026	Örtze	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_17025	Örtze inkl. Ilster	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24057	Oste-Hamme-Kanal und Augustendorfer Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25011	Osterdammer Bergbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21031	Osterriehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25068	Östlicher Vorfluter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22037	Otersener Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24082	Otterstedter Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26086	Oxstedter Bach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26087	Oxstedter Bach Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12020	Oyler Mühlenbach-Seegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13029	Peeksriede	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_16040	Pisserbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25077	Pissing	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16036	Plockhorster-Eltzner Graben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25047	Poggenpohls Moor WZ.	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21028	Pohler Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17065	Pollhöfer Grenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26125	Quabbenbeek	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17020	Quarmbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15006	Radau	16,18	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25088	Randgraben / 4969492	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23002	Randgraben / Kamerner Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25041	Randgraben Ost / Berne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25012	Randkanal mit Kreisgrenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18048	Rase	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24042	Rautendorfer Schiffgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18015	Rebbe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26031	Reepsholter Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08023	Rehbach I+II; Malliehausenb.	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24033	Rehengraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24012	Rehrbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08018	Reiherbach I+II	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_17068	Reiniger Moorgraben	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24035	Reithbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24062	Reithbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10018	Remte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12052	Rennriehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19041	Renshausener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12011	Retzer Bach (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21067	Rheinbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25023	Rhien	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19001	Rhume	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19051	Rhume	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21016	Ricklinger Mühlengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23022	Rieder Umleiter mit Rieder Grenzgraben und Kampgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20014	Riehe	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW4746_0_8	Riehe	–	–	–	–	–
Weser	DE_RW_DENI_18028	Riepenbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21027	Riesbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14009	Riet	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17053	Riethbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10001	Rintelner Herrengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26034	Rispeler Tief / Mahnmalschloot	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25046	Rittrumer Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16002	Rixfördergraben	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24074	Rodau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18034	Rodebach	18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18035	Rodebach	18	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21025	Rodenberger Aue Bach Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21024	Rodenberger Aue Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21023	Rodenberger Aue Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10006	Rohder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_26057	Rohr	–	–	–	–	–
Weser	DE_RW_DENI_26056	Rohr Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13037	Rohrbach	–	28,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21050	Rössingbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12053	Rothe	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15027	Rothebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12036	Rottbach (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18016	Rotte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20020	Rottebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08017	Rottmünde	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24058	Rummeldeisbeek I	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_24059	Rummeldeisbeek II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24073	Ruschwede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13007	Rüsselbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21056	Saale Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21055	Saale Fluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21083	Saale Oberlauf	–	28,29,30,3	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25091	Sager Meerkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21026	Salzbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15046	Sandbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12051	Sandfurthbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19050	Sandwasser (Hartmannkanal)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16048	Sangebach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13006	Sarninghäuser Meerbach und Nebengewässer	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14011	Sauerbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15031	Sauerbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21070	Saugraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12023	Schäfergraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20026	Schaller	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15012	Schamlahbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16029	Schanze	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_24066	Scharmbecker Bach I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24067	Scharmbecker Bach II	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08027	Schede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26124	Scheidebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15050	Scheppau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12038	Schermbecke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14041	Schieferbrunnenriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15039	Schierpkebach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_15061	Schierpkebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16013	Schiffgraben	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12047	Schiffgraben (Hochmoorgewässer)	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15018	Schiffgraben West/Neuer Gr.	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26029	Schiffsbalje	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20025	Schildau	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22026	Schipsegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18056	Schleierbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21037	Schleifbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW47512_0_4	Schleusenkanal Schlüsselburg	–	–	–	–	–
Weser	DE_RW_DENI_12050	Schloßbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19007	Schlungwasser	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17017	Schmalwasser mit Räderbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_17032	Schmarbeck	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24060	Schmoo	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24061	Schmoo / Reithbach (Unterläufe)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16051	Schneeegraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16044	Schölke/SZ	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14038	Schomburgriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_26111	Schönebecker Aue	–	33	–	–	–
Weser	DE_RW_DENI_26095	Schönebecker Aue Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23035	Schorlingborsteler Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18039	Schöttelbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW4961124_3_10	Schröttinghauser Bach	–	–	–	–	–
Weser	DE_RW_DENI_15051	Schunter	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15059	Schunter	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26093	Schwaneweder Beeke	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22025	Schwarze Riede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16038	Schwarzwasser	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17004	Schwarzwasser I	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17005	Schwarzwasser II	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25009	Schweger Marschkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26019	Schweiburger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24075	Schweinekobenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_13017	Schweringhäuser Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08025	Schwülme Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08020	Schwülme Unterlauf	10	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08024	Schwülme/Auschnippe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10028	Sedemünder Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16023	Seebeck	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26073	Sellstedter Seekanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24065	Semkenfahrt	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20019	Sennebach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19011	Sieber	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19013	Sieber	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19014	Sieber	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19016	Sieber	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13038	Siede	–	28,29,30,31,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13028	Siede Unterlauf	–	28,29,30,31,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23012	Siekgraben Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23029	Siekgraben Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26080	Sievernener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08003	Sievershagener Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22010	Soltau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19031	Soolbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_19004	Söse	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19019	Söse	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19045	Söse	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17014	Sothbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17030	Sothrieth mit südlichem Quellbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13027	Speckenbach	–	28,29,30,31,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17027	Speckenmoorgaben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19025	Sperrlutter	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20040	Spiegeltaler Graben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26088	Spiekaer Wasserlöse und Nördl. Grauwallgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_08010	Spiekersiek	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_08004	Spüligbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18024	Spüligbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18025	Spüligbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14035	Steekgraben/Hehlinger Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12025	Steertschlaggraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22020	Steimbker Dorfgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20031	Steimker Bach/Kiefbach	16	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22016	Steinförthsbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26100	Steinhauser Tief + NG / Marsch	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_12044	Steinhuder Meerbach (Oberlauf)	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12021	Steinhuder Meerbach Mittel- und Unterlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24008	Stellbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16056	Steterburgergraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21072	Stichkanal Hannover-Linden	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16059	Stichkanal Hildesheim	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20042	Stichkanal Hildesheim	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16058	Stichkanal Salzgitter	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEST_WESOW24-00	Stimmecke	–	29	–	69	–
Weser	DE_RW_DENI_26126	Stinstedter Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15023	Stobenbergbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21075	Stockbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18029	Stöckheimer Bach (Salzgraben)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12028	Strangbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26025	Strohauser Sieltief + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18018	Stroiter Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25006	Strothbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23016	Stuhrgraben mit Große Rönnecken	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21036	Südaue Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21035	Südaue Fluss	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_12029	Südbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26014	Südender Leke Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26011	Südender Leke Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17046	Südkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13032	Sudriede	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19043	Suhle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17037	Suhrbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13022	Sule Oberlauf	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13023	Sule Unterlauf und Flöte bei Lindern	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23023	Süstedter Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_11002	Suttbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14055	Talgraben links der Aller	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14050	Talgraben rechts der Aller	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15047	Teichgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15033	Thiedebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16020	Thöse	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22036	Thransgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21084	Thüster Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16004	Tiefenbruchgraben	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20035	Töllebach	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21007	Totes Moor, Hauptvorfluter	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_17029	Trauener Graben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14015	Triangelermoorkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24021	Trochelbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25079	Tüske Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25090	Tweelbäke oberh. Tweelb. Lake	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25061	Twilbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12033	Uchter Mühlenbach (alter Unterlauf n. Stolzenau)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13005	Uchter Mühlenbach Oberlauf und Nebengewässer	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_19002	Urbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_11007	Uhlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15053	Uhrau	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24063	Umbeck	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18037	Ummelbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20003	Unsinnbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17047	Untere Drebber	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25067	Untere Lethe	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25037	Untere Ollen / Berne	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23027	Unterlauf Delme, Tidebereich	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23021	Unterlauf Hache	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25038	Unterlauf Tüske	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26005	Vareler Tief + NG / Marsch	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHB_23026	Varreler Bäke	–	–	–	71	–
Weser	DE_RW_DENI_21008	Varrenbruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25015	Vechtaer Grenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24014	Veerse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25093	Venner Mühlenbach / Elze Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26085	Verbindungsgraben einschl. Cappeler Wasserlöse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22034	Vethbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22035	Vethbach mit Thransgraben (Unterläufe)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14026	Viehmoorgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_11005	Violenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24025	Visselbach	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14027	Vollbütteler Riede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_14024	Vorderer Drömlingsgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17023	Vorwerker Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15045	Wabe	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15041	Wabe/Mittelriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25026	Wagenfelder Aue	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25024	Wagenfelder Aue Oberlauf, Flöthe und Hemsloher Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_12027	Wahlenbach und Finkalenheidegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24081	Walle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24079	Walle Unterlauf	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21029	Waltershagenerbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18013	Wambach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26102	Wapel Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17067	Warmbeck	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20010	Warme Beuster	16	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW4666_0_18	Warmenau	–	–	–	69,71,72,73	–
Weser	DE_RW_DENI_22014	Warnau	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15021	Warne	9,16,18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15024	Warne	16	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21063	Warnebach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22039	Wätern	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16060	Wathlinger Poldergraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15014	Weddebach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15040	Weddeler Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18040	Weende	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18041	Weende	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17040	Weesener Bach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_16037	Wehnserbach-Dedenhäuser Graben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_24040	Weidebach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22023	Weißer Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26046	Wellener Bach Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26047	Wellener Bach Unterlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_23008	Welse + Nutteler Nebenzug	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18052	Wendebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18053	Wendebach (mit Thüringen)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21080	Wennigser Mühlbach	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DEHE_41.1	Werra/Niedersachsen	2,3,4,5	–	–	–	–
Weser	DE_RW_DENI_08001	Weser	3,10,18	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_10003	Weser	18	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26035	Weser / Tidebereich oberh. Brake	–	35,36	46	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21018	Westaue Fluss	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22030	Westener Wetterbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25003	Westerbach / Wehrendorfer Mühlbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24017	Westerholzer Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW4764_0_8	Wickriede	–	–	–	–	–
Weser	DE_RW_DENW4764_12_24	Wickriede	–	–	–	–	–
Weser	DE_RW_DENW4764_5_15	Wickriede	–	–	–	–	–
Weser	DE_RW_DENI_24019	Wiedau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22002	Wiedenhausener Bach I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_22003	Wiedenhausener Bach II	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17064	Wiehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_22029	Wiehegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17009	Wienhausener Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16009	Wiesenbach bis HW-Abschlag	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15043	Wiesengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16014	Wiesengraben/Mehlbeeke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24039	Wieste Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24078	Wieste Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13031	Wiete / Schnatgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16001	Wietze	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16012	Wietze	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16011	Wietze Graben/Lahe Gr.	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17033	Wietze/ Ö. I	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_17034	Wietze/ Ö. II	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24050	Wilstedtermoorer Schiffgraben und Saatmoorgraben	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25095	Wimmerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_13036	Winterbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_18003	Winzenburger Bach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_12041	Winzlarer Grenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_14023	Wipperaller	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21064	Wisper	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21066	Wisper Oberlauf	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Weser	DE_RW_DENI_22024	Wölpe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26017	Woppenkamper Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENW456944_0_4	Wörmke	–	–	–	–	–
Weser	DE_RW_DENI_24048	Wörpe I	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24049	Wörpe II	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_26083	Wremer Wasserlöse	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16003	Wulbeck	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_16006	Wulbeck	–	31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_25030	Wulfsgraft / Geestrandgr.	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24001	Wümme I	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24002	Wümme II (mit Todtgraben)	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24003	Wümme III	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24004	Wümme IV	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24006	Wümme V	–	35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24043	Wümme-Mittelarm	–	28,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24038	Wümme-Nordarm II	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_24005	Wümme-Südarm	–	28,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_20041	Zellbach	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Weser	DE_RW_DENI_26018	Zeteler Tief Oberlauf + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_21021	Ziegenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Weser	DE_RW_DENI_15016	Zieselbach	16	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Standing waters							
Weser	DE_LW_DENI_12056	Baggersee bei Stolzenau	–	27,28	–	–	96
Weser	DE_LW_DENI_15063	Baggersee östl. von Schladen	–	–	–	–	90
Weser	DE_LW_DENI_25018	Dümmer	–	27,28,29,31,100	–	65	96
Weser	DE_LW_DENI_15008	Ecker reservoir	–	–	–	66,86	–
Weser	DE_LW_DENI_20036	Grane reservoir	–	–	–	66,86	–
Weser	DE_LW_DENI_19053	Großer See	–	27,28	–	80,86	96
Weser	DE_LW_DENI_20038	Innerste reservoir	–	–	–	66,86	–
Weser	DE_LW_DENI_21073	Koldinger Kiessee	–	–	–	–	90
Weser	DE_LW_DENI_21074	Maschsee	–	27,28	–	86	90,96
Weser	DE_LW_DENI_19047	Oder reservoir	–	–	–	66,86	–
Weser	DE_LW_DENI_15004	Oker reservoir	–	–	–	66,86	–
Weser	DE_LW_DENI_16064	Salzgittersee	–	–	–	80,86	–
Weser	DE_LW_DENI_19052	Seeburger See	–	27,28,29,31	–	–	96
Weser	DE_LW_DENI_19049	Söse reservoir	–	–	–	66,,86	–
Weser	DE_LW_DENI_12034	Steinhuder Meer	10	27,28,29,31,36	–	–	96
Weser	DE_LW_DENI_14052	Tankumsee	–	27,28	–	86	90,96



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Transitional waters							
Weser	DE_TW_T1.4000.01	Übergangsgewässer der Weser	–	35,36	–	67,69,70,71,72,73,74,75,81,82,87	–
Coastal waters							
Weser	DE_CW_N0.4000	Küstenmeer Weser	–	35	–	–	–
Weser	DE_CW_N3_4900_01	Offenes Küstengewässer der Weser	–	35	–	–	–
Weser	DE_CW_N1_4900_01	Offenes Küstengewässer vor Jadebusen	–	35	–	–	–
Weser	DE_CW_N4_4900_02	Östliches Wattenmeer der Weser	–	35	–	–	–
Weser	DE_CW_N2_4900_01	Wattenmeer Jadebusen und angrenzende Küstenabschnitte	–	35	–	–	–
Weser	DE_CW_N4_4900_01	Westliches Wattenmeer der Weser	–	35	–	–	–
Ems river basin							
Flowing waters							
Ems	DE_RW_DENI_06019	Abelitz / Abelitz Moordorffkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01009	Ahe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03028	Ahlener Sielgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02052	Ahler Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02078	Ahrensbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02070	Alfseeauslauf (Durchleiter)	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02057	Alte Hase mit Hochwasserabschlag, Mühlenbach Rüssel	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01022	Altenrheiner Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_03041	Alter Schloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06025	Altes / Neues Greetsieler Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06017	Altes Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04062	Aper Tief + NG Unterläufe	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02075	Aubach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04053	Aue / Godensholter Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04041	Aue Mittellauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02017	Aue, Bokerner Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04059	Auebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04004	Augustfehrner Kanal	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06042	Bääkschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06041	Bagbänder Tief mit Bietze	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02023	Bakumer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02021	Bakumer Bach, Schierenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01020	Bardelgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02003	Belmer Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06009	Benser Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06013	Berumerfehnkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06010	Bettenwarfer Leide / Neue Dift	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENW318_0_22	Bever	4	–	–	69,70,71,73	–
Ems	DE_RW_DENI_01025	Bever, Süßbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_02025	Blocksmühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02027	Bokeler Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03034	Börger Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04024	Böseler Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01014	Bramscher Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04054	Branneschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04014	Breinermoorer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03027	Brualer Schlot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04029	Bruchwasser	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02065	Bühnerbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03008	Bullerbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02085	Bünne Wehdeler Grenzkanal mit Handorfer Mühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02030	Bunner-Hamstruper Moorbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06008	Burgschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04033	Burlage-Langholter Tief	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03020	Burwiesenschlot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06031	Buschfelder Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02028	Calhoner Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02029	Calhoner Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06029	Coldeborger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_06035	Coldemüntjer Schöpfwerkstief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03005	Dalumer Moorbeeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03026	Dänenfliess	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01032	Deeper Aa, Andervenner Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01023	DEK - Grenze NRW bis Gleesen	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03042	DEK Lingen-Meppen	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04017	Delschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03024	Dersumer Schlot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02086	Diekbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02073	Diekbäke	–	28,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Ems	DE_RW_DENI_06033	Dieler Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02087	Dinklager Mühlenbach, Harpendorfer Mühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01024	Dissener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06028	Ditzum-Bunder Sieltief	–	28,29,30,3	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02040	Dörgener Beeke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06011	Dornumersieler Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01029	Dümmer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02093	Düte mit Wilkenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02060	Eggermühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02061	Eggermühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_04064	Ekerner Moorkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01010	Elberger Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04037	Elisabethfehn-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01013	Elsbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06054	Emder Hafen	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03018	Emmelter Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01001	Ems - Salzbergen bis Lingen	18	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03001	Ems Lingen-Meppen	18	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03002	Ems Meppen-Wehr Herbrum	18	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06037	Ems Papenburg bis Leer	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03003	Ems Wehr Herbrum-Papenburg	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06040	Ems-Jade-Kanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06058	Ems-Seitenkanal (östl. Teil)	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06055	Ems-Seitenkanal / Petkumer Sieltief	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04030	Esterweger Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04031	Esterweger Doseschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04026	Fanggraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06052	Fehntjer Tief (südlicher Arm)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06056	Fehntjer Tief (westl. Arm)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04039	Fintlandsmoor-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03006	Fischteichableiter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_02071	Fladderkanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01011	Fleckenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06045	Flumm mit Oberlauf und Alter Flumm	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04048	Friesoyther Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01033	Fürstenauer Mühlbach	–	28,29,30,35,	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01018	Giegel Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04008	Gießelhorster Bäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01027	Glaner Bach, Oedingberger Bach, Wispenbach, Kolbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02068	Gohmarschgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03009	Goldbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02094	Goldbach und Leedener Mühlbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03029	Goldfischdever	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04010	Gr. Norderbäke Mittellauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04009	Gr. Norderbäke Oberlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04040	Gr. Süderbäke Mittellauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04006	Gr. Süderbäke Oberl. + Kl. Norderbäke	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03015	Gräfte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01003	Grosse Aa - bis Einmündung Speller Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01002	Grosse Aa - Einmündung Speller Aa bis Ems	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_04021	Große Aue + Bergaue	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06044	Großefehnkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03036	Großer Schloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06030	Großsoltborger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02054	Grother Kanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02053	Grother Kanal, Langenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03035	Haardever	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02064	Hahnenmoorkanal	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03007	Hakengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04060	Halfsteder Bäke + NG	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03031	Hammoorgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03044	Haren-Rütenbrock-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06005	Harle / Abenser Leide	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02008	Hase Mittellauf bis Mittellandkanal	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02089	Hase, Große Hase	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02090	Hase, Mittellauf Typ 15	–	28,29,30,31,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02046	Hase-Altarm, Bawinkler Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04012	Hauenschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03025	Hauptmarschschlot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04013	Heimschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02083	Heller Binnenbach mit Kronlager MB	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_06021	Hiwkeschloot	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04007	Hollener Ehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04016	Holter Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04034	Holterfehnnkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04011	Holtlander Ehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01021	Hopstener Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENW344_20_29	Hopstener Aa	–	24	–	69,70,72,73,74	–
Ems	DE_RW_DENI_04043	Igelriede	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02045	Kleine Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02062	Kleine Hase	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06023	Knockster Tief Mittellauf	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06024	Knockster Tief Unterlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02076	Königsbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06046	Krummes Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03045	Küstenkanal Ems-Börgermoor	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04019	Küstenkanal westl. Vehnedüker	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02009	Laake	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02049	Lager Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02072	Lager Bach, Welle	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02022	Lager Hase	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04023	Lahe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_04050	Lahe Unterlauf + Streek	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02042	Lahner Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03019	Landegger Schloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06026	Larrelter Tief	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03021	Lathener Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04035	Leda + Sagter Ems	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06039	Leda Sperrwerk bis Emsmündung	–	35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03004	Lingener Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02055	Linksseitiger Grundabzug	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01012	Listruper Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04038	Loher Ostmarkkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02031	Löninger Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04066	Loruper Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02047	Lotter Beeke	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01017	Lünner Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04061	Marka	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06036	Marker Sieltief / Wallschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04018	Markhauser Moorgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03022	Melstruper Beeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03011	Mersbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02020	Minteweder Bach, Schierenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_02012	Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02037	Mittelradde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02038	Mittelradde	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04044	Molberger Doosekanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02032	Moldau	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02082	Möllwiesenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03032	Montaniaraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02050	Moorabzug III	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01019	Moosbeeke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06034	Muhder Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02026	Nadamer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02004	Nette, Lechtinger Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06007	Neuharlinger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02077	Nonnenbach mit Quebbebach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06014	Norder Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04005	Nordgeorgsfehnkanal + Riesmeerschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04056	Nordgeorgsfehnkanal + Südgeorgsfehnkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03014	Nordradde bis Stavern	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03012	Nordradde in Meppen	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03013	Nordradde Stavern-Gut Cunzhof	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_04051	Nortmoorer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06012	Nüttermoorer Sieltief Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06050	Nüttermoorer Sieltief Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02063	Oberer Stockshagenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01007	Oberlauf - Fürstenauer Mühlenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02074	Oberlauf Hase mit Flöthegraben	–	28,29,30,31,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04065	Ohe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04028	Ohe Unterlauf/Marka	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06047	Oldersumer Sieltief / Fehntjer Tief	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04057	Ollenbäke Mittellauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04058	Ollenbäke Oberlauf	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04036	Ostermoorgaben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04003	Otter- u. Hellerbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03039	Papenburger Kanäle	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02079	Pielkebach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04052	Pieper Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01026	Rankenbach, Remseder Bach, Linksseitiger Talgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01028	Recktebach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01008	Reetbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01016	Reitbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_02058	Reitbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02059	Reitbach	–	28,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79	–
Ems	DE_RW_DENI_02051	Renslager Kanal, Strautbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06048	Ridding	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02039	Riehe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06015	Ringkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04027	Rittveengraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06053	Rorichumer Tief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02005	Rosenmühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03040	Rühlermoorschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06016	Sandhorster Ehe (Oberlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06059	Sandhorster Ehe (Unterlauf)	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06049	Sauteler Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01005	Schaler Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04015	Schatteburger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01015	Schinkenkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02069	Seester Bruchgraben	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03030	Seitenkanal Gleesen-Papenburg	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04047	Soeste ab TT bis Küstenkanal	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04046	Soeste Mittellauf bis TT	9	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04045	Soeste Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_04042	Soeste, Nordloher-Barsseler Tief + Jümme	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03016	Sögeler Grenzgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06004	Speicherbecken Leybucht	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01004	Speller Aa	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06043	Spetzerfehnkanal	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02019	Spredaer Bach, Vechtaer Moorbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04055	Stapeler Hauptvorfluter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06032	Stapelmoorer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02024	Steinbäke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02010	Stichkanal Osnabrück, Mittellandkanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04049	Streek	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06006	Süder Tief und Norder Tief	–	28,29,30,35,36	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03043	Süd-Nord-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02033	Südradde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02034	Südradde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02036	Südradde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02041	Südradde	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02056	Suttruper Bach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02044	Teglinger Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06051	Terborger Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_02092	Thiener Mühlenbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02035	Timmerlager Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06022	Trecktief / Westerender Ehe	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02088	Trenskampbach mit Harpendorfer MB und Mühlener MB	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03037	Tunxdorfer Ahe Aschendorf - Tunxdorf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03038	Tunxdorfer Ahe Tunxdorf - Schöpfwerk Oberlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02091	Ueffelner Aue	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06057	Vaskemeerzugschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02018	Vechtaer Moorbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04022	Vehne Mittellauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04063	Vehne Unterlauf	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02043	Vinner Dorfgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01030	Voltlager Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02080	Vördener Aue mit Flöte	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03023	Walchumer Schlot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04020	Wasserzug vom Baumweg	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_01031	Weeser Aa	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06018	Westerender Ehe Oberlauf	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_04032	Westrhauderfehnkanal-Rajenwieke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03017	Wesuwer Brookgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Ems	DE_RW_DENI_03010	Wesuer Schloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06020	Wiegoldsburger Riede / Marscher Tief / Knockster	–	35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02002	Wierau, Hiddinghauser Bach, Westermoorbach	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_03033	Wippinger Dever	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02081	Wrau	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02084	Wrau Alte Hase	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_06027	Wymeerer Sieltief	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Ems	DE_RW_DENI_02066	Zuleiter Alfsee	–	28,29,30,31,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Standing waters							
Ems	DE_LW_DENI_02001	Alfsee	–	27,28,31	–	66,80,86	96
Ems	DE_LW_DENI_06001	Ewiges Meer	–	–	–	–	–
Ems	DE_LW_DENI_06002	Großes Meer	–	27,28,31	–	–	96
Ems	DE_LW_DENI_06003	Hieve	–	27,28,31	–	–	96
Ems	DE_LW_DENI_04002	Thülsfelder Talsperre	–	27,28,31	–	66,80,86	96
Ems	DE_LW_DENI_04001	Zwischenahner Meer	–	27,28,31,36	–	–	96
Transitional waters							
Ems	DE_TW_T1.3000.01	Übergangsgewässer Ems (Leer bis Dollart)	–	35,36	–	67,69,70,71,72,73,74,75,81,82,87	–
Ems	DE_TW_T1.3990.01	Übergangsgewässer Ems-Ästuar	–	35,36	–	67,69,70,71,72,73,74,75,81,82,87	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Coastal waters							
Ems	DE_CW_N1_3100_01	Euhalines offenes Küstengewässer der Ems	–	35,36	–	–	–
Ems	DE_CW_N2_3100_01	Euhalines Wattenmeer der Ems	–	35,36	–	–	–
Ems	DE_CW_N0.3900	Küstenmeer Ems	–	35,36	–	–	–
Ems	DE_CW_N0.3990	Küstenmeer Ems-Ästuar	–	35,36	–	–	–
Ems	DE_CW_N3_3990_01	Polyhalines offenes Küstengewässer des Ems-Ästuars	–	35,36	–	–	–
Ems	DE_CW_N4_3100_01	Polyhalines Wattenmeer der Ems	–	35,36	–	–	–
Rhine river basin							
Flowing waters							
Rhine	DE_RW_DENI_32007	Ahlder Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32021	Böltbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32009	Brandlechter Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32039	Coevorden-Piccardie-Kanal	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32004	Dinkel	–	28,29,30,35	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32005	Eileringsbecke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32037	Emlichheimer Entlastungskanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32036	Emlichheimer Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32042	Ems-Vechte-Kanal	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32008	Engdener Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32010	Frensdorfer Bruchgraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Rhine	DE_RW_DENI_32038	Georgsdorfer Graben A	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32045	Geteloer Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32033	Grenzaa bis Ringe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32034	Grenzaa Ringe-CPK	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32013	Hardinger Becke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32023	Hauptbecke Bimolten	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32032	Hauptvorfluter Heesterkante	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32030	Hopfenbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32044	Itter	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32043	Jaggerschloot	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32017	Lee bis Hohenkörben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32016	Lee Hohenkörben-Vechte	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32024	Leegraben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32018	Lohner Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32022	Neuenhauser Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32012	Nordbecks Graben	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32041	Nordhorn-Almelo-Kanal	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32015	Obere Lee	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32026	Puntbecke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32031	Radewijke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32027	Rammelbecke ab Forst Bentheim	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to				
			Point sources	Diffuse sources	Water abstraction	Discharge regulation and morphological changes	Other anthropogenic impacts
Rhine	DE_RW_DENI_32028	Rammelbecke Forst Bentheim	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32025	Ravenhorster Bach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32011	Rietbecke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32006	Samerottbecke	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32020	Soermannsbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32019	Stiftsbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32040	Süd-Nord-Kanal	18	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32003	Vechte Neuenhaus-Laar	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32002	Vechte Nordhorn-Neuenhaus	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32001	Vechte Ohne-Nordhorn	–	28,29,30,35,36	–	65,68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32035	Wettringe	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–
Rhine	DE_RW_DENI_32014	Wolsterbach	–	28,29,30,35	–	68,69,70,71,72,73,74,75,76,77,78,79,85	–

**Table 31: Types of measures for groundwater bodies in Lower Saxony**

RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Elbe river basin					
Elbe	DE_GB_DENI_NI11_3	Este-Seeve Lockergestein	41,42,43	–	–
Elbe	DE_GB_DENI_NI11_2	Ilmenau Lockergestein links	41,43	–	–
Elbe	DE_GB_DENI_NI11_1	Ilmenau Lockergestein rechts	–	–	–
Elbe	DE_GB_DENI_NI10_5	Jeetzel Lockergestein links	–	–	–
Elbe	DE_GB_DENI_NI10_1	Jeetzel Lockergestein rechts	41,43	–	99
Elbe	DE_GB_DENI_NI11_8	Land Hadeln Lockergestein	–	–	–
Elbe	DE_GB_DENI_NI11_5	Land Kehdingen Lockergestein	–	–	–
Elbe	DE_GB_DENI_NI11_4	Lühe-Schwinge Lockergestein	41,43	–	–
Elbe	DE_GB_DEMV_MEL_SU_3	MEL_SU_3	41	–	–
Elbe	DE_GB_DEMV_MEL_SU_4	MEL_SU_4	41	–	–
Elbe	DE_GB_DEST_MBA 4	Milde-Biese-Aland4	41	–	–
Elbe	DE_GB_DEST_OT 1	Ohre-Tanger1	41	–	–
Elbe	DE_GB_DENI_NI11_7	Oste Lockergestein links	41,43	–	99
Elbe	DE_GB_DENI_NI11_6	Oste Lockergestein rechts	41,43	–	–
Elbe	DE_GB_DETH_SAL GW 037	SAL GW 037	41	–	–
Elbe	DE_GB_DEST_SAL GW 038	SAL GW 038	41	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Elbe	DE_GB_DEST_SAL GW 039	SAL GW 039	41	–	–
Elbe	DE_GB_DEST_SAL GW 064	SAL GW 064	41	–	–
Elbe	DE_GB_DEST_SAL GW 066	SAL GW 066	41	–	–
Elbe	DE_GB_DEST_NI10_2	Zehrengaben	41	–	–
Weser river basin					
Weser	DE_GB_DEHE_4_0023	4190_5117	–	–	–
Weser	DE_GB_DEHE_4_0024	4190_5201	–	–	–
Weser	DE_GB_DEHE_4_1043	4290_5201	–	–	–
Weser	DE_GB_DEHE_4_2304	4300.1_5201	–	–	–
Weser	DE_GB_DENI_4_2202	Böhme Lockergestein links	–	–	–
Weser	DE_GB_DENI_4_2201	Böhme Lockergestein rechts	41,43	–	–
Weser	DE_GB_DETH_4_2012	Eichsfelder Buntsandsteinscholle-Leine	–	–	–
Weser	DE_GB_DENI_4_2115	Fuhse Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENI_4_2114	Fuhse mesozoisches Festgestein rechts	–	–	–
Weser	DE_GB_DENW_4_2408	Große Aue Lockergestein im Süden	–	–	–
Weser	DE_GB_DENI_4_2413	Große Aue Lockergestein links	41,43	–	99
Weser	DE_GB_DENI_4_2412	Große Aue Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENW_4_2308	Höxteraner Trias	–	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Weser	DE_GB_DENI_4_2504	Hunte Festgestein links	–	–	–
Weser	DE_GB_DENI_4_2503	Hunte Festgestein rechts	–	–	–
Weser	DE_GB_DENI_4_2505	Hunte Lockergestein links	41,43	–	–
Weser	DE_GB_DENI_4_2502	Hunte Lockergestein rechts	41,43	–	99
Weser	DE_GB_DENI_4_2004	Innerste Harzpaläozoikum	–	–	–
Weser	DE_GB_DENI_4_2005	Innerste mesozoisches Festgestein links	–	–	99
Weser	DE_GB_DENI_4_2003	Innerste mesozoisches Festgestein rechts	–	–	–
Weser	DE_GB_DENI_4_2104	Ise Lockergestein links	–	–	–
Weser	DE_GB_DENI_4_2103	Ise Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENI_4_2507	Jade Lockergestein links	–	–	–
Weser	DE_GB_DENW_4_2410	Kreide-Schichten zwischen Stemwede und Petershagen	–	–	–
Weser	DE_GB_DENI_4_2016	Leine Lockergestein links	41,42,43	–	–
Weser	DE_GB_DENI_4_2001	Leine Lockergestein rechts	–	–	–
Weser	DE_GB_DENI_4_2014	Leine mesozoisches Festgestein links 1	41	–	–
Weser	DE_GB_DENI_4_2015	Leine mesozoisches Festgestein links 2	–	–	–
Weser	DE_GB_DENI_4_2013	Leine mesozoisches Festgestein rechts 1	–	–	–
Weser	DE_GB_DENI_4_2007	Leine mesozoisches Festgestein rechts 2	–	–	–
Weser	DE_GB_DENI_4_2006	Leine mesozoisches Festgestein rechts 3	–	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Weser	DE_GB_DENI_4_2002	Leine mesozoisches Festgestein rechts 4	42,43	–	–
Weser	DE_GB_DENI_4_2404	Mittlere Weser Festgestein rechts	–	–	–
Weser	DE_GB_DENI_4_2411	Mittlere Weser Lockergestein links 2	41,43	–	–
Weser	DE_GB_DENI_4_2414	Mittlere Weser Lockergestein links 3	41,43	–	–
Weser	DE_GB_DENI_4_2403	Mittlere Weser Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENW_4_2407	Niederung der Weser	–	–	–
Weser	DE_GB_DENW_4_2320	Nördliche Herforder Mulde	–	–	–
Weser	DE_GB_DENW_4_2312	Nordlippische Trias-Gebiete	–	–	–
Weser	DE_GB_DENI_4_2110	Obere Aller Lockergestein links	–	–	–
Weser	DE_GB_DENI_4_2106	Obere Aller mesozoisches Festgestein links	41,42,43	–	–
Weser	DE_GB_DENI_4_2302	Oberweser-Hameln	–	–	–
Weser	DE_GB_DENI_4_2510	Ochtum Lockergestein	41,43	–	99
Weser	DE_GB_DENI_4_2108	Oker Harzpaläozoikum	–	–	–
Weser	DE_GB_DENI_4_2111	Oker Lockergestein links	41,43	–	–
Weser	DE_GB_DENI_4_2112	Oker Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENI_4_2109	Oker mesozoisches Festgestein links	–	–	–
Weser	DE_GB_DENI_4_2107	Oker mesozoisches Festgestein rechts	–	–	–
Weser	DE_GB_DENI_4_2102	Örtze Lockergestein links	41,42,43	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Weser	DE_GB_DENI_4_2101	Örtze Lockergestein rechts	41,43	–	–
Weser	DE_GB_DENW_4_2314	Östlicher Teutoburger Wald	–	–	–
Weser	DE_GB_DENI_4_2309	Ottensteiner Hochfläche	–	–	–
Weser	DE_GB_DENW_4_2409	Petershäger Kreide	–	–	–
Weser	DE_GB_DENI_4_2008	Rhume Harzpaläozoikum	–	–	–
Weser	DE_GB_DENI_4_2010	Rhume mesozoisches Festgestein links	41	–	–
Weser	DE_GB_DENI_4_2009	Rhume mesozoisches Festgestein rechts	–	–	–
Weser	DE_GB_DENW_4_2317	Südliche Herforder Mulde	–	–	–
Weser	DE_GB_DENW_4_2310	Südlippische Trias-Gebiete	–	–	–
Weser	DE_GB_DENW_4_2301	Talaue der Weser südl. Wiehengebirge	–	–	–
Weser	DE_GB_DENI_4_2203	Untere Aller Lockergestein links	41,43	–	–
Weser	DE_GB_DENI_4_2506	Untere Weser Lockergestein links	–	–	–
Weser	DE_GB_DENI_4_2501	Untere Weser Lockergestein rechts	41,43	–	99
Weser	DE_GB_DENI_4_2303	Vogler-Solling-Bramwald	–	–	–
Weser	DE_GB_DENI_4_2318	Werre mesozoisches Festgestein	–	–	–
Weser	DE_GB_DENI_4_2113	Wietze/Fuhse Festgestein	41,43	–	–
Weser	DE_GB_DENI_4_2116	Wietze/Fuhse Lockergestein	41,43	–	–
Weser	DE_GB_DENI_4_2509	Wümme Lockergestein links	41,42,43	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Weser	DE_GB_DENI_4_2508	Wümme Lockergestein rechts	41,43	–	–
Ems river basin					
Ems	DE_GB_DENI_39_04	Baltrum	–	–	–
Ems	DE_GB_DENI_39_01	Borkum	–	–	–
Ems	DE_GB_DENI_3_03	Große Aa	41,43	–	–
Ems	DE_GB_DENI_36_03	Hase links Festgestein	41,43	–	–
Ems	DE_GB_DENI_36_01	Hase links Lockergestein	41,42,43	–	–
Ems	DE_GB_DENI_36_05	Hase Lockergestein rechts	41,42,43	–	–
Ems	DE_GB_DENI_36_02	Hase rechts Festgestein	41,43	–	–
Ems	DE_GB_DENI_39_02	Juist	–	–	–
Ems	DE_GB_DENI_39_05	Langeoog	–	–	–
Ems	DE_GB_DENI_38_01	Leda-Jümme Lockergestein links	41,43	–	–
Ems	DE_GB_DENI_38_02	Leda-Jümme Lockergestein rechts	41,43	–	99
Ems	DE_GB_DENI_37_01	Mittlere Ems Lockergestein links	–	–	–
Ems	DE_GB_DENI_37_02	Mittlere Ems Lockergestein rechts 1	–	–	–
Ems	DE_GB_DENI_37_03	Mittlere Ems Lockergestein rechts 2	41,42,43	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Ems	DE_GB_DENW_3_05	Niederung der Oberen Ems (Greven/Ladbergen)	–	–	–
Ems	DE_GB_DENW_3_06	Niederung der Oberen Ems (Sassenberg/Versmold)	–	–	–
Ems	DE_GB_DENI_39_08	Norderland/Harlinger Land	–	–	–
Ems	DE_GB_DENI_39_03	Norderney	–	–	–
Ems	DE_GB_DENI_3_01	Obere Ems links (Plantlünner Sandebene West)	41,43	–	–
Ems	DE_GB_DENW_3_02	Plantlünner Sandebene (Mitte)	–	60	–
Ems	DE_GB_DENI_39_06	Spiekeroog	–	–	–
Ems	DE_GB_DENI_36_04	Teutoburger Wald - Hase	–	–	–
Ems	DE_GB_DENW_3_15	Teutoburger Wald (Nordwest)	–	–	–
Ems	DE_GB_DENI_39_10	Untere Ems Lockergestein links	–	–	–
Ems	DE_GB_DENI_39_09	Untere Ems rechts	–	–	–
Ems	DE_GB_DENI_39_07	Wangerooge	–	–	–
Rhine river basin					
Rhine	DE_GB_DENI_928_25	Bentheimer Berg	–	–	–
Rhine	DE_GB_DENI_928_28	Grenzaa	41,43	–	–
Rhine	DE_GB_DENI_928_27	Itter	41,43	–	–
Rhine	DE_GB_DENW_928_06	Niederung der Dinkel	44	–	–



RBU	EU Code/WB No.	WB name	Types of measures for reducing pollution due to		
			Diffuse sources	Water abstraction	Other anthropogenic impacts
Rhine	DE_GB_DENW_928_07_1	Niederung der Vechte	–	60	–
Rhine	DE_GB_DENI_928_24	Niederung der Vechte links	–	–	–
Rhine	DE_GB_DENI_928_23	Niederung der Vechte rechts	41,42,43	–	–
Rhine	DE_GB_DENW_928_10	Ochtruper Sattel	–	60	–
Rhine	DE_GB_DENI_928_26	Untere Vechte links	41,43	–	–



The following conceptual types of measures are offered:

Table 32: Conceptual types of measures on surface waters and groundwater bodies in Lower Saxony

RBU	Conceptual types of measures
Elbe	Groundwater: 506
	Transitional and coastal waters: 507
	Flowing waters, standing waters, transitional and coastal waters: 509
	Flowing waters, standing waters, transitional and coastal waters, groundwater: 501,502,503,504,505,508
Weser	Groundwater: 506
	Transitional and coastal waters: 507
	Flowing waters, standing waters, transitional and coastal waters: 509
	Flowing waters, standing waters, transitional and coastal waters, groundwater: 501,502,503,504,505,508
Ems	Groundwater: 506
	Transitional and coastal waters: 507
	Flowing waters, standing waters, transitional and coastal waters: 509
	Flowing waters, standing waters, transitional and coastal waters, groundwater: 501,502,503,504,505,508
Rhine	Groundwater: 506
	Flowing waters, standing waters: 509
	Flowing waters, standing waters, groundwater: 501,502,503,504,505,508

**Table 33: LAWA-BLANO²² list of measures (WFD, FRMD, MSFD)**

Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
1	WFD/SW	Point sources: Local authorities / households	Construction and modification of municipal sewage plants	Construction of new sewage plants and extension of existing sewage plants with regard to purification performance (increase in capacity)	M2	M1	xi	vii
2	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce nitrate inputs	Technical expansion (upgrading) for targeted reduction of nitrate load, e.g. additional denitrification stage	M3	M1	xi	vii
3	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce phosphate inputs	Technical expansion (upgrading) for targeted reduction of phosphate load, e.g. phosphate precipitation	M3	M1	xi	vii
4	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce other substance inputs	Technical expansion (upgrading) to reduce other substance loads, e.g. removal of micro pollutants by means of suitable methods	M3	M1	xi	vii
5	WFD/SW	Point sources: Local authorities / households	Optimising the operation of municipal sewage plants	Improving purification efficiency by modifying the control of or reconstructing (converting) individual elements (not maintenance), while keeping capacity constant	M3	M1	xvii	vii
6	WFD/SW	Point sources: Local authorities / households	Local authority alliances and closure of existing sewage plants	Closure and replacement of mostly small or outdated sewage plants	M1	M1	xi	vii

²² Federal/State Committee for North Sea and Baltic Sea²³ For explanations see Chapter 4.5



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
7	WFD/SW	Point sources: Local authorities / households	Construction and conversion of small sewage plants	Improving decentralised wastewater disposal by bringing small sewage plants into line with the state of the art, e.g. by building new small sewage plants and converting existing ones	M3	M1	xi, xiii	vii
8	WFD/SW	Point sources: Local authorities / households	Connecting hitherto unconnected areas to existing sewage plants	Improving a municipality's wastewater disposal by connecting households and businesses to the existing central wastewater treatment system	M3	M1	xi	vii
9	WFD/SW	Point sources: Local authorities / households	Other measures to reduce inputs of substances via local authority wastewater discharges	Measures in the field of municipal wastewater discharges that do not belong to one of the above-mentioned individual groups (cf. No. 1 to 8), e.g. measures to eliminate external water	M3	M1	xvii, iii, iv, v, vi, xi, xiii	n.a.
10	WFD/SW	Point sources: Combined water and rainwater	Construction and modification of facilities for drainage, treatment and retention of combined water and rainwater	Construction of new installations and extension of existing installations for discharge, treatment (e.g. in the case of heavy copper and zinc loads and/or high concentrations of fine sediments in rainwater) and retention of combined water and rainwater	M1	M1	xi	vii
11	WFD/SW	Point sources: Combined water and rainwater	Optimising the operation of facilities for drainage, treatment and retention of combined water and rainwater	Modified control or reconstruction (conversion) of existing installations for combined water treatment and rainwater discharge to achieve the level of the generally accepted state of the art	M3	M1	xvii	vii
12	WFD/SW	Point sources: Combined water and rainwater	Other measures for reducing substance inputs due to combined water and rainwater	Measures in the field of combined water and rainwater discharges that do not belong to one of the groups mentioned above (cf. No. 10 & 11)	M3	M1	xvii, iii, iv, v, vi, xi, xiii	vii



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
13	WFD/SW	Point sources: Trade and industry	Construction and modification of industrial/ commercial sewage plants	Construction of new sewage plants and extension of existing sewage plants with a view to purification performance	M2	M1	xi	vii, xi
14	WFD/SW	Point sources: Trade and industry	Optimising the operation of industrial/ commercial sewage plants	Improving purification efficiency by modifying the control of or reconstructing (converting) individual elements (not maintenance)	M3	M1	xvii	vii, xi
15	WFD/SW	Point sources: Trade and industry	Measures to reduce substance inputs due to industrial/ commercial waste water discharges	Measures in the field of wastewater discharges in the trade and industry sector that do not belong to one of the groups mentioned above (cf. No. 13 & 14)	M3	M1	xvii, iii, iv, v, vi, xi, xiii	vii, xi
16	WFD/SW	Point sources: Mining	Measures to reduce point-source inputs of substances from the mining sector	Measures to reduce or optimise the control of point-source inputs of substances from the mining sector (with the exception of wastewater, rainwater and cooling water), e.g. Measures for treatment of mine water, qualitative control of discharges of mine or tip-heap water, preparation of feasibility studies	M3	M1	xiii, iii, iv, iii, x, xvii	xi
17	WFD/SW	Point sources: Heat (all polluter groups)	Measures to reduce pressures resulting from heat input	Measures to reduce or optimise the control of heat inputs, e.g. construction of new cooling systems, preparation of heat load plans	M3	M3	xvii, xiii, iii, iv, vi, viii, ix, x, v	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
18	WFD/SW	Point sources: Other point sources	Measures to reduce inputs of substances from other point sources	Measures to reduce point-source inputs of substances that do not belong to one of the groups mentioned above (cf. No. 1 to 17)	M3	M1	xvii, xiii, iii, iv, vi, viii, ix, x, v	n.a.
19	WFD/GW	Point sources: Trade and industry	Measures to reduce point-source inputs of substances from industrial/ commercial sites	Measures to reduce point-source inputs of substances with direct impacts on the groundwater (with the exception of wastewater, rainwater and cooling water), e.g. official adjustment of the dumping permit for salt water disposal	M3	M3	xiii, iii, iv, v, vi, xvii	n.a.
20	WFD/GW	Point sources: Mining	Measures to reduce point-source inputs of substances from the mining sector	Measures to reduce point-source inputs of substances from the mining sector with direct impacts on groundwater (with the exception of wastewater, rainwater and cooling water)	M3	M3	xiii, iii, iv, v, vi, xvii	n.a.
21	WFD/GW	Point sources: Contaminated sites / old sites	Measures to reduce point-source inputs of substances from contaminated sites and old sites	Measures to reduce point source inputs of substances from contaminated sites with direct impacts on groundwater, e.g. remediation of contaminated sites (including further studies pursuant to the Federal Soil Protection Act)	M3	M3	xiii, iii, iv, v, vi, xvii	n.a.
22	WFD/GW	Point sources: Waste management	Measures to reduce point-source inputs of substances from waste management sector	Measures to reduce point-source inputs of substances from the waste management sector with direct impacts on groundwater, e.g. remediation of landfill sites	M3	M3	xiii, iii, iv, v, vi, xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
23	WFD/GW	Point sources: Other point sources	Measures to reduce inputs of substances from other point sources	Measures to reduce point-source inputs of substances with direct impacts on the groundwater that do not belong to one of the groups mentioned above (cf. No. 19 to 22)	M3	M3	xiii, iii, iv, v, vi, xvii	n.a.
24	WFD/SW	Diffuse sources: Mining	Measures to reduce diffuse pressures resulting from mining operations	Measures to reduce uncontrolled diffuse pollution (e.g. salination, acidification, iron clogging, heavy metal pollution) resulting from mining operations (including pilot projects and specific monitoring)	M3	M1	xiii, xvii	xi
25	WFD/SW	Diffuse sources: Contaminated / old sites	Measures to reduce diffuse inputs of substances from contaminated sites and old sites	Measures to reduce uncontrolled diffuse inputs of substances from contaminated sites, e.g. Remediation of contaminated sites (including further studies pursuant to the federal soil protection act)	M3	M3	xiii, xvii	n.a.
26	WFD/SW	Diffuse sources: Built-up areas	Measures to reduce diffuse inputs of substances from sealed surfaces	Measures to reduce uncontrolled diffuse inputs of substances from sealed surfaces, e.g. uncoupling sealed surfaces from the sewer system, unsealing areas to increase the seepage rate, greening roof surfaces	M1	M1	xiii, xvii	n.a.
27	WFD/SW	Diffuse sources: Agriculture	Measures to reduce direct nutrient inputs from agriculture	Measures to maintain and implement “good professional practice” in agricultural land management. This does not include any measures going beyond good professional practice (e.g. agri-environmental measures).	M3	M1	xvii, vi	ix



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
28	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs by creating riparian strips	Creation, extension or extensification of <u>linear</u> riparian strips or protective strips, especially to reduce phosphate inputs and fine sediment inputs into rivers Note: the primary effect is reducing substance inputs (difference from measure 73)	M1	M1	xvii, vi, ii, iii	ix
29	WFD/SW	Diffuse sources: Agriculture	Measures to reduce inputs of nutrients and fine material resulting from erosion and run-off in the agricultural sector	Measures to reduce erosion on <u>areas</u> under agricultural use that go beyond good professional practice, e.g. plough-less, conservation-oriented soil cultivation, erosion-reducing subdivision of fields, greening of slope channels, catch crop growing	M1	M1	xvii, vi, ii, iii, iv	ix
30	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to leaching in the agricultural sector	Reducing nitrate leaching from farmland, e.g. through growing of catch crops and undersown crops (reducing or changing the application of fertilisers, changing to organic farming), If a measure acts on groundwater as well as surface waters, it can also be entered under measure 41.	M1	M1	xvii, vi, ii, iii, iv	ix
31	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs resulting from drainage	Measures to reduce substance inputs resulting from drainage, e.g. changes in the management of drained areas or technical measures affecting the drainage system (controlled drainage, special pipe materials, drainage ponds, technical filter systems etc.)	M1	M1	xvii, vi	ix



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
32	WFD/SW	Diffuse sources: Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	Measures to reduce inputs of crop protection agents. Here: concrete measures such as promotion of application techniques, bans on application Note: Advisory actions relating to crop protection agents are to be conceptual measures.	M3	M1	xvii, vi, ii, iii	n.a.
33	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in water conservation areas	Measures in water conservation areas with arable or pasture land that go beyond good professional practice and require more far-reaching measures under voluntary agreements or restrictions on use. In accordance with the protected area context, the measure is assigned to surface waters only.	M1	M1	xvii, ii, iii, vi, xvii	n.a.
34	WFD/SW	Diffuse sources: Soil acidification	Measures to reduce pressures resulting from soil acidification	Measures to reduce adverse effects on surface waters resulting from soil acidification, e.g. liming, near-natural forest conversion	M3	M3	xiii, xvii	n.a.
35	WFD/SW	Diffuse sources: Inputs due to accidents	Measures to avoid accidental inputs	Measures to prevent accidental inputs into surface waters, or preparatory damage-reduction measures	M3	M1	xvii, xiii, vi	xi
36	WFD/SW	Diffuse sources: Other diffuse sources	Measures to reduce pressures from other diffuse sources	Measures to reduce diffuse inputs of substances that do not belong to one of the groups mentioned above (cf. No. 24 to 35)	M3	M1	xvii, xiii, iii, iv, vi	n.a.
37	WFD/GW	Diffuse sources: Mining	Measures to reduce acidification resulting from mining operations	Measures to reduce acidification of groundwater resulting from mining operations, e.g. interim greening of tip-heap areas, liming	M3	M3	xiii, xvii	xi



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
38	WFD/GW	Diffuse sources: Mining	Measures to reduce diffuse pressures resulting from mining operations	Measures to reduce pressures on groundwater resulting from mining operations (e.g. heavy metals, sulphate) (including pilot projects and specific monitoring)	M3	M3	xiii, xvii	n.a.
39	WFD/GW	Diffuse sources: Built-up areas	Measures to reduce inputs of substances from leaking sewers and wastewater treatment plants	Constructional measures for remediation of leaking wastewater facilities to reduce diffuse substance inputs into groundwater	M3	M3	xiii, xi	vii
40	WFD/GW	Diffuse sources: Built-up areas	Measures to reduce inputs of substances from building materials/ structures	Measures to reduce inputs of substances from building materials and structures (e.g. zinc, copper, sulphate, biocides)	M3	M3	xvii	n.a.
41	WFD/GW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs into groundwater due to leaching in the agricultural sector	Measures to reduce pollution of groundwater with nutrients from farmland going beyond good professional practice, e.g. as a result of growing catch crops and undersown crops (including reducing or changing the application of fertilisers, changing to organic farming methods) If a measure acts on surface waters and groundwater, it can also be entered under measure 30.	M3	M1	xvii, vi	ix
42	WFD/GW	Diffuse sources: Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	Measures to reduce pollution of groundwater with crop protection agents from farmland	M3	M3	xvii, vi, ii, iii, iv	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
43	WFD/GW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in water conservation areas	Measures in water conservation areas with arable or pasture land that go beyond good professional practice and require more far-reaching measures under voluntary agreements or restrictions on use. In accordance with the protected area context the measure is assigned to groundwater only.	M3	M3	xvii, ii, iii, vi	ix
44	WFD/GW	Diffuse sources: Other diffuse sources	Measures to reduce pressures from other diffuse sources	Measures to reduce groundwater pollution due to diffuse inputs of substances that do not belong to any of the above groups (cf. No. 37 to 43)	M3	M3	xvii, xiii, iii, iv, vi	n.a.
45	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade	Measures to reduce abstraction of water from surface waters and groundwater for industry and trade to improve the water balance of the surface water context, e.g. adjustment of official permit	M2	M2	xvii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
46	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction resulting from power generation (cooling water)	Measures to reduce abstraction of cooling water from surface waters to improve the water balance of the surface water context, e.g. adjustment of official permit	M3	M3	xvii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
47	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction for hydro power plants	Technical measures, such as use of new turbines, that lead to a reduction in water abstraction, or additional installation of hydro power screws at the dam structure, which lead to a reduction in the quantity of water discharged to the turbines through the power unit duct (no specification of minimum discharge rates, cf. No. 61)	M3	M3	xvii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
48	WFD/SW	Water abstraction: Agriculture	Measures to reduce water abstraction for the agricultural sector	Measures to reduce abstraction of water from surface waters and groundwater for the agricultural sector to improve the water balance of the surface water context, e.g. technical measures for economical use of water in irrigation	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
49	WFD/SW	Water abstraction: Fisheries	Measures to reduce water abstraction for the fisheries sector	Measures to reduce water abstraction from surface waters and groundwater for the fisheries sector to improve the water balance of the surface water context, e.g. promoting nature conservation oriented pond management with management intensity specifications (including multi-year pond filling)	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
50	WFD/SW	Water abstraction: Water supply:	Measures to reduce water abstraction for public water supplies	Measures to reduce abstraction of water from surface waters and groundwater for public water supplies to improve the water balance of the surface water context, e.g. dismantling of extraction wells	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
51	WFD/SW	Water abstraction: Water supply:	Measures to reduce water distribution losses	Measures to reduce water distribution losses, e.g. refurbishment of supply system	M3	M3	x	n.a.
52	WFD/SW	Water abstraction: Shipping	Measures to reduce water abstraction for the shipping sector	Measures to reduce abstraction of water from surface waters for the shipping sector to improve the water balance of the surface water context, e.g. modified control of water transfer to shipping waterways	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
53	WFD/SW	Water abstraction: Other water abstraction	Measures to reduce other water abstraction	Measures to reduce water abstraction from surface waters and groundwater to improve the water balance of the surface water context that do not belong to one of the groups mentioned above (cf. No. 45 to 52)	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
54	WFD/GW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade (IED)	Measures to reduce water abstraction from groundwater for industry and trade (IED installations only) to improve the qualitative status of the groundwater context, e.g. adjustment of official permit	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	xi
55	WFD/GW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade	Measures to reduce water abstraction from groundwater for industry and trade (excl. IED installations) to improve the qualitative status of the groundwater context, e.g. adjustment of official permit	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
56	WFD/GW	Water abstraction: Mining	Measures to reduce water abstraction for mining operations	Measures to reduce water abstraction from groundwater for mining operations to improve the qualitative status of the groundwater context, e.g. adjustment of official permit	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
57	WFD/GW	Water abstraction: Agriculture	Measures to reduce water abstraction for the agricultural sector	Measures to reduce water abstraction from groundwater for the agricultural sector to improve the qualitative status of the groundwater context, e.g. adjustment of official permit	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
58	WFD/GW	Water abstraction: Water supply:	Measures to reduce water abstraction for public water supplies	Measures to reduce water abstraction from groundwater for public water supplies to improve the qualitative status of the groundwater context, e.g. adjustment of official permit	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.
59	WFD/GW	Water abstraction: Other water abstraction	Measures for groundwater recharge to compensate for quantitative deficits arising from groundwater abstraction	Measures for groundwater recharge to compensate for quantitative deficits in the groundwater context, e.g. due to additional water supply and seepage	M3	M3	xiv	n.a.
60	WFD/GW	Water abstraction: Other water abstraction	Measures to reduce other water abstraction	Measures to reduce water abstraction from groundwater to improve the quantitative status of the groundwater context that do not belong to one of the groups mentioned above (cf. No. 54 to 58)	M3	M3	viii, iii, iv, vi, viii, ix, x, xi, xiii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
61	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to ensure the minimum discharge rate	Measures to ensure the ecologically necessary minimum water level in the region of transverse structures, backwater areas etc. (residual water, donation discharge into diversion waters) e.g. by official determination pursuant to Section 33 of the Federal Water Act (not raising low water level)	M3	M3	xvii	n.a.
62	WFD/SW	Discharge regulation and morphological changes: Water balance	Reducing length of backwaters	Measures to reduce length of backwaters behind transverse structures, e.g. lowering target level	M3	M3	xvii	n.a.
63	WFD/SW	Discharge regulation and morphological changes: Water balance	Other measures to restore the typical discharge behaviour of water bodies	Quantitative water management measures to restore a discharge rate that promotes bed formation or is typical of the water body from a quantitative or dynamic point of view (not minimum discharge rates, cf. No. 61)	M2	M2	xvii	n.a.
64	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to reduce peak discharges due to use	Measures to reduce hydraulic stress due to peak discharges or surge inputs (search operation), e.g. due to section-specific widening in areas of rebate-induced peak discharges, reducing the effects of surge operation in hydropower plants	M1	M1	xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
65	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to promote natural water retention	Measures to promote natural water retention, e.g. through creation of flood areas by relocating dykes, rehydration of wetlands, moorland protection projects, reforestation in catchment area	M1	M1	xi, xvii	n.a.
66	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to improve the water balance in standing waters	Measures to improve water level dynamics in standing waters (applies solely to standing waters notified as surface water context (reservoirs and lakes > 50 ha)), e.g. compliance with qualitative minimum storage capacity, gearing the quantitative water management of the reservoir/ storage facility to the highest possible filling level in the spring and the latest possible reduction in the water level later in the year, and also preventing the water level from falling close to or below the minimum target level	M2	M2	xvii	n.a.
67	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to reduce pressures resulting from tidal barriers/weirs in coastal and transitional waters	Measures to reduce pressures resulting from tidal barriers/ weirs	M2	M2	xvii, iii, iv, vii, xi, xiii	n.a.
68	WFD/SW	Discharge regulation and morphological changes: Continuity	Measures to establish linear continuity at dams, retention basins and fishponds in the main stream	Measures at dams, retention basins and other storage facilities (usually barrages excluded under DIN 19700, including fishponds in the main stream) to establish linear continuity, e.g. creation of a traversable structure (diversion channel, riverbed slide, fish migration system)	M3	M1	xi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
69	WFD/SW	Discharge regulation and morphological changes: Continuity	Measures to establish/improve linear continuity in weirs/barrages, cascades, conduits and other hydraulic structures in accordance with DIN 4048 and/or 19700 Part 13	Measures at weirs, cascades and passage structures to establish /improve linear continuity, e.g. deconstruction of a weir, creation of a traversable structure (diversion channel, river bed slide, ramp, fish ladder), deconstruction/conversion of a passage structure (bridges, pipe and box culverts, culvert siphons, pumping stations etc.), optimised control of a passage structure (lock, pumping station etc.), creation of continuous groyne fields	M2	M1	xi	n.a.
70	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats by initiating/ allowing inherent dynamic water body development	Constructional or other (e.g. land acquisition) measure with the aim of enabling the water body to form its own habitats, e.g. erosional cavities, concave and undercut banks, or sand and gravel banks. In such cases the water body is not reshaped by constructional means; instead, such a process is initiated by removing riverbed and bank fixation measures and installing flow guides.	M1	M1	xiii, xi	n.a.
71	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats in existing profile	Constructional measures to improve riverbed structure, width and depth variance without changing the alignment (especially where there is no space for natural development), e.g. introduction of rocks or dead wood to increase current diversity, increasing the supply of dead wood, creation of gravel spawning sites	M1	M1	xi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
72	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats in water bodies through changes in watercourse or bank or bed design	Constructional measures to improve river bed and bank structures with constructional changes in alignment, e.g. re-routing measures (re-meandering) or widening of the water channel. Unlike measure 70, this goes beyond mere initiation.	M1	M1	xi	n.a.
73	WFD/SW	Discharge regulation and morphological changes: Morphology	Habitat improvement measures in bank areas	Creating or adding to a woody border native to the site (riparian strip), gradually developing it or removing non-typical shrubs; replacing technical hard construction with bioengineering techniques; tolerating bank erosion Note: The primary effect is to improve the morphology of the water body (difference from measure 28)	M1	M1	xi, xvii	n.a.
74	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to develop water meadows and improve habitats	Measures to develop water meadows and improve habitats in water meadows, e.g. re-activating primary water meadows (e.g. by restoring a natural bottom level), intrinsic dynamic development of secondary water meadows (e.g. by lowering river banks), development and maintenance of old structures and/or old water bodies in the water meadows, extensification of water meadow use or keeping water meadows clear of buildings and infrastructure	M1	M1	xi, xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
75	WFD/SW	Discharge regulation and morphological changes: Morphology	Connection of side waters, old branches (cross linking)	Measures to improve cross-linking, e.g. reactivating old water bodies (old branches, old waters), connecting secondary water meadow bodies (soil degradation waters)	M1	M1	xi, xvii	n.a.
76	WFD/SW	Discharge regulation and morphological changes: Morphology	Technical and operational measures, primarily for fish protection at hydraulic installations	Technical and operational measures to protect fish at hydraulic installations, with the exception of measures to establish/improve linear continuity (see No. 68 and 69), such as optimised rake systems, fish-friendly turbines, control system geared to fish migration habits	M3	M1	xi, xvii	n.a.
77	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve bed load balance and/or sediment management	Measures to develop bedload sources along and across the waters and to retain sand and fine sediment inputs from tributaries, e.g. shifting bed load material from the route area of river barrages and reservoirs into the downstream reaches, provision of gravel depots, creation of a sand and sediment catching system, installation of gravel sluices at transverse structures	M2	M1	xvii	n.a.
78	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from bed load removal	Measures to reduce adverse effects connected with bed load removal (gravel extraction, maintenance excavations), e.g. restriction or discontinuation of excavation work	M3	M3	xvii, iii, iv, vi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
79	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to adapt/optimize water body maintenance	Adaptation/optimisation/conversion of water body maintenance (pursuant to Section 39 of the Federal Water Act) with the aim of maintaining and developing site-appropriate shore vegetation in line with ecological and nature conservation requirements	M2	M2	vi, xv	n.a.
80	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve the morphology of standing waters	Measures to improve the morphology of standing waters, e.g. establishment of shallow water zones and creation of typical water specific shore structures, desludging (applies exclusively to standing waters that are notified as surface water context (reservoirs and lakes > 50 ha))	M3	M3	xvii	n.a.
81	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from structures for navigation, ports, shipyards, marinas	Measures to improve morphology, e.g. near-natural design of the various facilities, such as establishment of shallow water zones or conversion of unused areas	M3	M3	xvii, iii, iv, vii, xi, xiii	n.a.
82	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from bed load/sediment removal in coastal and transitional waters	Measures to reduce adverse effects connected with bed load removal (maintenance excavations) in coastal and transitional waters, e.g. reduction or restriction of excavation work	M1	M1	xvii, iii, iv, vi	n.a.
83	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from beach nourishment in coastal and transitional waters	Measures to reduce pressures resulting from beach nourishment, e.g. careful selection of the flooded areas to ensure that no protected species or habitats are affected	M3	M3	xvii, iii, iv, viii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
84	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from land reclamation in coastal and transitional waters	Measures to reduce pressures resulting from land reclamation include careful selection of the flooded areas to ensure that no protected species or habitats are affected	M3	M3	xvii, iii, iv, ix	n.a.
85	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydromorphological pressures	Measures to reduce hydromorphological pressures on flowing waters that do not belong to one of the individual areas mentioned above (cf. No. 61 to 79), e.g. measures to reduce pressures resulting from fishponds in the main stream, reduction/elimination of silting up of water bed as a result of topsoil inputs (fine sediments, iron clogging)	M1, M2, M3 (depending on specific measure)	M1, M2, M3 (depending on specific measure)	xiii, xi, xvii	n.a.
86	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydro morphological pressures in standing waters	Measures to reduce hydro morphological pressures in standing waters (applies exclusively to standing waters notified as surface water context (reservoirs and lakes > 50 ha)) that do not belong to one of the individual areas mentioned above (cf. No. 66 & 80)	M2	M2	xiii, xi, xvii	n.a.
87	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydromorphological pressures in coastal and transitional waters	Measures to reduce hydro morphological pressures in coastal and transitional waters that do not belong to one of the groups mentioned above (cf. No. 67. No. 81 to 84)	M2	M2	xiii, xi, xvii	n.a.
88	WFD/SW	Other anthropogenic impacts: Fisheries	Measures for initial stocking or stock replenishment	Measures to establish and maintain fish populations by stocking	M3	M3	xvii, iii, iv, vi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
89	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures due to fisheries in flowing waters	Measures to reduce pressures due to fishery activities in flowing waters (materials balance, water body structure, fish populations)	M3	M3	xvii, iii, iv, vii	n.a.
90	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures due to fishery activities in standing waters	Measures to reduce pressures due to fishery activities in standing waters (materials balance, water body structure, fish populations), e.g. compliance with agreed principles for fishery uses of the water body in question (applies exclusively to standing waters notified as surface water context, (reservoirs and lakes > 50 ha))	M3	M3	xvii, iii, iv, viii	n.a.
91	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures resulting from fishery activities in coastal and transitional waters	Measures to reduce pressures due to fishery activities in coastal and transitional waters (materials balance, water body structure, fish populations)	M3	M3	xvii, iii, iv, ix	n.a.
92	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures resulting from fish farming	Measures to reduce pressures on adjacent surface waters resulting from fish farming (especially materials balance) (excl. water abstraction and surge effects, cf. No. 49 & 64)	M3	M3	xvii, iii, iv, x	n.a.
93	WFD/SW	Other anthropogenic impacts: Land drainage	Measures to reduce pressures resulting from land drainage	Measures to reduce pressures resulting from land drainage include closing and/or dismantling drainage systems and closing off drainage ditches, and increasing section lengths to improve water retention.	M1	M1	xvii, iii, iv, vi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
94	WFD/SW	Other anthropogenic impacts: Introduced species	Measures to curb introduced species	Measures to curb or reduce adverse effects of invasive (alien) species on aquatic ecosystems including the indirectly dependent terrestrial ecosystems and wetlands; e.g. by promoting autochthonous plant communities, combating species that do not occur naturally (neobiota) that cause deterioration of ecosystems, and protecting native species	M1	M1	xvii	n.a.
95	WFD/SW	Other anthropogenic impacts: Recreational activities	Measures to reduce pressures resulting from recreational and leisure activities	Measures to reduce pressures resulting from leisure activities (excl. leisure fishing, cf. No. 89 & 90) in sensitive areas (especially Habitats Directive areas in which water-dependent habitat types or Annex II species are to develop or be conserved), e.g. banning use of boats on waters, steering visitor streams/ regulating leisure use, banning camps/ tents/ fires	M3	M3	xvii, iii, iv, vi	n.a.
96	WFD/SW	Other anthropogenic impacts: Miscellaneous anthropogenic pressures	Measures to reduce other anthropogenic pressures	Measures to reduce other anthropogenic pressures on the surface water context that do not belong to one of the groups mentioned above (cf. No. 1 to 95), e.g. for restoring lakes (aeration of open water or sediment, deep water removal, plant removal, chemical precipitation of nutrients, biomanipulation)	M2	M2	xiii, iii, iv, v, vi, vii, xii, xvii	n.a.
97	WFD/GW	Other anthropogenic impacts: Intrusions	Measures to reduce salt water intrusions	Measures to reduce salt water intrusion is, especially in areas close to the coast, e.g. adjusting groundwater abstraction	M3	M3	xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
98	WFD/GW	Other anthropogenic impacts: Intrusions	Measures to reduce other intrusions	Measures to reduce other intrusions	M3	M3	xvii	n.a.
99	WFD/GW	Other anthropogenic impacts: Miscellaneous anthropogenic pressures	Measures to reduce other anthropogenic pressures	Measures to reduce other anthropogenic pressures on the groundwater context that do not belong to one of the groups mentioned above (cf. No. 19 to 98), e.g. acidification due to forestry activities	M3	M3	xiii, iii, iv, v, vi, vii, xii, xvii	n.a.
100	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in flood areas	Measures in flood areas with arable or pasture land that go beyond good professional practice and require more far-reaching measures under voluntary agreements or restrictions on use.	M1	M1	xvii, vi	n.a.
101	WFD/SW	Diffuse sources	Measures to reduce substance pollution due to sediments	Measures to reduce uncontrolled diffuse substance pollution, e.g. due to removal of sediments, possibly with subsequent treatment, utilisation and disposal.	M3	M3		n.a.
102	WFD/GW	Diffuse sources: Agriculture	Measures to reduce acidification-induced substance pollution (excluding nutrients) in the groundwater as a result of agricultural activities	Measures to reduce acidification of groundwater with subsequent release of metals and metalloids due to agricultural activities. Suitable measures include liming or reductions in fertiliser intensity.	M3	M3		n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
			FRMD measures					
301	FRMD	Prevention	Setting priority and restricted areas in regional policy plans and regional plans	Description of existing and missing priority and restricted areas in the regional policy plans and regional plans. Other aspects include adapting regional plans, safeguarding retention spaces, adapting land uses, providing areas for flood control and water body development.	M1	n.a.		
302	FRMD	Prevention	Defining and updating flood areas and formulating restrictions on use under water legislation	Legal security for land used as flood areas; defining and provisionally securing flood areas not yet designated, restoring former flood areas; formulating and imposing restrictions on use in flood areas, statutory definition of flood source areas	M1	n.a.		
303	FRMD	Prevention	Adapting and/or modifying physical development plans and/or imposing requirements under building legislation	Amending and/or updating physical development plans, checking proper consideration of flood control concerns when drawing up new physical development plans or in connection with requirements under building legislation	M1	n.a.		
304	FRMD	Prevention	Measures for appropriate land-use	Plans and measures appropriate to flood situations, e.g. modification of existing settlements, conversion of arable land into pasture in flood risk areas, Also elimination/reduction of deficits identified, e.g. by means of new plans for adapting infrastructure	M1	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
305	FRMD	Prevention: Removal / relocation	Removal of flood-sensitive uses, or relocation to areas with lower flood probability	Measures to remove/deconstruct flood-sensitive uses from flood-risk areas or to relocate infrastructure in areas with lower flood probability and/or lower risks; resettlement and purchase or removal of properties affected	M1	n.a.		
306	FRMD	Prevention: Reduction	Construction and refurbishment appropriate to flood situations	Flood-resistant execution of infrastructure facilities or flood-oriented selection of construction sites	M3	n.a.		
307	FRMD	Prevention: Reduction	Facility protection for buildings and infrastructure	Relates to “subsequent” measures that were not covered by building plans (difference from 304 and 306), e.g. on buildings: Water barriers outside the object, sealing and protective measures directly on and in the building, such as dam beams in building orifices, backflow barriers for building and site drainage systems, floor outlets in rooms, installation of bulkheads and pumps in critical places, water-repellent anti-corrosion paint for permanently installed equipment, higher placement of important systems such as transformers or control cabinets, e.g. at infrastructure facilities: examination of flood risks to infrastructure facilities, health care systems including supply and disposal, and connections to transport routes	M2	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
308	FRMD	Prevention: Reduction	Flood-oriented handling of substances dangerous to water	e.g. conversion of energy supply from oil to gas heating systems; flood-proof location of heating oil tanks. Compliance with VAWS / VAUwS (requirements for design of installations involving substances dangerous to water)	M1	n.a.		
309	FRMD	Prevention: Other preventive measures	Measures to support prevention of flood risks Preparation of concepts / studies / expertises	Further measures to assess vulnerability to floods; maintenance programmes or measures etc., preparation of technical fundamentals, concepts, action recommendations and decision aids for flood risk management, dependent on APSFR status (Areas with Potential Significant Flood Risk) in line with EU types e.g. updating/reviewing hydrological measuring networks and programmes, developing models, using and maintaining models, e.g. water balance models	M1	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
310	FRMD	Protection: Management of natural floods / discharge and catchment area management:	Flood-reducing land management	Measures to promote natural water retention over large areas with a view to maintaining and improving the water storage potential of soils and ecosystems, e.g. through management of agricultural and silvicultural areas by means of conservative plough-less soil cultivation, growing of catch crops and undersown crops, initial afforestation, forest conversion etc. and relevant large-scale plans (regional policy, physical development planning, Natura 2000, WFD) including drawing up appropriate programmes for flood-reducing demand management	M1	n.a.		
311	FRMD	Protection: Management of natural floods / discharge and catchment area management:	Water body development and water meadow renaturing, activation of former wetlands	Measures to promote natural water retention over large areas with a view to maintaining and improving the water storage potential of soils and ecosystems, e.g. modified extensive water body maintenance; activation of former wetlands; fostering near-natural water meadow development, near-natural design of riparian strips, near-natural widening of river bed, reconnection of physical structures (e.g. old branches, side waters) with retention potential	M1	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
312	FRMD	Protection: Management of natural floods / discharge and catchment area management:	Reducing surface sealing	Measures to promote natural water retention over large areas by unsealing sealed areas and reducing uncompensated new sealing in areas with high rainfall or discharges	M1	n.a.		
313	FRMD	Protection: Management of natural floods / discharge and catchment area management:	Rainwater management	Water retention measures, e.g. municipal retention systems to offset water levels, systems for improving seepage (e.g. rain water seepage systems, swale systems), other rainwater utilisation systems in the public sector, green roofs etc.	M1	n.a.		
314	FRMD	Protection: Management of natural floods / discharge and catchment area management:	Recovery of natural retention areas	Measures to promote natural water retention over large areas by removing / relocating / deconstructing flood protection facilities that are no longer needed (dykes, walls), removing fill heaps etc., reactivating suitable former flood areas etc.	M1	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
315	FRMD	Protection: Regulating water discharge	Creation, continuation, acceleration and/or expansion of construction programmes for flood water retention, including examination, expansion and construction of floodwater retention spaces and dam structures	This measure describes, for example, the creation of plans for flood water retention in/on the water body and/or for internal drainage of dyke sections and plans for improving technical and infrastructural flood control systems (e.g. flood control concepts) and measures relating to installations such as dams, river/canal impounding, and boulders, including risk assessments for existing dam structures and control structures	M2	n.a.		
316	FRMD	Protection: Regulating water discharge	Operation, maintenance and remediation of flood retention spaces and dam structures	Measures relating to installations such as dams, retention basins, weirs, river/canal impounding and polders	M2	n.a.		
317	FRMD	Protection: Installations in the river bed, at the coast and in flood areas	Construction, expansion and refurbishment of stationary and mobile flood control facilities	Construction/expansion of structures such as dykes, flood control barriers, dunes, beach ridges, coupures, sewers and barrages, including the determination and creation of overload points, backflow protection and ensuring internal drainage (e.g. by means of drainage pipes, pumping stations, coarse screens, non-return valves) and the use of mobile flood control systems, such as dam beam systems, floodgates, bulkhead gates etc.	M2	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
318	FRMD	Protection: Installations in the river bed, at the coast and in flood areas	Maintenance of existing stationary and mobile flood control structures	Measures relating to structures such as dykes, flood control barriers, dunes, including major maintenance measures going beyond regular basic maintenance, and determination and creation of overload points, backflow protection and ensuring internal drainage (e.g. by means of drainage pipes, pumping stations, coarse screens, nonreturn valves), inspection and adaptation of structures for the necessary storm surge/flood control (at barrages, coupures, sewers and locks), especially in coastal regions Preparation and/or optimisation of plans for water body maintenance or supervision of hydraulic installations to ensure proper functioning of flood control systems and to guarantee safe flood water discharge in accordance with design parameters	M2	n.a.		
319	FRMD	Protection: Management of surface waters	Keeping clear and enlarging flood discharge cross-section in settlement areas and water meadows	Elimination of bottlenecks and discharge barriers in the water body (bridges, conduits, weirs, other discharge obstacles) and enlarging discharge cross-section in water meadow areas, e.g. measures for appropriate excavations in water meadow areas	M1	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
320	FRMD	Protection: Management of surface waters	Keeping flood discharge cross-section clear by means of water body maintenance and foreland management	Measures such as desludging, removal of weed growth and silt accumulations, mowing, creation of drainage channels, requirements for farmland management, elimination of discharge obstacles in the course of water body maintenance	M2	n.a.		
321	FRMD	Protection: Other protective measures	Other measures to improve protection against flooding	Other measures not yet listed in the flood control measures described above, e.g. flood control concepts	M1	n.a.		
322	FRMD	Precautions: Flood forecasts and warnings	Establishing and/or improving the flood notification service and storm surge forecasts	Creating the organisational and technical preconditions for flood forecasts and warnings; improving the availability of up-to-date hydrological measurements data (rainfall and discharge data), optimising the measuring network, minimising incidence of breakdowns, optimising notification paths	M3	n.a.		
323	FRMD	Precautions: Flood forecasts and warnings	Establishing and/or improving municipal warning and information systems	e.g. using Internet-based municipal information systems, developing special software for invisible information systems etc., and measures to ensure local flood warnings for the public (e.g. sirens)	M3	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
324	FRMD	Precautions: Planning assistance measures for emergencies / emergency planning	Planning and optimisation of crisis and resource management	Establishing and/or optimising crisis management planning, including alarm and action planning, providing necessary human and physical resources (e.g. equipping flood control material stores or increasing the number/manpower of flood control units), creating/optimising water brigades, dyke associations and other associations, regular exercises and training measures for emergency personnel	M3	n.a.		
325	FRMD	Precautions: Public awareness and precautions	Behavioural precautions	APSFR-dependent measures to inform about flood risks and prepare for flood events, e.g. by preparing and publishing hazard and risk maps; local information via the media (flood marker stones, flood educational trails etc.), publishing information material	M3	n.a.		
326	FRMD	Precautions: Other precautions	Risk precautions	e.g. insurance, own financial precautions, formation of reserves	M3	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
327	FRMD	Restoration / regeneration and inspection: Managing the impacts on individuals and society	Dealing with damage	Planning and preparation of measures for waste disposal, clearing up environmental damage etc., especially in the field of damage follow-up planning in the agricultural/ forestry sector and of the IPPC installations identified in the industrial emissions directive (2010/75/EU), to avoid further damage and ensure rapid resumption of operation and financial assistance, and the restoration and maintenance of human health by creating the basis for acute follow-up measures, e.g. emergency supplies, provision of human resources etc., inclusion of follow-up measures in crisis management planning	M3	n.a.		
328	FRMD	Restoration / regeneration and inspection: Other restoration / regeneration and inspection:	Other measures in the field of restoration, regeneration and inspection	Measures which are not listed above or which cannot be classified in the field of restoration, regeneration and inspection	M3	n.a.		
329	FRMD	Miscellaneous	Miscellaneous measures	Measures that cannot be assigned to any of the EU aspects of the flood risk management measures that experience has shown to be relevant	M3	n.a.		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
			MSFD measures					
401	MSFD	Seas free of adverse impacts arising from eutrophication	UZ1-01 Agricultural cooperation project for reducing direct inputs into coastal waters via drainage systems	Minimising inputs of nutrients into coastal waters via drainage systems in coastal regions. The focus is on establishing a communications structure and improving cooperation between the actors with the aim of reducing nutrient inputs into local surface waters using the existing approaches and instruments.	n.a.	M1		
402	MSFD	Seas free of adverse impacts arising from eutrophication	UZ1-02 Strengthening the self-cleaning powers of estuaries, taking the Ems as an example	The measures planned here are intended to help reduce the impacts of anthropogenic interference with estuaries on the ecological status of coastal waters. The focus is on reducing the concentration of suspended solids. Suitable measures are to be developed and implemented, taking the Ems as an example.	n.a.	M1		



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403	MSFD	Seas free of adverse impacts arising from eutrophication	UZ1-03 Promoting NOx reduction measures for ships	NOx reduction measures going beyond international regulations (MARPOL) are to be initiated at EU or national level through voluntary activities and supported by assistance. The measures address issues such as 1) Retrofit programmes (e.g. for SCR systems, LNG/ dual-fuel engines) 2) LNG infrastructure in port areas 3) External power supply for seagoing vessels 4) Investigating the possibility of introducing a European NOx fund (following the Norwegian example) 5) Emission-dependent port charges	n.a.	M1		
404	MSFD	Seas free of adverse impacts arising from eutrophication	UZ1-04 Supporting the establishment of a nitrogen emission special area (NECA) in the North Sea and Baltic Sea	The reduction of nitrogen oxide (NOx) emissions from marine shipping is regulated in Rule 13 of Annex VI to the MARPOL convention. Germany continues to support the establishment and notification of NECA applications to IMO by the coastal states. Germany welcomes initiatives, especially in the Mediterranean, aimed at introducing a SECA. Since the draft application for the Baltic Sea (HELCOM) is to some extent out of date, it may need to be updated.	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
405	MSFD	Seas free of pollution by harmful substances	UZ2-01 Criteria and incentive systems for eco-friendly vessels	Taking account of environmental criteria such as the “Blue Angel” for official vehicles and state-assisted seagoing vessels and creating incentive systems for eco-friendly vessels.	n.a.	M1		
406	MSFD	Seas free of pollution by harmful substances	UZ2-02 Requirements for discharge and disposal of scrubber water from ships' exhaust-gas cleaning systems	Developing ambitious criteria for discharges of scrubber water from exhaust-gas cleaning systems on ships (component 1) and possibly more far-reaching restrictions/bans in special marine areas (component 2) and regulating proper disposal of residual substances from port facilities (component 3).	n.a.	M1		
407	MSFD	Seas free of pollution by harmful substances	UZ2-03 Prevention and control of marine pollution – improving maritime emergency precautions and emergency management	Improving maritime emergency precautions and emergency management by improving and developing control of pollutant accidents in marine and coastal regions. In the course of developing a marine strategy for the German North Sea and Baltic Sea, the strategic concept of the Shipping Accident Command will be updated and considerably improved, to ensure more sustainable protection for the marine environment against contamination by pollutants (especially oil and paraffin or similar substances).	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
408	MSFD	Seas free of pollution by harmful substances	UZ2-04 Management of old ammunition dumps in marine areas	The nature and size of the polluted areas are to be recorded in an ammunition register. In combination with archived data and other findings, this will serve as an important basis for further steps relating to management of hazardous situations, filling in gaps in our knowledge of the situation, future-oriented assessment of areas polluted by ammunition.	n.a.	M1		
409	MSFD	Seas free from adverse impacts on marine species and habitats arising from the effects of human activities	UZ3-01 Inclusion of species and biotope types that define the value of the ecosystem in protected area ordinances	Purpose of measure: Adequate protection of endangered species/biotope types by means of: - Modification of existing legal provisions and, where appropriate, consideration in new legal provisions for protected areas, if species/biotope types classified as endangered are not adequately covered in such areas under criterion 2 (see below) - Ensuring adequate consideration of such species/biotope types in cases of encroachments and licensing procedures in protected areas. The possibility of inclusion in the legal provisions is to be investigated for those species and biotope types that satisfy all three of the following criteria: (1) They occur in the protected area. (2) They are classified as endangered. (3) The area can make a significant contribution to protection of the relevant species/biotope types.	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
410	MSFD	Seas free from adverse impacts on marine species and habitats arising from the effects of human activities	UZ3-02 Measures to protect migratory species in the marine sector	<p>In the context of updating regional policy plans, the possibility will be investigated of including priority or reserved areas on a regionally (North Sea and Baltic Sea) and nationally co-ordinated basis (between the federal government and the federal states) that serve as migration corridors between areas of ecological importance for migratory species (marine mammals, seabirds and coastal birds, bats and fish). In the ideal case these form a biotope network in the sense of a coherent network of protected areas.</p> <p>In these priority areas, specific protection provisions are then to be examined in licensing procedures for the following ecosystem components:</p> <ol style="list-style-type: none"> 1. Marine mammals 2. Seabirds and coastal birds 3. Bats 4. Fish 	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
411	MSFD	Seas with resources that are used sparingly and sustainably	UZ4-01 Further increasing public awareness of “sustainable ecosystem-appropriate fisheries”	<p>Designing and implementing a public relations programme on the topic of “sustainable ecosystem-appropriate fisheries” with the aim of providing information about and further increasing public awareness of the issue.</p> <p>Key areas:</p> <ul style="list-style-type: none"> - Impacts of various fishery methods on target species, non-target species and the seabed - Ecosystem-appropriate fishing equipment and techniques - MSY concept - Economic aspects of sustainable ecosystem-appropriate fisheries - Opportunities for consumers to exert influence by making deliberate consumption choices 	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
412	MSFD	Seas with resources that are used sparingly and sustainably	UZ4-02 Support and advice for certification in the Lower Saxony mussel fishing sector	<p>The businesses belonging to "Niedersächsische Muschelfischer GbR" have applied for the following three forms of management for certification:</p> <ol style="list-style-type: none"> 1. Fishing with nets and dredging of stock mussels for breeding on soil cultures. 2. Growing stock mussels on ropes and nets and breeding them on soil cultures. 3. Removing stock mussels that have become established in the Wadden Sea from MSC-certified fisheries and soil cultures. <p>In accordance with the three principles of the Marine Stewardship Council (MSC) standard: 1. sustainability of target stocks (P1), 2. preservation of relevant ecosystems (P2), and 3. effective fishery management (P3), certification took place on 29 October 2013. The MSC label was awarded subject to conditions (see Final Report 2013, Germany Lower Saxony mussel dredge and mussel culture fishery) which the applicant is to fulfil in the next three years.</p>	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
413	MSFD	Seas with resources that are used sparingly and sustainably	UZ4-03 Mussel farming plan in the National Park Lower Saxony Wadden Sea	<p>The existing mussel farming plan for the National Park Lower Saxony Wadden Sea is updated every five years to bring it into line with current knowledge. Such updates involve the following objectives and content:</p> <ul style="list-style-type: none"> - Ensuring ecological sustainability of stock mussel fisheries - Ensuring the development of eulitoral and sublitoral mussel banks and communities - Observing the Natura 2000 conservation objectives and the objectives of the MSFD <p>Under the management plan and the National Parks act, stock mussel fisheries are prohibited in Lower Saxony on about one third of the area of the eulitoral zone. Mussel fishing for consumption is completely prohibited in the eulitoral zone.</p>	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
414	MSFD	Seas with resources that are used sparingly and sustainably	UZ4-04 Sustainable and sparing use of inanimate sublittoral resources for coastal protection (North Sea)	The aim of this measure is sustainable and sparing use of inanimate resources for coastal protection in Lower Saxony. This includes minimising spatial and temporal adverse effects during and after extraction. The use or extraction of marine sediments in the sublittoral zone for coastal defence purposes serves to reduce the adverse impacts of storm surges and coastal erosion on human health, the environment, our cultural heritage and economic activities (where these are in the public interest).	n.a.	M1 (FRMD)		
415	MSFD	Seas with resources that are used sparingly and sustainably	UZ4-05 Environmentally appropriate management of marine sand and gravel resources for coastal defence in Mecklenburg-West Pomerania (Baltic Sea, Mecklenburg-West Pomerania)	As a measure to protect benthic communities, it is proposed to develop and implement an overall plan for sustainable, eco-friendly use of inanimate resources for coastal defence in Mecklenburg-West Pomerania; this is to comprise a number of different components.	n.a.	M1 (FRMD)		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
416	MSFD	Seas free from pollution by waste	UZ5-01 Embedding the subject of marine waste in teaching objectives, teaching plans and teaching material	Schools (e.g. general schools, vocational schools, technical schools), educational establishments and non-school establishments should promote awareness of the impacts and long-term consequences of waste in the marine environment. This end, the subject of "Marine waste" is to be embedded in teaching objectives, teaching plans and teaching material. Changes in how we deal with waste can put central target groups in particular (children and juveniles, and potential polluters) in a position to act as multipliers of eco-friendly behaviour. This can bring about significant reductions in inputs of waste into the marine environment.	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
417	MSFD	Seas free from pollution by waste	UZ5-02 Modification/substitution of products, having regard to an overall assessment based on life-cycle analysis	<p>In view of the findings of drift line studies, investigations of the stomach contents of stormy petrels and the results of pilot monitoring of other marine compartments and possible indicator types (e.g. stomach contents of fish, plastic waste in seabird nests, also accompanied by mortality due to strangulation) for the German Baltic Sea and North Sea, there is a need to identify objects that cause particular problems regarding dangers for the marine environment.</p> <p>On the basis of this, the most cost-effective alternative is to be identified in cooperation with the producing industry. Investigations should also be made to determine what other instruments are suitable for bringing about necessary changes in the product.</p>	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
418	MSFD	Seas free from pollution by waste	UZ5-03 Avoiding use of primary micro-plastic particles	<p>As a result of their intended use, primary micro-plastic particles find their way into wastewater and thereby into surface and marine waters. From a regulatory point of view, primary micro-plastic particles do not constitute waste within the meaning of Section 2 (2) 9 of the Closed Cycle Management Act, but are covered by chemicals legislation.</p> <p>The measure relates to primary micro-plastic particles used in products and applications of the kind found in cosmetic agents and blast-cleaning abrasives for cleaning and deboning. The measure aims to avoid imports of primary micro-plastic particles into the environment by imposing conditions on their use, investigating bans on applications open to the environment, and establishing alternative products. To this end, the instruments listed under “instruments for implementation” are used.</p>	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
419	MSFD	Seas free from pollution by waste	UZ5-04 Reducing imports of plastic waste, e.g. plastic packaging, into the marine environment	As part of this measure it is planned to pursue the development of existing collection systems (including deposit/take-back systems) and of existing requirements for the return and recycling of packaging waste. At European level there would seem to be a need to expand the recycling requirements for packaging waste and also for to ensure rigorous implementation of regulations on waste. Furthermore, measures and rules for improving sustainable design of packaging and products should be reviewed in order to permit and expand ecologically meaningful long-term and multiple uses.	n.a.	M1		
420	MSFD	Seas free from pollution by waste	UZ5-05 Waste-related measures concerning fishing nets and equipment	Reducing waste from fishing uses can involve a range of precautionary, preventive and follow-up activities relating to lost fishing nets and other fishing equipment, including: education work, prevention of net losses, development of alternative materials, net marking, deposit system for used nets, recovery of lost nets.	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
421	MSFD	Seas free from pollution by waste	UZ5-06 Establishing the “Fishing for Litter” concept	“Fishing for Litter” initiatives – which not only aim to eliminate waste from the North Sea and Baltic Sea, but also in particular to raise the awareness of the fisheries sector and the general public and, where possible, to collect data on waste pollution – are to be promoted and expanded as far as possible. Adequate infrastructure on board and in the ports must be ensured for proper disposal of the waste accumulated as by-catch. The quantities and composition of the waste are to be recorded to obtain information about the sources.	n.a.	M3		
422	MSFD	Seas free from pollution by waste	UZ5-07 Reducing waste already present in the sea	To supplement the indispensable preventive measures to prevent further inputs of waste into the marine environment, action is to be taken – where this makes ecological sense – to clean up rivers and marine compartments, e.g. beaches, coasts, the water column and water surface, to remove waste from the marine environment.	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
423	MSFD	Seas free from pollution by waste	UZ5-08 Reducing volume of plastic waste by means of local regulatory requirements	Having regard to the “polluter pays” principle, investigation of input paths and reduction of inputs of plastic waste from rivers, riparian zones and beaches by redefining or intensifying regulatory requirements in conjunction with education and information, e.g. by imposing more stringent permit requirements on event organisers, leasing conditions for beaches, requirements regarding the organisation and infrastructure of waste disposal (beach management) or fines for relevant infringements. These requirements should also include rules for cleaning up banks and beaches after events, for example.	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
424	MSFD	Seas free from pollution by waste	UZ5-09 Reduction in emission and inputs of micro plastic particles	<p>As a result of their intended use, primary micro-plastic particles find their way into wastewater and thereby into surface and marine waters. From a regulatory point of view, primary micro-plastic particles do not constitute waste within the meaning of Section 2 (2) 9 of the Closed Cycle Management Act, but are covered by chemicals legislation.</p> <p>In addition to the source -related measures UZ5-02 and UZ5-03, this measure addresses the need for developing and using cost effective systems for retaining micro plastic particles to avoid their release into the aquatic environment.</p> <p>The measures have a multiphase structure.</p>	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
425	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-01 Deduction and use of biological limit values for the effects of underwater noise on relevant species	<p>The measure consists in deducing and applying biological limit values for anthropogenic underwater noise pollution (continuous and impulse noise) to prevent adverse impacts on relevant species. Relevant signal characteristics must be taken into account when deducing the values. These may include the received noise level in the case of marine mammals, or particle movements due to sound waves in the case of fish. (Research and development projects, application of precautionary principle)</p> <p>The limit values deduced are to be taken into account in protected areas and in the context of authorisation procedures for anthropogenic encroachments.</p>	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
426	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-02 Establishment of a register for relevant noise sources and shockwaves, and establishment of standardised and binding reporting requirements	<p>It is planned to establish a central noise register which will initially record all impulse noise inputs that are subject to permit procedures. The impasse noise events will be listed in the noise register with specific information on position, time, duration, properties of sound source and, if available, predicted and measured sound level. On a more long-term perspective, the plan should also permit the addition of longer-lasting noise inputs (e.g. sonar, sediment removal) and possibly shipping noise and other continuous inputs.</p> <p>The noise register is used to</p> <ul style="list-style-type: none"> - Identify key pressures - Assess the impacts and consider them on a cumulative basis - Control noise inputs from a spatial/temporal point of view - Provide a basis for developing technical, planning-oriented and, where appropriate, legal protective measures 	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
427	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-03 Noise maps of German marine areas	The measure includes designing and establishing a permanent network for measuring underwater noise (using hydrophones) and drawing up international standards for noise mapping, including the provision of suitable models for individual and cumulative consideration of regional noise pollution in German marine areas.	n.a.	M3		
428	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-04 Development and application of noise reduction measures for the North Sea and Baltic Sea	This measure will develop and implement extensive noise reduction measures for minimising adverse noise-induced anthropogenic impacts on marine species for the North Sea and Baltic Sea. It will take account of the diverse protection requirements of the various marine species and their populations, and also of the specific protection requirements of the individual protected areas. The measures include investigation of all anthropogenic noise sources in the marine sector and cover both impulse noise and continuous noise. The measures also include creating low-noise areas for marine species.	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
429	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-05 Deduction and application of threshold values for heat inputs	<p>Heat inputs into coastal waters are due to cooling water, power cables and other inputs. Local temperature increases may lead to certain species or individual development stages avoiding the area, or to changes in activity and changes in the communities of species, including microorganisms and human pathogens.</p> <p>To some extent this is counteracted by using threshold values for heat inputs in the course of authorisation procedures.</p> <p>Threshold values for heat inputs exist for cooling water inputs and for cables laid to transport power from offshore wind turbines.</p> <p>For the tidal Elbe there is a heat load plan (2008) agreed between the three federal states of Lower Saxony, Hamburg and Schleswig-Holstein. The possibility should be investigated of applying the conditions laid down in this plan to the temperature of coastal and marine waters – especially long narrow estuaries.</p>	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
430	MSFD	Seas free of adverse impacts arising from anthropogenic inputs of energy	UZ6-06 Developing and using ecologically acceptable lighting and accompanying measures for offshore installations	<p>The aim of this measure is to ensure that light emissions originating from offshore installations (e.g. oil and gas platforms, wind farms or turbines, transformer platforms, production/exploration platforms) are ecologically acceptable.</p> <p>A first step will be to analyse and assess the impacts of light emissions in the offshore sector on the marine environment.</p> <p>On the basis of this analysis, the project will investigate any need to develop technical measures to modify and, if necessary, reduce light emissions, and will also examine their feasibility. (Modifications to the operational lighting of the installations can only be made by international agreement and in accordance with corresponding national and/or EU provisions.)</p>	n.a.	M3		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
431	MSFD	Seas with natural hydro morphological characteristics	UZ7-01 System for hydromorphological and sediment information and analysis for the German North Sea and Baltic Sea	The measure will design, create and introduce a hydromorphological and sedimentological information, capture and analysis system for the German North Sea and Baltic Sea. The measure will also include the establishment and permanent provision of an agreed tool to ensure constant availability of information. The system will bring together data from various sources and will thereby provide a comprehensive basis for information and analysis in relation to the status of the seabed and its biotope types in the German North Sea and Baltic Sea. It will also form the basis for developing, in a subsequent step, a system that makes it possible to assess the qualitative environmental status of the German North Sea and Baltic Sea, including the effectiveness of protective measures. It is planned to implement this on a step-by-step basis.	n.a.	M1		



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
			Conceptual measures					
501	CONC	Conceptual measures	Preparation of concepts / studies / expertises	Preparation of basic technical information, concepts, action recommendations and decision aids for implementing the WFD in accordance with the types of pressures and/or APSFR-independent flood risk management on the basis of the EU types	M1	M1	xvii	n.a.
502	CONC	Conceptual measures	Research, development and demonstration projects	e.g. demonstration projects to support the transfer of knowledge and experience; research and development methods to develop effective measures for implementing the WFD and/or for preventive flood control and to adapt and optimise such measures on a site-specific basis; participation in and use of European, national and state-level research programmes and projects for river basin management and/or flood risk management	M1	M1	xvi	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
503	CONC	Conceptual measures	Information and further training measures	<p>WFD: e.g. measures to inform, educate and raise awareness concerning the WFD, e.g. by targeted establishment of working groups with the actors working on water bodies, such as those responsible for maintaining the water bodies, representatives of local authorities and the agricultural sector (publications, competitions, water days) or follow-up training, e.g. on water body maintenance.</p> <p>FRMD, APSFR-independent: Educational measures relating to flood risks and preparations for flood events, e.g. basic and advanced training courses on flood risk management for the administration (building authorities and permitting authorities) and architects, e.g. on flood-appropriate building, flood-oriented physical development planning, own precautions, facility protection, optimisation of civil-military cooperation / training for emergency personnel and crisis management personnel</p>	M1	M1	xv	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
504	CONC	Conceptual measures	Advisory measures	WFD: e.g. advisory and training offerings for farms FRMD, APSFR-independent: Advising parties concerned on avoiding flood damage, taking own precautions, taking corrective action in the event of floods, dealing with damage, WFD and FRMD: Advising farmers and foresters on appropriate land management	M1	M1	xv	n.a.
505	CONC	Conceptual measures	Establishment or adaptation of promotion programmes	WFD: e.g. adapting agri-environmental programmes, establishing specific plans and programmes for measures to implement the WFD (e.g. assistance programmes with a focus on standing waters or specifically for small-scale measures on water bodies) under European, national and state-level assistance guidelines FRMD: e.g. specific plans and programmes for measures to implement flood risk management under European, national and state-level assistance guidelines	M1	M1	xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
506	CONC	Conceptual measures	Voluntary cooperation arrangements	WFD: e.g. cooperation between farmers and water suppliers with the aim of water-conserving land management, with a view to keeping the drinking water clean FRMD: e.g. flood control sponsoring arrangements, water body neighbourhoods, city twinning arrangements with regard to flood control, cooperation with the DKKV (German Committee for Disaster Reduction)	M1	M1	xvii	n.a.
507	CONC	Conceptual measures	Certification systems	WFD: e.g. voluntary certification systems for agricultural produce and food, especially for the fields of environmental management, organic farming, and sustainable use of resources/environmental protection having regard to the commission's communication on EU guidelines for good professional practice (2010/C 314/04; 16.12.2010) and national or regional certification systems FRMD: e.g. certification systems for mobile flood control equipment	M1	M1	xvii	n.a.



Measure number	Relevant directive	Pollution type under WFD, Annex II	Name of measure	Explanation / description	Relevance WFD-FRMD ²³	Relevance WFD-MSFD	Supplementary measures (see WFD Annex VI, Part B)	Basic measures WFD Art. 11 (3a) (Annex VI Part A)
508	CONC	Conceptual measures	In-depth studies and checks	WFD: e.g. in-depth studies to determine the causes of pressures and examine the effectiveness of planned measures in the field of water body conservation FRMD: e.g. in-depth studies to determine damage potential, effectiveness of flood control measures, ex-post analyses after flood events	M1	M1	xvii	n.a.
509	CONC	Conceptual measures	Studies on climate change	WFD: climate change studies with regard to the needs of future water resource management, e.g. drawing up supra-regional strategies for adaptation to climate change FRMD, APSFR-independent: determining the impacts of climate change, e.g. drawing up planning requirements to cater for the impacts of climate change on technical flood control	M1	M1	xvi	n.a.
510	CONC	Conceptual measures	Further additional measures pursuant to article 11 (5) of the WFD	Additional measures necessary to achieve the targeted objectives. 's are to be taken monitoring or other data indicate that the objectives laid down for the water body pursuant to article 4 of the WFD will probably not be achieved. if necessary, this will include drawing up more stringent environmental quality standards	M3	M3	xvii	n.a.



The following table summarises the results of the measures check described in Chapter 2.2. It is a general assessment and should be examined in the light of the specific circumstances of the individual case. This can sometimes give rise to different classifications. The fourth column (sensitivity to climate change) describes whether climate change reduces (-) or increases (+) the efficiency of the measure, or whether it makes the underlying pressure smaller (+) or larger (-). In short, positive effects on climate change are indicated by a + sign, negative effects by a - sign. In all cases where a negative effect is found to result, it is possible to reduce this by means of technical measures. The last column (impact on climate change) describes whether the measure gives rise to adverse effects (-), e.g. higher energy consumption. Such effects can be reduced by means of technical measures.

Table 34: Check on measures (legend: +: positive effect, -: negative effect, 0: no effect, n.a.: not applicable)

Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
1	WFD/SW	Point sources: Local authorities / households	Construction and modification of municipal sewage plants	+	Increasing efficiency of purification performance due to higher water temperature (No. 3.2, 3.3)	-
2	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce nitrate inputs	+		-
3	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce phosphate inputs	+		-
4	WFD/SW	Point sources: Local authorities / households	Extension of municipal sewage plants to reduce other substance inputs	+		-
5	WFD/SW	Point sources: Local authorities / households	Optimising the operation of municipal sewage plants	+		-
6	WFD/SW	Point sources: Local authorities / households	Local authority alliances and closure of existing sewage plants	0	n.a.	-
7	WFD/SW	Point sources: Local authorities / households	Construction and conversion of small sewage plants	+	see 1-5	-
8	WFD/SW	Point sources: Local authorities / households	Connecting hitherto unconnected areas to existing sewage plants	0	n.a.	-



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
9	WFD/SW	Point sources: Local authorities / households	Other measures to reduce inputs of substances via local authority wastewater discharges	0	n.a.	-
10	WFD/SW	Point sources: Combined water and rainwater	Construction and modification of facilities for drainage, treatment and retention of combined water and rainwater	-	Increased substance inputs due to increase in heavy rainfall events (No. 3.1)	0
11	WFD/SW	Point sources: Combined water and rainwater	Optimising the operation of facilities for drainage, treatment and retention of combined water and rainwater	-		0
12	WFD/SW	Point sources: Combined water and rainwater	Other measures for reducing substance inputs due to combined water and rainwater	-		0
13	WFD/SW	Point sources: Trade and industry	Construction and modification of industrial/ commercial sewage plants	+	Increasing efficiency of purification performance due to higher water temperature (No. 3.2, 3.3)	-
14	WFD/SW	Point sources: Trade and industry	Optimising the operation of industrial/ commercial sewage plants	+		-
15	WFD/SW	Point sources: Trade and industry	Measures to reduce substance inputs due to industrial/ commercial waste water discharges	0	n.a.	-
16	WFD/SW	Point sources: Mining	Measures to reduce point-source inputs of substances from the mining sector	0	n.a.	-
17	WFD/SW	Point sources: Heat (all polluter groups)	Measures to reduce pressures resulting from heat input	-	Higher temperature (No. 1.1, 3.2, 6.2)	-
18	WFD/SW	Point sources: Other point sources	Measures to reduce inputs of substances from other point sources	0	n.a.	-
19	WFD/GW	Point sources: Trade and industry	Measures to reduce point-source inputs of substances from industrial/ commercial sites	0	n.a.	-



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
20	WFD/GW	Point sources: Mining	Measures to reduce point-source inputs of substances from the mining sector	0	n.a.	-
21	WFD/GW	Point sources: Contaminated sites / old sites	Measures to reduce point-source inputs of substances from contaminated sites and old sites	0	n.a.	-
22	WFD/GW	Point sources: Waste management	Measures to reduce point-source inputs of substances from waste management sector	0	n.a.	-
23	WFD/GW	Point sources: Other point sources	Measures to reduce inputs of substances from other point sources	0	n.a.	-
24	WFD/SW	Diffuse sources: Mining	Measures to reduce diffuse pressures resulting from mining operations	0	n.a.	-
25	WFD/SW	Diffuse sources: Contaminated sites / old sites	Measures to reduce diffuse inputs of substances from contaminated sites and old sites	0	n.a.	-
26	WFD/SW	Diffuse sources: Built-up areas	Measures to reduce diffuse inputs of substances from sealed surfaces	-	Increased substance inputs due to increase in heavy rainfall events (No. 3.1)	0
27	WFD/SW	Diffuse sources: Agriculture	Measures to reduce direct nutrient inputs from agriculture	-		0
28	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs by creating riparian strips	-		0
29	WFD/SW	Diffuse sources: Agriculture	Measures to reduce inputs of nutrients and fine material resulting from erosion and run-off in the agricultural sector	-		0
30	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to leaching in the agricultural sector	-		0



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
31	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to drainage	-		0
32	WFD/SW	Diffuse sources: Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	-		0
33	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in water conservation areas	0	n.a.	0
34	WFD/SW	Diffuse sources: Soil acidification	Measures to reduce pressures resulting from soil acidification	0	n.a.	0
35	WFD/SW	Diffuse sources: Inputs due to accidents	Measures to avoid accidental inputs	0	n.a.	0
36	WFD/SW	Diffuse sources: Other diffuse sources	Measures to reduce pressures from other diffuse sources	0	n.a.	0
37	WFD/GW	Diffuse sources: Mining	Measures to reduce acidification resulting from mining operations	0	n.a.	0
38	WFD/GW	Diffuse sources: Mining	Measures to reduce diffuse pressures resulting from mining operations	0	n.a.	0
39	WFD/GW	Diffuse sources: Built-up areas	Measures to reduce inputs of substances from leaking sewers and wastewater treatment plants	0	n.a.	0
40	WFD/GW	Diffuse sources: Built-up areas	Measures to reduce inputs of substances from building materials/ structures	0	n.a.	0
41	WFD/GW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs into groundwater due to leaching in the agricultural sector	-	Increased substance inputs due to increase in heavy rainfall events (No. 3.1)	+
42	WFD/GW	Diffuse sources: Agriculture	Measures to reduce inputs of crop protection agents from the agricultural sector	-		+



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
43	WFD/GW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in water conservation areas	0		+
44	WFD/GW	Diffuse sources: Other diffuse sources	Measures to reduce pressures from other diffuse sources	0	n.a.	0
45	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade	-	Increased consumption and increasing abstraction due to higher temperatures (No. 1.1, 3.2, 3.3, 6.2)	+
46	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction resulting from power generation (cooling water)	-		-
47	WFD/SW	Water abstraction: Trade and industry	Measures to reduce water abstraction for hydro power plants	-		-
48	WFD/SW	Water abstraction: Agriculture	Measures to reduce water abstraction for the agricultural sector	-		+
49	WFD/SW	Water abstraction: Fisheries	Measures to reduce water abstraction for the fisheries sector	-		+
50	WFD/SW	Water abstraction: Water supply:	Measures to reduce water abstraction for public water supplies	-		+
51	WFD/SW	Water abstraction: Water supply:	Measures to reduce water distribution losses	0	n.a.	0
52	WFD/SW	Water abstraction: Shipping	Measures to reduce water abstraction for the shipping sector	-	More frequent low water (No. 6.3)	0
53	WFD/SW	Water abstraction: Other water abstraction	Measures to reduce other water abstraction	-	Increased consumption and increasing abstraction due to higher temperatures	+
54	WFD/GW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade (IED)	-		+



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
55	WFD/GW	Water abstraction: Trade and industry	Measures to reduce water abstraction for industry/ trade	-	(No. 1.1, 2.2)	+
56	WFD/GW	Water abstraction: Mining	Measures to reduce water abstraction for mining operations	0	n.a.	0
57	WFD/GW	Water abstraction: Agriculture	Measures to reduce water abstraction for the agricultural sector	-	Increased consumption and increasing abstraction due to higher temperatures (No. 2.2)	+
58	WFD/GW	Water abstraction: Water supply:	Measures to reduce water abstraction for public water supplies	-		+
59	WFD/GW	Water abstraction: Other water abstraction	Measures for groundwater recharge to compensate for quantitative deficits arising from groundwater abstraction	-		0
60	WFD/GW	Water abstraction: Other water abstraction	Measures to reduce other water abstraction	-		+
61	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to ensure the minimum discharge rate	-	Change in discharge regime (No. 1.2)	-
62	WFD/SW	Discharge regulation and morphological changes: Water balance	Reducing length of backwaters	0	n.a.	0
63	WFD/SW	Discharge regulation and morphological changes: Water balance	Other measures to restore the typical discharge behaviour of water bodies	-		0
64	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to reduce peak discharges due to use	-		0
65	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to promote natural water retention	0	n.a.	0



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
66	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to improve the water balance in standing waters	-	Change in discharge regime (No. 1.2)	0
67	WFD/SW	Discharge regulation and morphological changes: Water balance	Measures to reduce pressures resulting from tidal barriers/weirs in coastal and transitional waters	-	Rise in sea level (No. 5.1)	-
68	WFD/SW	Discharge regulation and morphological changes: Continuity	Measures to establish linear continuity at dams, retention basins and fishponds in the main stream	-	Change in discharge regime (No. 1.2)	0
69	WFD/SW	Discharge regulation and morphological changes: Continuity	Measures to establish/improve linear continuity in weirs/barrages, cascades, conduits and other hydraulic structures in accordance with DIN 4048 or 19700 Part 13	-		0
70	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats by initiating/allowing inherent dynamic water body development	0	n.a.	0
71	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats in existing profile	0	n.a.	0
72	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve habitats in water bodies through changes in watercourse or bank or bed design	0	n.a.	0
73	WFD/SW	Discharge regulation and morphological changes: Morphology	Habitat improvement measures in bank areas	0	n.a.	0
74	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to develop water meadows and improve habitats	0	n.a.	0



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
75	WFD/SW	Discharge regulation and morphological changes: Morphology	Connection of side waters, old branches (cross linking)	0	n.a.	0
76	WFD/SW	Discharge regulation and morphological changes: Morphology	Technical and operational measures, primarily for fish protection at hydraulic installations	0	n.a.	0
77	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve bed load balance and/or sediment management	0	n.a.	-
78	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from bed load removal	0	n.a.	0
79	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to adapt/optimize water body maintenance	0	n.a.	0
80	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to improve the morphology of standing waters	0	n.a.	0
81	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from structures for navigation, ports, shipyards, marinas	0	n.a.	-
82	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from bed load/sediment removal in coastal and transitional waters	0	n.a.	0
83	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from beach nourishment in coastal and transitional waters	0	n.a.	0
84	WFD/SW	Discharge regulation and morphological changes: Morphology	Measures to reduce pressures resulting from land reclamation in coastal and transitional waters	0	n.a.	0



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
85	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydromorphological pressures	0	n.a.	0
86	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydro morphological pressures in standing waters	0	n.a.	0
87	WFD/SW	Discharge regulation and morphological changes: Other hydromorphological pressures	Measures to reduce other hydromorphological pressures in coastal and transitional waters	0	n.a.	0
88	WFD/SW	Other anthropogenic impacts: Fisheries	Measures for initial stocking or stock replenishment	-	Higher temperature, spread of new species (No. 3.2, 3.3, 5.3)	-
89	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures due to fisheries in flowing waters	0	n.a.	0
90	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures due to fishery activities in standing waters	0	n.a.	0
91	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures resulting from fishery activities in coastal and transitional waters	0	n.a.	0
92	WFD/SW	Other anthropogenic impacts: Fisheries	Measures to reduce pressures resulting from fish farming	0	n.a.	0
93	WFD/SW	Other anthropogenic impacts: Land drainage	Measures to reduce pressures resulting from land drainage	0	n.a.	0
94	WFD/SW	Other anthropogenic impacts: Introduced species	Measures to curb introduced species	-	Higher temperature (No. 3.2, 3.3, 5.3)	-



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
95	WFD/SW	Other anthropogenic impacts: Recreational activities	Measures to reduce pressures resulting from recreational and leisure activities	-	Increasing activity due to higher temperature (No. 3.2, 3.3, 5.3)	0
96	WFD/SW	Other anthropogenic impacts: Miscellaneous anthropogenic pressures	Measures to reduce other anthropogenic pressures	0	n.a.	0
97	WFD/GW	Other anthropogenic impacts: Intrusions	Measures to reduce salt water intrusions	-	Rise in sea level (No. 5.1)	-
98	WFD/GW	Other anthropogenic impacts: Intrusions	Measures to reduce other intrusions	0	n.a.	-
99	WFD/GW	Other anthropogenic impacts: Miscellaneous anthropogenic pressures	Measures to reduce other anthropogenic pressures	0	n.a.	0
100	WFD/SW	Diffuse sources: Agriculture	Measures to reduce nutrient inputs due to special requirements in flood areas	-	Increased substance inputs due to increase in heavy rainfall events (No. 3.1)	0
501	CONC	Conceptual measures	Preparation of concepts / studies / expertises	0	n.a.	0
502	CONC	Conceptual measures	Research, development and demonstration projects	0	n.a.	0
503	CONC	Conceptual measures	Information and training measures	0	n.a.	0
504	CONC	Conceptual measures	Advisory measures	0	n.a.	0
505	CONC	Conceptual measures	Establishment or adaptation of promotion programmes	0	n.a.	0
506	CONC	Conceptual measures	Voluntary cooperation arrangements	0	n.a.	0



Measure number	Classification Directive	Type of pressure under WFD, Annex II	Name of measure	Sensitivity to climate change impacts	Explanation (parameter / mechanism) Impact number from Table 1	Impact on climate change mitigation (especially due to operation)
507	CONC	Conceptual measures	Certification systems	0	n.a.	0
508	CONC	Conceptual measures	In-depth studies and checks	0	n.a.	0
509	CONC	Conceptual measures	Studies on climate change	0	n.a.	0



Table 35: Overview of key waters (as of: 2014)

Water	Priority
01007 Oberlauf - Fürstenauer Mühlenbach	4
01026 Rankenbach, Remseder Bach, Linksseitiger Talgraben	4
01030 Voltlager Aa	4
02002 Wierau, Hiddinghauser Bach, Westermoorbach	4
02030 Bunner-Hamstruper Moorbach	4
02031 Löninger Mühlenbach	4
02034 Südradde	3
02038 Mittelradde	3
02041 Südradde	3
02056 Suttruper Bach	4
02059 Reitbach	3
02061 Eggermühlenbach	2
02073 Diekbäke	4
02089 Hase, Große Hase	4
02092 Thiener Mühlenbach	4
03013 Nordradde Stavern-Gut Cunzhof	3
04023 Lahe	4
04047 Soeste ab TT bis Küstenkanal	4
08009 Brevörder Bach (Glesse)	0
08010 Spiekersiek	2
08011 Lonaubach	1
08012 Forstbach	3
08014 Beverbach	4
08015 Holzminde	1
08018 Reiherbach I+II	2
08021 Ahle	3
08023 Rehbach I+II; Malliehagenb.	3
08025 Schwülme Oberlauf	2
08031 Hasselbach	1
08032 Lenne Unterlauf	1
08033 Lenne Oberlauf mit Mittellauf	1
10006 Rohder Bach	2
10008 Hollenbach	1
10012 Humme Fluss	2
10013 Beberbach	1
10022 Emmer	2
10024 Wörmke	0
12026 Fulde (Unterlauf)	3
12037 Bückeburger Aue (Mittellauf)	2
12047 Schiffgraben (Hochmoorgewässer)	4



Water	Priority
12057 Bückeburger Aue (unterer Mittellauf)	2
12058 Bückeburger Aue (oberer Mittellauf)	2
13019 Kuhbach Unterlauf	4
13021 Kleine Aue Unterlauf	3
13024 Allerbeeke Unterlauf	3
13030 Allerbeeke Oberlauf	4
13036 Winterbach	3
13037 Rohrbach	3
13038 Siede	4
14001 Bottendorfer Bach	3
14002 Ise	4
14005 Isebeck	4
14006 Knesebach	4
14007 Emmerbach	3
14014 Aller	3
14018 Beverbach/Bokensdorferbach	0
14020 Bullergraben	5
14029 Ausbütteler Riede	0
14044 Aller	4
15002 Oker	2
15005 Lange	1.1
15006 Radau	1.1
15010 Ecker ab Talsperre	2
15011 Ecker	3
15035 Oker bis Talsperre	1.1
15036 Oker ab Schunter	3
15039 Schierpkewach	1.1
15048 Heiligendorfer Bach	0
15051 Schunter	3
15052 Glüsig (Lauinger Mühlenr.)	4
15055 Lutter	4
15064 Stimmecke	0
16003 Wulbeck	3
16035 Aue/Erse	4
16045 Fuhse	4
17001 Aller I	3
17002 Aller II	3
17004 Schwarzwasser I	4
17010 Lachte I	2
17011 Lachte II	1
17015 Lutter	2
17016 Ahrbeck	4



Water	Priority
17017 Schmalwasser mit Räderbach	3
17019 Aschau	3
17021 Haberlandbach I	4
17022 Haberlandbach II	4
17023 Vorwerker Bach	5
17024 Bruchbach	1
17025 Örtze inkl. Ilster	3
17026 Örtze	1
17028 Kleine Örtze	3
17034 Wietze/ Ö. II	4
17039 Brunau/ Ö. II	3
17040 Weesener Bach	2
17043 Mühlenbach	3
17044 Obere Drebber	4
17047 Untere Drebber	5
17050 Meiße Unterlauf	4
17053 Riethbach	4
17058 Hohe Bach II	3
17068 Reiniger Moorgraben	New water body
17069 Alvernscher Bach	New water body
18001 Leine	3
18019 Ilme	4
18023 Allerbach	4
18024 Spüligbach	4
18027 Ilme	4
18028 Riepenbach	3
18057 Leine	4
18058 Leine	4
18059 Leine	4
18060 Leine	4
19001 Rhume	3
19009 Oder	2
19011 Sieber	2
19012 Kleine Steinau	1.1
19013 Sieber	2
19017 Große Lonau	2
19018 Kleine Steinau + Schindelgraben	1.1
19019 Söse	4
19020 Große Söse	0
19021 Bremke	3
19025 Sperrlutter	2
19026 Oder bis Talsperre	1.1



Water	Priority
19051 Rhume	3
20010 Warme Beuster	1
20011 Kalte Beuster	1
20014 Riehe	4
20031 Steimker Bach/Kiefbach	4
21003 Jürsenbach	3
21012 Auter Fluss	3
21022 Bornau	1
21023 Rodenberger Aue Unterlauf	2
21024 Rodenberger Aue Mittellauf	2
21025 Rodenberger Aue Bach Oberlauf	2
21029 Waltersthagenerbach	1
21043 Landwehrgraben	0
21053 Gehlenbach	1
21056 Saale Bach	3
21064 Wisppe	2
21066 Wisppe Oberlauf	1
21068 Leine, Despe-Innerste	2
21077 Flöttenbach	0
21080 Wennigser Mühlbach	2
22007 Böhme I	2
22009 Böhme III	2
22011 Große Aue inkl. Heidbach	4
22015 Fulde	2
22016 Steinförthsbach	4
22018 Alpe (Oberlauf)	0
22032 Lehrde II	1
22034 Vethbach	4
23004 Delme Unterlauf oberhalb Delmenhorst	3
23007 Klosterbach Unterlauf / Varreler Bäke	2
23008 Welse + Nutteler Nebenzug	3
23009 Delme Mittellauf	1
23011 Dünsener Bach Mittel- u. Oberlauf	3
23021 Unterlauf Hache	3
23024 Hache Oberlauf	2
23034 Nienstedter Beeke	4
24001 Wümme I	1
24002 Wümme II (mit Todtgraben)	2
24003 Wümme III	2
24004 Wümme IV	2
24005 Wümme-Süddarm	1
24014 Veerse	2



Water	Priority
24015 Lünzener Bruchbach	1
24016 Bartelsdorfer Kanal	4
24020 Bruchwiesenbach	4
24030 Federlohmühlenbachbach II	2
24032 Ahauser Bach und Ahauser Mühlengraben	2
24038 Wümme-Nordarm II	2
24043 Wümme-Mittelarm	2
24072 Fintau	2
24073 Ruschwede	2
24074 Rodau	2
24075 Schweinekobenbach	2
24076 Ahauser Bach	2
24078 Wieste Unterlauf	3
24079 Walle Unterlauf	3
25046 Rittrumer Mühlbach	2
25048 Altonaer Mühlbach	3
25050 Katenbäke + NG	2
25051 Ellenbäke	4
25055 Aue + Zuflüsse	1
25074 Hunte/ Wildeshausen - Wardenburg	1
25102 Natenstedter Beeke	4
26042 Lune Mittellauf 1	4
27001 Wustrower Dumme (Oberlauf)	2
27004 Nördlicher Mühlenbach (Schnegaer Mühlengraben)	3
27005 Clenzer Bach	4
27026 Kateminer Mühlenbach, Pommoisseler Gr., Ventschauer Bach	3
27029 Seege (Landesgrenze-Gartow)	4
28016 Luhe (Unterlauf)	2
28017 Luhe (Mittellauf Luhmühlen - Winsen)	1
28020 Luhe (Mittellauf Schwindebeck - Luhmühlen)	1
28021 Schwindebach, Ham-Bach	4
28025 Brunau (Unterlauf)	3
28026 Lopau (Ober- u. Mittellauf), Ehlbeck	2
28029 Hasenburger Mühlenbach, Südergellerser Bach, Osterbach	2
28032 Eitzener Bach	3
28033 Vierenbach	2
28047 Gerdau Unterlauf	3
28056 Gerdau (Oberlauf)	2
28058 Gerdau (Mittellauf)	4
28061 Ilmenau (Uelzen - Lüneburg)	2
28068 Seeve Unterlauf	2
28070 Seeve Mittellauf	1



Water	Priority
28072 Seeve Oberlauf mit Nebengewässern	1
28073 Schmale Aue Unterlauf	3
28077 Este (Welle - Seggerheide)	2
28084 Staersbach	3
28085 Moorbach	4
28086 Este (Seggerheide - Moisburg)	2
28087 Este (Moisburg-Buxtehude)	2
28089 Goldbeck	4
28090 Wittenbach	2
28092 Barnstedt-Melbecker Bach	2
28093 Kolkhagener Bach	2
28094 Kolkbach	2
28095 Häsebach	2
28096 Bornbach, Wrestedter Bach	1
28098 Tostedter Mühlenbach	3
28099 Tostedter Mühlenbach	3
29032 Lühe-Aue Mittellauf 2	3
29040 Schwinge Oberlauf	4
29044 Fredenbecker Mühlenbach	4
29045 Deinster Mühlenbach mit Westerbeck (= Oberlauf)	2
29046 Steinbeck (Schwinge)	4
30001 Oste (Quelle -Einmündung Ramme)	3
30011 Alpershausener Mühlenbach mit Sotheler Bach	4
30013 Knüllbach	3
30016 Twiste Unterlauf	2
30017 Bade	2
30076 Bever (bis auf Abschnitt oh. Mündung)	3
30077 Otter	3
32001 Vechte Ohne-Nordhorn	3
32002 Vechte Nordhorn-Neuenhaus	4
32003 Vechte Neuenhaus-Laar	4
32028 Rammelbecke Forst Bentheim	3
38001 Steinaer Bach	2
38004 Uffe	5
38006 Wieda	3
38008 Sprakelbach	2
38009 Zorge	2