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**Report from the Commission to the European Parliament and the Council
assessing Member States' monitoring programmes under the Marine Strategy
Framework Directive**

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| Common Fisheries Policy Regulation | CFP |
| Data Collection Framework ¹ | DCF |
| Good Environmental Status | GES |
| Marine Strategy Framework Directive | MSFD |
| Non-indigenous Species | NIS |
| Water Framework Directive | WFD |

¹ Data Collection Framework as referred to under Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy and Commission Regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

PART I - SUMMARY FINDINGS AND GUIDANCE PER MEMBER STATE ON MONITORING PROGRAMMES, REPORTED UNDER ARTICLE 11(3) OF DIRECTIVE 2008/56/EC²

This Annex accompanying the Commission report on "Assessment of Member States' monitoring programmes under the Marine Strategy Framework Directive"³ gives a summary per Member State of the Commission's findings. These summaries result from technical Member State-specific assessments⁴, which analyse Member States' reporting of their monitoring programmes per descriptor⁵, under Article 11(3) of Directive 2008/56/EC. It describes the conclusions of these technical assessments, the achievement so far, the aspects where improvement is needed and it provides outcome per descriptor. It highlights Member State-specific guidance.

Member States are expected to take these conclusions and guidance into account when establishing and implementing the next elements of their marine strategies, and when updating their monitoring programmes under Article 17 of the MSFD, while taking into account the ongoing review process of Decision 2010/447/EU and its eventual outcome.

Methodology

The adequacy of the MSFD monitoring programmes has been assessed by considering whether the programmes and related sub-programmes of Member States are sufficient to cover the monitoring needs for the assessment of progress towards achieving Good Environmental Status (GES) and environmental targets, as defined by each Member State. The outcome of the assessment is therefore partly dependent on the ambition level of the Member State's determination of GES and targets.

The overall conclusion and guidance per Member State given at the beginning of each Member State's section is however based on an assessment of their monitoring programme with regard to coverage of progress towards GES achievement only, referring to the main objective of the MSFD. For each descriptor, the Commission assessed the monitoring

² Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive), (OJ L 164, 25.6.2008, p. 19), hereafter referred to as Marine Strategy Framework Directive or MSFD.

³ Report from the Commission to the European Parliament and to the Council, "Commission's assessment of Member States monitoring programmes under the Marine Strategy Framework Directive".

⁴ The technical Member State-specific assessments were prepared for the Commission by an external consultant and are found at http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm

⁵ The 11 qualitative descriptors are defined in Annex I of Directive 2008/56/EC and are further specified in Commission Decision 2010/477/EU of 1 September 2010 on criteria and methodological standards on good environmental status of marine water (OJ L 232, 2.9.2010, p. 14), hereafter referred to as "descriptors" and associated to a number between 1 and 11. The numbers refer to the respective numbered points in Annex I of the MSFD (D1 – Biodiversity, D2 – Non-indigenous Species, D3 – Commercial fish and shellfish, D4 – Food webs, D5 – Eutrophication, D6 – Sea-floor integrity, D7 – Hydrographical changes, D8 – Contaminants, D9 – Contaminants in seafood, D10 – Litter, D11 – Energy, including underwater noise). For the purpose of reporting on monitoring programmes 'Biodiversity' descriptors (D1, 4 and 6) have been grouped according to the main species groups and habitat types : D1, 4 and 6 – Birds, D1, 4 and 6 – Mammals and reptiles, D1, 4 and 6 – Fish and cephalopods, D1, 4 and 6 – Seabed habitats, D1, 4 and 6 – Water column habitats.

programmes, in particular their purpose, spatial scope, implementation timeline, and regional coherence, and concluded overall on whether they constitute an appropriate framework to meet the requirements of the MSFD.

Full coverage of monitoring needs for commercial fish and shellfish (Descriptor 3) in this document should not be understood as prejudging compliance with the Data Collection Framework Regulation⁶ obligations. Coverage of monitoring needs for commercial fish and shellfish is to be understood solely for the purposes of monitoring progress towards good environmental status and targets defined by Member States as part of their marine strategies, under the MSFD.

The following Member States are included under Part I of this Annex: Belgium, Bulgaria, Denmark, Estonia, Germany, Ireland, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Netherlands, Portugal, Romania, Slovenia, Finland, Sweden, and the United Kingdom.

The cut-off date for Member States' reporting to be assessed in this report was September 2015.

The United Kingdom's report and guidance does not include waters surrounding the British Overseas Territory of Gibraltar⁷.

Malta and Greece are not included in this part of the Annex as their reporting to the Commission under Article 11(3) of the MSFD did not meet the deadline of 15 October 2014 and came too late to be part of this exercise⁸. Poland was not part of this exercise either, as it had not previously reported on its environmental targets under Article 10 of the MSFD⁹ and therefore the Commission had not assessed Poland in the previous assessment exercise (the results of which were used as the basis for this assessment exercise).

⁶ Data Collection Framework as referred to under Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy and Commission Regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy

⁷ The monitoring programme for the waters surrounding Gibraltar was reported in March 2016 to the Commission by the United Kingdom, which was too late for it to be assessed under this report.

⁸ Malta reported on its monitoring programme under Article 11(3) on 30 October 2015 and to date (20 June 2016) Greece has not yet reported on its monitoring programme.

⁹ Poland reported on its environmental targets under Article 10 in November 2015. The Commission intends to assess Poland's environmental targets, along with the other elements of its marine strategy already reported, as part of its next assessment exercise (along with other Member States' programmes of measures).

1. Belgium

OVERALL CONCLUSION

Overall, the monitoring programme of Belgium constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Belgium reports that its monitoring programme will mostly be in place to measure progress towards GES by 2014, but with some aspects (marine litter (Descriptor 10), energy, including underwater noise (Descriptor 11), mammals, seabed habitats (Descriptors 1, 4 and 6)) only covered as of 2018.

Three out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10).

Belgium has identified monitoring gaps, and plans to address them, for the following descriptors: eutrophication (Descriptor 5) and hydrographical changes (Descriptor 7).

Plans to address monitoring gaps for the remaining descriptors (birds, mammals, fish and cephalopods, water column, seabed (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3) and energy, including underwater noise (Descriptor 11)) are therefore still missing.

MAIN GUIDANCE

Belgium should:

- (a) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Belgium reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. In total, Belgium's Article 11 reporting includes 30 sub-programmes covering all descriptors, apart from water column habitats (Descriptors 1, 4).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Belgian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring

needs for the assessment of progress towards achieving good environmental status (GES)¹⁰ and achievement of environmental targets, as defined by Belgium in 2013.

The following table provides an overview (by descriptor) of:

- the results of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- the Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|-------------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | targets | GES | targets | |
| D1, 4 Birds | | | 2014 | 2014 | No |
| D1, 4 Mammals | | | 2018 | 2018 | No |
| D1, 4 Fish | | | 2014 | 2014 | No |
| D1, 4 Water column | | | 2014 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2018 | 2018 | No |
| D2 NIS | | | 2014 | 2014 | No |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014 | 2014 | Yes |
| D7 Hydro. changes | | | 2014 | 2014 | Yes |
| D8 Contaminants | | | 2014 | 2014* | No |
| D9 Seafood contaminants | | | 2014 | 2014 | No |
| D10 Marine litter | | | 2018 | 2018 | No |
| D11 Energy/Noise | | | 2018 | 2018 | No |

*2 out of 11 targets for contaminants (Descriptor 8) will be achieved by 2018



Full coverage
Partial coverage
No coverage



GES not defined
Targets not defined
No monitoring programme reported

¹⁰ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- The technical assessment shows that Belgium has developed its monitoring programme and sub-programmes in a consistent manner with its MSFD determination of GES and targets for contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10).
- Regional consistency: The Belgian monitoring programme shows consistency with the standards and guidelines produced by OSPAR in some descriptors (e.g. contaminants (descriptor 8) and marine litter (Descriptor 10), bringing a regional dimension to the work done by the Member State for these descriptors.
- Belgium has made relatively good use of existing monitoring programmes in the context of the MSFD. At the EU level, Belgium has reported the use of the Common Fisheries Policy Regulation (CFP)¹¹ monitoring programmes for commercial fish and shellfish (Descriptor 3), Water Framework Directive (WFD)¹² monitoring programmes for seabed habitats (Descriptor 1, 4), eutrophication (Descriptors 5) and (contaminants Descriptor 8). Monitoring of contaminants in seafood (Descriptor 9) is linked to the Regulation on contaminants in foodstuffs¹³ and to the Shellfish Directive¹⁴. The existing monitoring undertaken for Birds¹⁵ and Habitats¹⁶ Directives have been used for the mammals (Descriptors 1, 4) monitoring, but not for birds (Descriptors 1, 4) monitoring.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Belgian monitoring programme shows a number of weaknesses that affect its coverage of GES and targets for the biodiversity descriptors (Descriptors 1, 4 and 6), as well as commercial fish and shellfish (Descriptor 3) and eutrophication (Descriptor 5); and descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), and hydrographical changes (Descriptor 7) and energy, including underwater noise (Descriptor 11).
- Belgium has not established a monitoring programme for water column habitats (Descriptors 1, 4). The Member State reports that currently the pelagic environment is not considered because progress on the monitoring of eutrophication is a prerequisite for the development of such a monitoring programme. This point needs to be further clarified.
- No links with any Union legislation or international agreements are reported for non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7) and energy,

¹¹ Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC (OJ L 354, 28.12.2013, p. 22)

¹² Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)

¹³ Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs (OJ L 364, 20.12.2006, p. 5)

¹⁴ Directive 2006/113/EC of the European Parliament and of the Council of 12 December 2006 on the quality required of shellfish waters (OJ L 376, 27.12.2006, p. 14)

¹⁵ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ L 20, 26.1.2010, p. 7)

¹⁶ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7)

including underwater noise (Descriptor 11). The non-indigenous species monitoring programme does not refer to potentially overlapping programmes undertaken under the WFD and OSPAR¹⁷. No reference is made to the indicator ‘rate of new introductions of non-indigenous species (NIS)’ that is currently being developed in OSPAR.

- Belgium has not fully used existing monitoring structures it already has in place in the context of other frameworks, especially of the OSPAR Convention. Belgium has only made links to OSPAR in four descriptors (eutrophication (Descriptor 5), marine litter (Descriptor 10), mammals (Descriptors D1, 4)).

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Belgium should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive, the Birds Directive, the WFD and the Invasive Alien Species Regulation¹⁸ with MSFD monitoring programmes, while at the same time ensure that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (Descriptors 1, 4 and 6):

- (d) develop and implement a monitoring programme for water column habitats as soon as possible.
- (e) further strengthen the monitoring programme for all its biodiversity monitoring programmes to ensure more appropriate spatial scope and frequency.
- (f) monitor additional species, as the ones for mammals appear limited and the ones for fish do not appear to cover non-commercial species.

On non-indigenous species (Descriptor 2):

- (g) further develop its monitoring programmes to cover all habitats or species groups comprehensively in the context of non-indigenous species.

¹⁷ Oslo-Paris Conventions of 1972 and 1974 to which the EU is party. The MSFD requires in its Article 5(2) and Article 6 that Member States sharing a marine region or subregion cooperate.

¹⁸ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

On commercial fisheries (Descriptor 3):

- (h) extend its monitoring programme to include all commercially-exploited species;
- (i) improve monitoring and assessment of non-DCF species, and species for which analytical stock assessments are not carried out, as per GES definition.

On eutrophication (Descriptor 5):

- (j) expand its monitoring programme to cover additional elements and parameters, as per its GES definition.

On hydrographical changes (Descriptor 7):

- (k) expand its monitoring programme, to cover changes resulting from existing activities, large scale effects, impacts or changes to habitats, as per its GES definition.

On underwater noise (Descriptor 11):

- (l) expand its monitoring programme, and monitor continuous and impulsive noise, where appropriate, beyond the limited scope of one activity (offshore wind).

2. Bulgaria

OVERALL CONCLUSION

Overall, the monitoring programme of Bulgaria constitutes a mostly appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Bulgaria reports that its monitoring programme will almost completely be in place by 2018 to measure progress towards its GES, except for seabed habitats (Descriptor 1, 4, 6), only covered as of 2020.

Nine out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programme. These are birds, mammals, water column habitats and seabed habitats (Descriptors 1, 4 and 6), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10).

Bulgaria has identified monitoring gaps, and plans to address them, for all descriptor-categories.

Bulgaria has not determined any GES and targets for energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Bulgaria should:

- (a) **Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) **Ensure that the monitoring programme constitutes a fully appropriate framework** that enables complete coverage of the monitoring needs for the assessment of progress towards GES;
- (c) **Implement the plans identified to address the monitoring gaps.**

Bulgaria reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in January 2015. Bulgaria's Article 11 reporting includes 43 sub-programmes.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Bulgarian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)¹⁹ and achievement of environmental targets, as modified by Bulgaria in 2015.

¹⁹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2018 | 2018 | Yes |
| D1, 4 Mammals | | | 2018 | 2018 | Yes |
| D1, 4 Fish | | | 2018 | 2018 | Yes |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2020 | 2020 | Yes |
| D2 NIS | | | 2018 | 2018 | Yes |
| D3 Commercial fish | | | 2018 | 2014 | Yes |
| D5 Eutrophication | | | 2018 | 2018 | Yes |
| D7 Hydro. changes | | | 2018 | 2018 | Yes |
| D8 Contaminants | | | 2018 | 2018 | Yes |
| D9 Seafood cont. | | | 2018 | 2018 | Yes |
| D10 Marine litter | | | 2018 | 2018 | Yes |
| D11 Energy/Noise | No GES | No targets | 2018 | 2018 | Yes |



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- The technical assessment shows that Bulgaria has developed its monitoring programmes and sub-programmes in a consistent manner with its GES definitions and targets for biodiversity (birds, mammals, water column and seabed habitats) (Descriptors 1, 4 and 6), contaminants (Descriptor 9) and marine litter (Descriptor 10); and with its GES determination for eutrophication (Descriptor 5) and hydrographical changes (Descriptor 7).

- Bulgaria makes linkages to relevant regional and Union processes, in particular the Black Sea Commission²⁰ and the Common Implementation Strategy working groups and technical subgroup, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.
- Bulgaria reports extensive bilateral cooperation with Romania in the coordinated development of its monitoring programmes, an aspect that has contributed to regional coherence in the context of the MSFD implementation.
- Even though GES and targets have not yet been defined for energy, including underwater noise (Descriptor 11), Bulgaria reports a monitoring programme for this descriptor, which is positive.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Bulgarian monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. The main weaknesses are identified in the section below. This is applicable, to various extents, to all descriptors except birds, mammals, water column and seabed habitats (Descriptors 1, 4 and 6), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10).
- Regarding the implementation timeline, monitoring programmes are in most cases planned to start in 2015-2016 and will in most cases only be fully in place by 2018.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Bulgaria should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive²¹, the Birds Directive²², the Water Framework Directive (WFD)²³ and the Invasive Alien Species Regulation²⁴ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by the Black Sea Commission, in cooperation with Romania.

²⁰ Established by the Convention on the Protection of the Black Sea against Pollution, signed in Bucharest in April 1992. The EU is not party to that Convention.

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

²² Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

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

²⁴ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (c) enhance, in cooperation with Romania, comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level, where such practices have been agreed and are being implemented.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) building upon point (a), adapt existing monitoring (e.g. under WFD or Habitats and Birds Directives) to meet the objectives of the MSFD of achieving GES;
- (e) develop more transboundary approaches and cooperation for monitoring, particularly for mobile species, which frequently move between Member States' waters.
- (f) further develop the monitoring of fish biodiversity to include non-commercial fish species, as well as rare or endangered species, as per GES definition.

On non-indigenous species (Descriptor 2):

- (g) develop methodologies on how non-indigenous species data will be analysed from the fish programme (as reported), developing monitoring of effects and impacts of non-indigenous species on environment, as planned;
- (h) develop monitoring of mammals in the context of non-indigenous species, if relevant, as per GES definition.

On commercial fisheries (Descriptor 3):

- (i) extend monitoring in order to cover important black sea stock species;
- (j) develop its monitoring sub-programmes to ensure the monitoring of Spawning Stock Biomass (SSB) or stock demographic data (e.g. length, age).

On eutrophication (Descriptor 5):

- (k) further develop its monitoring sub-programmes to ensure appropriate monitoring frequency of certain elements and parameters.

On contaminants (Descriptor 8):

- (l) further develop its monitoring sub-programmes to ensure the monitoring of biological effects, as per GES definition.

On underwater noise (Descriptor 11):

- (m) develop GES and targets;
- (n) further refine its monitoring programme and ensure that it starts monitoring as soon as possible.

3. Denmark

OVERALL CONCLUSION

Overall, the monitoring programme of Denmark constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Denmark reports that its monitoring programme was mostly in place to measure progress towards GES by 2014, but with non-indigenous species (Descriptor 2) and some aspects such as water column and seabed habitats (Descriptors 1, 4 and 6), eutrophication (Descriptor 5) and contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11) only covered as of 2018.

Two out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).

Denmark has identified monitoring gaps, and plans to address them, for the following descriptors: birds, mammals, seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2) and energy, including underwater noise (Descriptor 11).

Plans to address monitoring gaps for the remaining descriptors (fish and cephalopods, water column habitats (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7) and marine litter (Descriptor 10)) are therefore still missing.

Denmark has not established targets for hydrographical changes (Descriptor 7).

MAIN GUIDANCE

Denmark should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Denmark reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. The Danish Article 11 reporting consists of 54 monitoring sub-programmes for the Baltic Sea marine region and 62 monitoring sub-programmes for the Greater North Sea sub-region. The sub-programmes in both (sub)regions are similar and often have the same titles. The monitoring programmes in place addresses all descriptors in both (sub) regions.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Danish MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)²⁵ and achievement of environmental targets, as defined by Denmark in 2013.

The following table provides an overview (by descriptor) of:

- the conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- the Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- whether the Member State has provided justifications and/or plans to address gaps present as of 2014.

²⁵ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|------------|-------------------|---------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2014 | Yes |
| D1, 4 Mammals | | | 2014 | 2014 | Yes |
| D1, 4 Fish | | | 2014 | 2014 | No |
| D1, 4 Water column | | | 2014*, 2018** | 2014*, 2018** | No |
| D1, 4, 6 Seabed | | | 2014*, 2018** | 2014*, 2018** | Yes |
| D2 NIS | | | 2018 | 2018 | Yes |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014*, 2018** | 2018*, 2018** | No |
| D7 Hydro. changes | | No targets | 2014 | No targets | No |
| D8 Contaminants | | | 2014*, 2018** | 2014*, 2018** | No |
| D9 Seafood cont. | | | 2014 | 2014 | No |
| D10 Marine litter | | | 2018 | 2018 | No |
| D11 Energy/Noise | | | 2018 | 2018 | Yes |

*Baltic, ** North East Atlantic region

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Denmark has developed its monitoring programme and sub-programmes in a consistent manner in relation to its GES definitions and targets for contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).
- Denmark has reported on the use of existing monitoring programmes in the context of the MSFD. Denmark has referred to relevant monitoring done as part of various EU Directives such as the Common Fisheries Policy Regulation²⁶ (CFP), Water Framework Directive²⁷ (WFD), Habitats Directive²⁸, Urban Waste Water Treatment

²⁶ Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC (OJ L 354, 28.12.2013, p. 22)

²⁷ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)

²⁸ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7)

Directive²⁹ and others. The Danish monitoring programme is however based mostly on the national monitoring of the aquatic environment (NOVANA) Nature Agency's catchment models and marine models and the Danish surveillance under the EU's Common Fisheries Policy (in the case of commercial fish and shellfish (Descriptor 3) mostly).

- Denmark reports on its coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes. Firstly, Denmark's monitoring programme and sub-programmes are linked to monitoring activities carried out by both HELCOM³⁰ and OSPAR³¹. The Member State often refers to elements from both Regional Sea Conventions being applied to its monitoring programmes in both regions at the same time, thus cross-referencing information throughout its descriptor-specific programmes. The Member State also links to other regional processes such as the Trilateral Wadden Sea Cooperation. Secondly, Denmark's monitoring programme and sub-programmes also contain links to relevant Union processes, in particular the Common Implementation Strategy working groups and technical groups for the MSFD.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Danish monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage in relation to the data needed for the assessment of progress towards GES and targets. This is applicable, to various extents, to all descriptors except contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9). For several of these, fish, water column habitats (Descriptors 1, 4), commercial fish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7) and marine litter (Descriptor 10) there is a lack of plans provided for one or both subregions on how these weaknesses will be addressed.
- In particular in relation to energy, including underwater noise (Descriptor 11), the technical assessment shows that the Danish targets are not yet adequately covered by the current monitoring programmes and sub-programmes. Denmark acknowledges that more work is needed on their energy, including underwater noise (Descriptor 11) programmes.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Denmark should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive, the

²⁹ Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ L 135, 30.5.1991, p. 40).

³⁰ Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992, to which the EU is party. The MSFD requires in its Article 5(2) and Article 6 that Member States sharing a marine region or subregion cooperate.

³¹ Oslo-Paris Conventions of 1972 and 1974 to which the EU is party. The MSFD requires in its Article 5(2) and Article 6 that Member States sharing a marine region or subregion cooperate.

Birds Directive³², the WFD and the Invasive Alien Species Regulation³³ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored;

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR and HELCOM;
- (c) enhance comparability and consistency of monitoring methods within its marine region or subregion, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level;

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) expand its monitoring programme for seabed habitats to habitats and associated species outside of areas under the remit of the Habitats Directive and WFD.
- (e) develop transboundary approaches and cooperation for monitoring, particularly for mobile species, which frequently move between Member States' waters. Such cooperation may also help to reduce financial costs of monitoring.

On non-indigenous species (Descriptor 2):

- (f) ensure that the NIS monitoring programme starts collecting data as soon as possible.
- (g) monitor a greater number of hotspots and pathways of introduction.

On commercial fisheries (Descriptor 3):

- (h) improve monitoring and assessment of non-Data Collection Framework³⁴ species, and species for which analytical stock assessments are not carried out.

On eutrophication (Descriptor 5):

- (i) expand its monitoring programme to cover additional elements and parameters as per its GES definition (e.g. macroalgal colonisation depth along transects from shore).

On hydrographical changes (Descriptor 7):

- (j) develop targets;
- (k) expand its monitoring programme to cover additional activities, where appropriate, as per GES definition.

³² Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

³³ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

³⁴ Data Collection Framework as referred to under Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy and Commission Regulation (EC) No 665/2008 of 14 July 2008 laying down detailed rules for the application of Council Regulation (EC) No 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy.

On marine litter (Descriptor 10):

- (l) expand its programmes to cover monitoring of micro-litter and, where necessary, impacts on marine biota, as per GES definition;

On underwater noise (Descriptor 11):

- (m) develop a permanent monitoring programme for diffuse noise for both regions, based where appropriate on the results of the BIAS project³⁵.
- (n) set up a noise registry for impulsive sounds, in coordination with HELCOM and OSPAR, for both regions.

³⁵ Baltic sea information on the acoustic soundscape (BIAS) project (www.biasproject.wordpress.com)

4. Germany

OVERALL CONCLUSION

Overall, the monitoring programme of Germany constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Germany reports that its monitoring programme will mostly be in place to measure progress towards GES by 2018, but with some aspects such as hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10) only covered as of 2020.

None of the descriptor categories are sufficiently addressed in the reported monitoring programmes.

Germany has identified monitoring gaps, and plans to address them, for all descriptors.

MAIN GUIDANCE

Germany should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Implement the plans identified to address the monitoring gaps.**

Germany reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October-November 2014. The German Article 11 reporting consists of 28 monitoring sub-programmes for the Baltic Sea marine region and 31 monitoring sub-programmes for the North Sea sub-region. The monitoring programme in place addresses all descriptors in both the marine region and sub-region, apart from contaminants in seafood (Descriptor 9).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the German MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)³⁶ and achievement of environmental targets, as defined by Germany in 2012-2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;

³⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|-----------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2018 | 2018 | Yes |
| D1, 4 Mammals | | | 2018 | 2018 | Yes |
| D1, 4 Fish | | | 2018 | 2018 | Yes |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2018 | 2018 | Yes |
| D2 NIS | | | 2018 | 2018 | Yes |
| D3 Commercial fish | | | 2018 | 2018 | Yes |
| D5 Eutrophication | | | 2018 | 2018 | Yes |
| D7 Hydro. changes | | | 2020 | 2020 | Yes |
| D8 Contaminants | | | 2020 | 2018 | Yes |
| D9 Seafood cont. | No monitoring* | No monitoring* | 2014 | 2014 | Yes |
| D10 Marine litter | | | 2020 | 2020 | Yes |
| D11 Energy/Noise | No monitoring** | No monitoring** | 2018 | 2018 | Yes |

* DE reports that existing food monitoring is used but that there is no separate MSFD monitoring for contaminants in seafood (Descriptor 9) and that the monitoring data was not yet available, at the time of reporting, for MSFD purposes. Nevertheless, Germany reported that monitoring on contaminants in seafood was adequate as of 2014 to cover GES and targets data needs.

** DE did not report a monitoring sub-programme for 'Energy including underwater noise' (Descriptor 11) but expects that monitoring will be in place by 2018.

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Germany has developed its monitoring programme and sub-programmes in a consistent manner with its targets for commercial fish and shellfish (Descriptor 3) and eutrophication (Descriptor 5).
- Germany has reported on the use of existing monitoring programmes in the context of

the MSFD. Germany has referred to relevant monitoring undertaken as part of various EU Directives such as the Common Fisheries Policy Regulation³⁷, Water Framework Directive³⁸ (in the case of non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), seabed and water column (Descriptors 1, 4 and 6) monitoring), the Habitats Directive³⁹ (birds, fish and seabed habitats (Descriptors 1, 4 and 6), as well as hydrographical changes (Descriptor 7) monitoring), the Urban Waste Water Treatment Directive⁴⁰ (in the case of eutrophication (Descriptor 5) monitoring) and others.

- Germany has identified existing coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes. Firstly, Germany's monitoring programme and sub-programmes are linked to monitoring activities carried out by both HELCOM⁴¹ and OSPAR⁴². The Member State sometimes uses standards/guidelines from either Regional Sea Convention for both regions, thus ensuring consistency in their national approach. The Member State also links to other regional processes such as the Trilateral Wadden Sea Cooperation. Secondly, Germany's monitoring programmes and sub-programmes also contain links to relevant EU processes, in particular the Common Implementation Strategy working groups and technical subgroup.
- Germany links its monitoring programmes to monitoring done under international conventions and agreements, such as the Convention on Wetlands (Ramsar Convention), the Convention on Migratory Species (CMS), the Convention on Biodiversity (CBD – in the case of birds monitoring) and the Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS – in the case of mammals monitoring).
- Germany systematically reports plans to address the gaps in its monitoring programmes.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the German monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors.
- While acknowledging that Germany has existing food monitoring for the purposes of other legislation, it has not reported these for MSFD purposes under contaminants in seafood (Descriptor 9). In addition, Germany has not reported monitoring for energy, including underwater noise (Descriptor 11). As such it is unclear whether Germany is

³⁷ Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC (OJ L 354, 28.12.2013, p. 22)

³⁸ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)

³⁹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7)

⁴⁰ Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ L 135, 30.5.1991, p. 40)

⁴¹ Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992, to which the EU is party. The MSFD requires in its Article 5(2) and Article 6 that Member States sharing a marine region or subregion cooperate.

⁴² Oslo-Paris Conventions of 1972 and 1974 to which the EU is party. The MSFD requires in its Article 5(2) and Article 6 that Member States sharing a marine region or subregion cooperate.

monitoring progress towards GES and targets for these descriptors. However, plans and justifications are provided.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Germany should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive, the Birds Directive⁴³, the Water Framework Directive and the Invasive Alien Species Regulation⁴⁴ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR and HELCOM.
- (c) continue to enhance comparability and consistency of monitoring methods within its marine (sub-)regions, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (particularly Descriptors 1, 4 and 6):

- (d) finalise and implement the ‘concept’ monitoring programmes that are confirmed by research and development projects⁴⁵.

On non-indigenous species (Descriptor 2):

- (e) ensure that its monitoring programme covers fish, as per its GES definition.
- (f) strengthen its monitoring programmes to ensure that the assessment of changes in the ecosystem can be undertaken through the data collected.

On commercial fish (Descriptor 3):

- (g) ensure that its monitoring programme covers shellfish, as per its GES definition.

⁴³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁴⁴ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

⁴⁵ The reporting of Germany refers to activities already in place or proposed and described as ‘concept’ monitoring sub-programmes. It is presumed that the concept monitoring programmes are the sub-programmes that Germany intends to have in place in 2018 when the Member State reports gaps in its monitoring programme will be filled. The Member State clarified that this is true only if the designed programmes are confirmed through R&D projects. The federal government and the coastal regions/states (Länder) developed a draft paper report entitled "Monitoring programs in accordance with § 45 f Section 1 WHG (Wasserhaushaltsgesetz) transposing Article 11 MSFD: Part A - Framework concept". The draft was published on 14 October 2013 on a dedicated MSFD website (www.meeresschutz.info)

On eutrophication (Descriptor 5):

- (h) further develop its monitoring programme to address the gaps it has identified, e.g. in relation to the monitoring cyanobacteria blooms or of atmospheric nutrient deposition, in coordination with the work done in HELCOM and OSPAR.

On hydrographical changes (Descriptor 7):

- (i) extend its monitoring programme to cover impacts on habitats, as per its GES definition.

On contaminants (Descriptor 8):

- (j) strengthen its monitoring programme to monitor effects of contaminants on marine biota, as per its GES definition.

On contaminants in seafood (Descriptor 9):

- (k) report a monitoring programme for MSFD purposes.

On marine litter (Descriptor 10):

- (l) further develop its programme to monitor micro-litter and beach litter.

On underwater noise (Descriptor 11):

- (m) develop and establish a monitoring programme.

5. Estonia

OVERALL CONCLUSION

Overall, the monitoring programme of Estonia constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards achievement of good environmental status (GES).

Estonia reports that its monitoring programme was mostly in place to measure progress towards GES by 2014, but with some aspects only covered as of 2018, or even 2020 for contaminants (Descriptor 8).

Seven out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are birds, mammals, fish and cephalopods, water column habitats and seabed habitats (Descriptors 1, 4 and 6), eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9).

Estonia has identified monitoring gaps, and plans to address these, for all descriptors except eutrophication (Descriptor 5).

Estonia has not determined GES for hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Estonia should:

- (a) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Implement the plans identified to address the monitoring gaps.**

Estonia reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. Estonia's Article 11 reporting includes 38 sub-programmes covering all descriptors.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Estonian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁴⁶ and achievement of environmental targets, as defined by Estonia in 2012-2013.

⁴⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

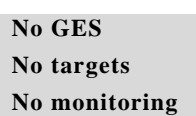
The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|---------------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2018 | Yes |
| D1, 4 Mammals | | | 2014 | 2018 | Yes |
| D1, 4 Fish | | | 2014 | 2018 | Yes |
| D1, 4 Water column | | | 2014 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2018 | 2018 | Yes |
| D2 NIS | | | 2014 | 2018 | Yes |
| D3 Commercial fish | | | 2014 | 2018 | Yes |
| D5 Eutrophication | | | 2014 | 2018 | No |
| D7 Hydro. changes | No GES | | 2018 | 2018 | Yes |
| D8 Contaminants | | | 2020 | 2018 | Yes |
| D9 Seafood cont. | | | 2014 | 2014 | Yes |
| D10 Marine litter | No GES | | 2018 | 2018 | Yes |
| D11 Energy/Noise | No GES | | 2018 | 2018 | Yes |



Full coverage
Partial coverage
No coverage



No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- The technical assessment shows that Estonia has developed its monitoring programme and sub-programmes in a consistent manner with its GES determinations and environmental targets. The Estonian monitoring programme is considered sufficient to assess progress towards biodiversity (Descriptors 1, 4 and 6), eutrophication and contaminants in seafood GES and targets.
- Although the Member State has not yet defined GES for hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise

(Descriptor 11) it has nevertheless reported monitoring programmes, which is positive as it indicates that some monitoring for these descriptors is already taking place in view of a future GES definition.

- Regional cooperation is systematically been referenced by the Member State, with HELCOM being linked to monitoring activities under almost all descriptors. The HELCOM Monitoring Manual is linked to all sub-programmes, apart from birds, fish and mammals, where Union Directives are referenced (Birds and Habitats, Common Fisheries Policy).
- Estonia has provided plans for future work for a number of descriptors, even though it considers that its monitoring is, for the most part, already adequate to measure progress towards its GES and targets. This approach is in line with the principle of adaptive management.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Estonian monitoring programme shows a number of weaknesses that affect its coverage of GES and targets for non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).
- Estonia reports limited amount of information on transboundary impacts, major environmental changes and emerging issues. To describe these, the Member State only refers to the HELCOM Monitoring Manual.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Estonia should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁴⁷, the Birds, Directive⁴⁸, the Water Framework Directive⁴⁹ and the Invasive Alien Species Regulation⁵⁰ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by HELCOM.

⁴⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁴⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁴⁹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁵⁰ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On non-indigenous species (Descriptor 2):

- (d) further develop its monitoring programme to monitor more hotspots and pathways of introduction, as per GES definition.

On commercial fish (Descriptor 3):

- (e) further strengthen its monitoring programme by bringing in data from DCF in relation to additional relevant parameters, including fishing mortality for herring and sprat and length/age data for salmon and trout..

On contaminants (Descriptor 8):

- (f) further strengthen the monitoring programme by monitoring biological impacts, as per GES definition.

On hydrographical changes (Descriptor 7):

- (g) develop GES.

On marine litter (Descriptor 10):

- (h) develop GES;
- (i) strengthen its monitoring programme by monitoring, where necessary, seabed litter and impact on biota.

On energy, including underwater noise underwater noise (Descriptor 11):

- (j) develop GES;
- (k) strengthen its monitoring programme by monitoring impulsive noise.

6. Ireland

OVERALL CONCLUSION

Overall, the monitoring programme of Ireland constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Ireland reports that its monitoring programme will mostly be in place by 2020 to measure progress towards GES, but with some aspects already in place in 2014.

Two out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programme. These are eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9).

Ireland has identified monitoring gaps, and plans to address them, for all descriptors.

Ireland has not established targets for birds, mammals and water column (Descriptors 1, 4).

MAIN GUIDANCE

Ireland should:

- (a) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (c) Implement the plans identified to address the monitoring gaps.**

Ireland reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in April 2015. The Irish Article 11 reporting consists of 70 sub-programmes covering all descriptors, apart from birds (Descriptors 1, 4), for which a sub-programme is not defined yet. It should also be noted that the reported sub-programme for non-indigenous species (Descriptor 2), is not a monitoring programme as such, but rather a risk assessment study.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Irish MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁵¹ and achievement of environmental targets, as defined by Ireland in 2013 and partially revised in 2015.

⁵¹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps present as of 2014.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|---------------------------|----------------------|------------|---|------------------------------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | No targets | 2020 | After | Yes |
| D1, 4 Mammals | | No targets | 2020 | After | Yes |
| D1, 4 Fish | | | 2020 | After 2020 | Yes |
| D1, 4 Water column | | No targets | 2020 | After 2020 | Yes |
| D1, 4, 6 Seabed | | | 2018 | After 2020 | Yes |
| D2 NIS | | | 2020 | 2020 | Yes |
| D3 Commercial fish | | | 2014 | Target 1 : 2018 Target 2 : 2020 | Yes |
| D5 Eutrophication | | | 2014 | 2014 | Yes |
| D7 Hydro. changes | | | 2018 | 2018 | Yes |
| D8 Contaminants | | | 2018 | 2018 | Yes |
| D9 Seafood cont. | | | 2014 | 2014 | Yes |
| D10 Marine litter | | | Water column: 2018 Litter in biota: 2020 | 2014 | Yes |
| D11 Energy/Noise | | | 2020 | 2018 | Yes |



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- The technical assessment shows that Ireland has developed its monitoring programme and sub-programmes in a consistent manner with its GES definitions and targets for eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9); and with its targets only for fish and cephalopods, seabed habitats (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).
- Even though targets are not yet been defined by Ireland for mammals and water column habitats (Descriptors 1, 4), the Member State reports monitoring programmes for these descriptors, which is positive.
- Ireland reports on its cooperation in relevant regional and Union processes, in particular OSPAR and the MSFD Common Implementation Strategy working groups and technical subgroup, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.
- Ireland has clearly used existing monitoring programmes from other Union policies as part of its MSFD monitoring programme. The link to the Water Framework Directive (WFD) is prominent in its monitoring programmes on seabed and water column habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrological changes (Descriptor 7) and contaminants (Descriptor 8). The Common Fisheries Policy (CFP) forms the basis of the monitoring programmes for commercial fish and shellfish (Descriptor 3) and fish and cephalopod (descriptors 1, 4 and 6). The Habitats Directive has been linked with the monitoring of cetaceans, seals and reptiles, seabed habitats, hydrographical changes and marine litter; while the eutrophication programme is based on existing monitoring programmes for the Urban Waste Water Treatment Directive and the Nitrates Directive. Finally, while no sub-programmes have been reported for the monitoring of birds, the Member State has highlighted monitoring activities it undertakes within the framework of the Birds Directive.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Irish monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage in relation to the data needed for the assessment of progress towards GES and targets. This is applicable, to various extents, to all descriptors except eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9).
- In particular, in relation to birds (Descriptors 1, 4) non-indigenous species (Descriptor 2) and hydrographical changes (Descriptor 7), the technical assessment shows that the GES definition (and the targets for non-indigenous species) is not adequately covered by the current monitoring programmes and sub-programmes. In all cases, Ireland acknowledges that more work is needed on their monitoring programmes.
- Even though Ireland reported a bird monitoring programme, it did not define sub-programmes for birds, therefore it is considered that monitoring of birds is not appropriate and as such monitoring to assess progress in achieving GES is currently not addressed under the MSFD. However, Ireland reports that the bird monitoring sub-programme is under development and would be in place by 2020.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Ireland should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive⁵², the Birds Directive⁵³, the Water Framework Directive⁵⁴ and the Invasive Alien Species Regulation⁵⁵ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular for Descriptors 1, 4 and 6):

- (d) develop targets for birds, mammals and water column;
- (e) develop monitoring sub-programmes for birds as soon as possible;
- (f) further develop its mammals monitoring programme to ensure coverage of cetaceans;
- (g) further develop its fish biodiversity monitoring programme to ensure coverage of non-commercial species;
- (h) further develop its water column monitoring programme to ensure coverage of phytoplankton and zooplankton communities;
- (i) ensure that its monitoring programmes are adaptive in view of any future changes to an environmental target (i.e. birds, mammals and water column habitats).

On non-indigenous species (Descriptor 2):

- (j) develop a monitoring programme to cover all relevant habitats or species groups using a risk-based approach, going beyond the risk assessment study currently in place.

On commercial fisheries (Descriptor 3):

- (k) extend monitoring programme to include all commercially-exploited species of fish and in particular of shellfish.

⁵² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁵³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁵⁴ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁵⁵ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

On hydrographical changes (Descriptor 7):

- (l) develop and implement an MSFD-specific monitoring sub-programme.

On contaminants (Descriptor 8):

- (m) expand its monitoring programme to measure adverse impacts on biota, as per its GES definition.

On marine litter (Descriptor 10):

- (n) expand its monitoring programme to monitor litter and micro-litter, where necessary, in the water column and in biota, according to its GES definition.

On energy, including underwater noise (Descriptor 11):

- (o) develop a sub-programme on the monitoring of continuous low-frequency sounds, according to its GES definition.

7. Spain

OVERALL CONCLUSION

Overall, the monitoring programme of Spain constitutes a mostly appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Spain reports that its monitoring programme will be fully in place by 2020 to measure progress towards GES, but with some aspects already addressed by 2014 (eutrophication (Descriptor 5), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10)).

Eleven out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programme. The two descriptors not sufficiently addressed are marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

Spain has identified monitoring gaps, and plans to address them, for: birds, mammals, fish and cephalopods, seabed habitats, water column habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), hydrographical changes (Descriptor 7) and energy, including underwater noise (Descriptor 11).

A plan to address monitoring gaps for marine litter (Descriptor 10) is therefore still missing.

MAIN GUIDANCE

Spain should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes a fully appropriate framework** that enables complete coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Spain reported under Article 11 of the Marine Strategy Framework Directive (MSFD) by March 2015. Spain has developed 273 sub-programmes covering all five Spanish sub-divisions (Bay of Biscay and Iberian Coast North and South, Macaronesia, and Western Mediterranean Sea (Levantine Balearic Sea and Estrecho and Alboran)). Although they have reported a different set of sub-programmes for each sub-division, the content of the sub-programmes for the same descriptor is very similar from one sub-division to the next.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Spanish MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring

needs for the assessment of progress towards good environmental status (GES)⁵⁶ and achievement of environmental targets, as defined by Spain in 2012.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2020 | 2014 | Yes |
| D1, 4 Mammals | | | 2020 | 2014 | Yes |
| D1, 4 Fish | | | 2020 | 2014 | Yes |
| D1, 4 Water column | | | 2020 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2020 | 2014 | Yes |
| D2 NIS | | | 2020 | 2014 | Yes |
| D3 Commercial fish | | | 2020 | 2014 | Yes |
| D5 Eutrophication | | | 2014 | 2014 | No |
| D7 Hydro. changes | | | 2020 | 2014 | Yes |
| D8 Contaminants | | | 2014 | 2014 | No |
| D9 Seafood cont. | | | 2014 | 2014 | No |
| D10 Marine litter | | | 2014 | 2014 | No |
| D11 Energy/Noise | | | 2020 | 2014 | Yes |



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

⁵⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- The technical assessment shows that Spain has developed its monitoring programme and sub-programmes in a consistent manner with its GES definitions and targets including commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8); with its GES definitions for biodiversity (Descriptors 1, 4 and 6) and contaminants in seafood (Descriptor 9); and with its targets for marine litter (Descriptor 10).
- Spain reports to be an active member of the relevant regional and Union processes, in particular OSPAR and the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) and the MSFD Common Implementation Strategy working groups and technical subgroup, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.
- As part of its Article 11 reporting Spain has done a detailed inventory and a detailed analysis of existing monitoring programmes in place in the context of other international, European, regional and national obligations and commitments, to which its monitoring programmes link to extensively.
- Spain reports that all sub-programmes have been designed based on the concept of adaptive management. Proposed indicators can be redesigned or re-adapted in the light of improved knowledge of developments in the regional coordination or simply based on the increase of information.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Spanish monitoring programme shows a few weaknesses that affect the complete coverage of its GES and targets for the biodiversity descriptors (although relatively minor) and descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Spain should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive⁵⁷, the Birds, Directive⁵⁸, the Water Framework Directive⁵⁹ and the Invasive Alien Species Regulation⁶⁰ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

⁵⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁵⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁵⁹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁶⁰ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR and UNEP/MAP.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptor 1, 4 and 6):

- (d) further develop its biodiversity monitoring sub-programmes to address some of the minor weaknesses identified (e.g. coverage of relevant monitoring parameters such as mortality through bycatch and other human activities, as per GES definition).

On non-indigenous species (Descriptor 2):

- (e) ensure that its monitoring sub-programmes cover trends, as per GES definition.

On contaminants in seafood (Descriptor 9):

- (f) ensure that its monitoring sub-programmes use appropriate temporal frequency and spatial scope, as per targets definitions.

On marine litter (Descriptor 10):

- (g) further develop its monitoring sub-programmes to ensure that, where necessary, impact on biota is monitored, as per GES definition.

8. France

OVERALL CONCLUSION

Overall, the monitoring programme of France constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

France reports that its monitoring programme was almost completely in place to measure progress towards GES by 2014, except for non-indigenous species (Descriptor 2), only covered as of 2020.

Five out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are: commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

France has identified monitoring gaps, and plans to address these, for nearly all the biodiversity descriptors (Descriptors 1, 4 and 6), with the exception of birds, marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

Plans to address monitoring gaps for birds (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7) and contaminants in seafood (Descriptor 9) are therefore still missing.

MAIN GUIDANCE

France should:

- (a) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

France reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in July-August 2015. The French Article 11 reporting consists of 194 sub-programmes covering the four sub-regions (the Celtic Seas, the Greater North Sea, the Bay of Biscay and Iberian Coast, and the Western Mediterranean Sea). Although they have reported a different set of sub-programmes for each subdivision, the content of the sub-programmes for the same descriptor is very similar from one sub-region to the next.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the French MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring

needs for the assessment of progress towards good environmental status (GES)⁶¹ and achievement of environmental targets, as defined by France in 2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2014 | No |
| D1, 4 Mammals | | | 2014 | 2014 | Yes |
| D1, 4 Fish | | | 2014 | 2014 | Yes |
| D1, 4 Water column | | | 2014 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2014 | 2014 | Yes |
| D2 NIS | | | 2020 | 2020 | No |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014 | 2014 | No |
| D7 Hydro. changes | | | 2014 | 2014 | No |
| D8 Contaminants | | | 2014 | 2014 | No |
| D9 Seafood cont. | | | 2014 | 2014 | No |
| D10 Marine litter | | | 2014 | 2014 | Yes |
| D11 Energy/Noise | | | 2014 | 2014 | Yes |



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

⁶¹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- The technical assessment shows that France has developed its monitoring programme and sub-programmes in a consistent manner with its GES definitions and targets for marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11), with its GES determination for commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and contaminants (Descriptor 8), and with its targets only, for contaminants in seafood (Descriptor 9).
- France reports to be an active member of the relevant regional and Union processes, in particular OSPAR and the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) and the EU Common Implementation Strategy working groups and technical subgroup, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the French monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors except marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).
- In particular, in relation to non-indigenous species (Descriptor 2), the technical assessment shows that the French GES definition and targets are not covered by the current monitoring programmes and sub-programmes. France acknowledges that more work is needed on their non-indigenous species (Descriptor 2).
- France has not reported on the links between its monitoring programmes and the monitoring undertaken for the Habitats and Birds Directive. In addition, for a number of descriptors, France has not systematically reported on the links between its monitoring and work carried out under relevant Union processes, in particular eutrophication (Descriptor 5) (Urban Water Waste Treatment Directive or Nitrates Directive), and contaminants (Descriptor 8) (Environmental Quality Standards Directive).

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

France should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive⁶², the Birds, Directive⁶³, the Water Framework Directive (WFD)⁶⁴ and the Invasive Alien Species Regulation⁶⁵ with MSFD monitoring programmes, while at the same time

⁶² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁶³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁶⁴ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁶⁵ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR and United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP).
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) building upon point (a), adapt existing monitoring (e.g. under WFD or Habitats and Birds Directive) to meet the objectives of the MSFD of achieving GES;
- (e) develop more transboundary approaches and cooperation for monitoring, particularly for mobile species, which frequently move between Member States' waters.
- (f) further develop the monitoring of fish biodiversity to include non-commercial fish species.

On non-indigenous species (Descriptor 2):

- (g) develop monitoring of effects and impacts of non-indigenous species on environment, as planned;
- (h) develop a programme that generates information on the risk of introduction of non-indigenous species, as per the targets.

On commercial fisheries (Descriptor 3):

- (i) consider how to address deficiencies related to the under-sampling of some species;
- (j) clearly define the temporal scope of recreational fisheries monitoring.

On eutrophication (Descriptor 5):

- (k) develop relevant monitoring programmes for the North-East Atlantic targets on the abundance of opportunistic macroalgae and the abundance of perennial seaweeds and seagrasses not currently covered.

On contaminants (Descriptor 8):

- (l) develop a programme for the monitoring of atmospheric deposition and of hazardous air contaminants, as per the GES definition.

On contaminants in seafood (Descriptor 9):

- (m) ensure that the selection of species for contaminants monitoring in biota under contaminants (Descriptor 8) are appropriate for the purpose of contaminants in seafood (Descriptor 9) monitoring, if the two programmes are grouped.

9. Croatia

OVERALL CONCLUSION

Overall, the monitoring programme of Croatia constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Croatia reports that its monitoring of GES were supposed to be in place by 2014.

One of the thirteen descriptor categories is sufficiently addressed in the reported monitoring programmes, this is contaminants in seafood (Descriptor 9).

Croatia has identified monitoring gaps, and plans to address them, for all descriptors.

MAIN GUIDANCE

Croatia should:

- (a) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Implement the plans identified to address the monitoring gaps.**

Croatia reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. Croatia's Article 11 reporting includes 42 sub-programmes covering all descriptors.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Croatian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards Good Environmental Status (GES)⁶⁶ and achievement of environmental targets, as defined by Croatia in 2014.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

⁶⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|---------------------------|----------------------|---------|-------------------|-------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2018 - 2020 | Yes |
| D1, 4 Mammals | | | 2014 | 2018 - 2020 | Yes |
| D1, 4 Fish | | | 2014 | 2020 | Yes |
| D1, 4 Water column | | | 2014 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2014 | 2018 - 2020 | Yes |
| D2 NIS | | | 2014 | 2018 | Yes |
| D3 Commercial fish | | | 2014 | 2018 | Yes |
| D5 Eutrophication | | | 2014 | 2018 | Yes |
| D7 Hydro. changes | | | 2014 | 2018 | Yes |
| D8 Contaminants | | | 2014 | 2018 | Yes |
| D9 Seafood cont. | | | 2014 | 2018 | Yes |
| D10 Marine litter | | | 2014 | 2018 | Yes |
| D11 Energy/Noise | | | 2014 | 2018 | Yes |

| | | | |
|--|------------------|----------------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Croatia has developed its monitoring programme and sub-programmes in a consistent manner with its GES determination for contaminants in seafood (Descriptor 9).
- Croatia has systematically reported on the use of existing monitoring programmes in the context of the MSFD. At Union level, a link to the Water Framework Directive (WFD) is made for commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10); as well as for fish, seabed habitats and water column habitats (Descriptors 1, 4, 6).
- Croatia has systematically made use of existing UNEP/MAP standards; i.e. in eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10) and seabed monitoring (Descriptors 1, 4, 6).
- Croatia has provided plans for future work for all descriptors, even though it considers that its monitoring programme is, for the most part, already adequate to measure

progress towards its GES and targets. This is in line with the principle of adaptive management.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- Even though Croatia reports that its monitoring of GES will be in place by 2014, it reports that monitoring of targets will not be in place until 2018 or 2020. This should be further clarified.
- According to the technical assessment, the Croatian monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors including descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), marine litter (Descriptor 10), energy, including underwater noise (Descriptor 11).
- It was difficult to assess the monitoring programme and sub-programmes for hydrographical changes (Descriptor 7) with regard to the achievement of targets: Croatia's monitoring programme only monitors long-term large scale changes, while the targets defined by Croatia concern the impact of human activities, which the reported monitoring programme does not cover.
- Croatia reports limited information on monitoring transboundary impacts or any other major environmental changes or emerging issues.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Croatia should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁶⁷, the Birds, Directive⁶⁸, the Water Framework Directive⁶⁹ and the Invasive Alien Species Regulation⁷⁰ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP).
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

⁶⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁶⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁶⁹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁷⁰ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

In particular:

On biodiversity (in particular on Descriptor 1, 4 and 6):

- (d) strengthen its monitoring programmes by extending the geographical coverage (in the case of birds, mammals and reptiles) and adjusting the frequency of monitoring (mammals, reptiles and water column habitats), as per GES definition.
- (e) further develop its monitoring programme to cover additional relevant species (e.g. sardine and tuna species (as part of fish), as per GES definition.

On non-indigenous species (Descriptor 2):

- (f) further develop its monitoring programme to ensure the coverage of all relevant elements and parameters (i.e. fish abundance), as per the targets definition;
- (g) further develop its monitoring programme to ensure the monitoring of impacts, as per GES definition.

On eutrophication (Descriptor 5):

- (h) further develop its monitoring programme by adopting either an improved method of monitoring submerged aquatic vegetation to incorporate a method of assessing ecological health and species abundance, and an increased monitoring frequency for nutrients and organic matter loads calculations, as per GES definition.

On hydrographical changes (Descriptor 7):

- (i) strengthen monitoring programme

On contaminants in seafood (Descriptor 9):

- (j) strengthen its monitoring programme to ensure adequate spatial and temporal coverage, as per GES definition.
- (k) strengthen its monitoring programme to ensure the traceability of its D9 biota samples to the location of the contamination.

On marine litter (Descriptor 10):

- (l) further develop its monitoring programme to measure impacts of marine litter on biota, where necessary, as per GES definition.

10. Italy

OVERALL CONCLUSION

Overall, the monitoring programme of Italy constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Italy reports that its monitoring programme will be in place to measure progress towards GES by 2018. Some timelines have nevertheless not been reported.

Four out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

Italy has identified monitoring gaps, and plans to address these, for the following descriptors: commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

Plans to address monitoring gaps for the remaining descriptors, namely birds, mammals, fish and cephalopods, water column habitats and seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), contaminants in seafood (Descriptor 9), are therefore still missing.

MAIN GUIDANCE

Italy should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Italy reported Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. Italy's Article 11 reporting includes 62 sub-programmes covering all descriptors, in all its sub-divisions (Adriatic Sea, the Ionian Sea and the Central Mediterranean Sea and the Western Mediterranean Sea).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Italian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring

needs for the assessment of progress towards good environmental status (GES)⁷¹ and achievement of environmental targets, as defined by Italy in 2012-2013, and modified in 2014.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2018 | 2014 | No |
| D1, 4 Mammals | | | 2018 | 2014 | No |
| D1, 4 Fish | | | * | * | No |
| D1, 4 Water column | | | 2018 | 2014 | No |
| D1, 4, 6 Seabed | | | 2018 | 2014 | No |
| D2 NIS | | | 2018 | 2014 | No |
| D3 Commercial fish | | | * | * | Yes |
| D5 Eutrophication | | | 2018 | 2014 | Yes |
| D7 Hydro. Changes | | | 2018 | 2014 | No |
| D8 Contaminants | | | 2018 | 2014 | Yes |
| D9 Seafood cont. | | | 2018 | 2014 | No |
| D10 Marine litter | | | 2018 | 2014 | Yes |
| D11 Energy/Noise | | | * | * | Yes |

* Timeline of coverage is not reported on by Italy for these descriptors

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

⁷¹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- The technical assessment shows that Italy has developed its monitoring programme and sub-programmes in a consistent manner with its MSFD GES and targets for hydrographical changes (Descriptor 7) and marine litter (Descriptor 10); and with its GES determination for commercial fish and shellfish (Descriptor 3) and energy, including underwater noise (Descriptor 11).
- Italy's monitoring sub-programmes show relative consistency with Union level standards, mainly in the context of non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7) and contaminants (Descriptor 8) as well as in the monitoring sub-programmes for water column habitats (Descriptors 1, 4 and 6). The Common Fisheries Policy forms the basis of commercial fish and shellfish (Descriptor 3) sub-programmes, and Regulation (EC) No 1881/2006 forms the basis of contaminants in seafood (Descriptor 9) sub-programmes. The Habitats Directive is linked to seabed, mammals and fish biodiversity monitoring, while the Birds Directive contributes to the birds MSFD monitoring.
- Italy's monitoring programme shows consistency with United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) monitoring programmes, which form the basis of many monitoring programmes of the MSFD; namely in the case of biodiversity (Descriptors 1, 4 and 6) in relation to the management and the establishment of Marine Protected Areas (MPAs), as well as monitoring for seabed habitats, mammals and reptiles, birds (Descriptors 1, 4 and 6) and contaminants (Descriptor 8).

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Italian monitoring programme shows a number of weaknesses that affect its coverage of GES and targets, in particular for the biodiversity descriptors, and pressure descriptors commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9); and descriptors considered less advanced in terms of knowledge and methodologies such as non-indigenous species (Descriptor 2) and energy, including underwater noise (Descriptor 11).
- Italy reports limited information on monitoring transboundary impacts or any other major environmental changes or emerging issues. To describe these, the Member State refers to its efforts in the context of UNEP/MAP and regional cooperation, but does not elaborate further.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Italy should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁷²,

⁷² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

the Birds, Directive⁷³, the Water Framework Directive⁷⁴ and the Invasive Alien Species Regulation⁷⁵ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by UNEP/MAP.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptor 1, 4 and 6):

- (d) ensure that all necessary elements and parameters are monitored to ensure that its monitoring needs are covered, in particular on food webs and ecosystem indicators of the programme concerning species exploited by commercial fisheries.

On non-indigenous species (Descriptor 2):

- (e) ensure that results from multiple survey schemes are analysed appropriately to draw conclusions on MSFD GES.

On commercial fisheries (Descriptor 3):

- (f) improve monitoring and assessment of non-'Data Collection Framework' species and of data-limited stocks;
- (g) ensure appropriate geographical scope .

On eutrophication (Descriptor 5):

- (h) develop its monitoring programme and cover chlorophyll levels and phytoplankton community composition and abundance, as per GES definition.

On contaminants (Descriptor 8):

- (i) ensure that all relevant contaminants, as well as significant acute pollution event, if they occur, and their effects are monitored, as per GES definition.

On contaminants in seafood (Descriptor 9):

- (j) strengthen its monitoring programme to ensure the traceability of its biota samples to the location of the contamination.

⁷³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁷⁴ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁷⁵ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

11. Cyprus

OVERALL CONCLUSION

Overall, the monitoring programme of Cyprus constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Cyprus reports that its monitoring programme was mostly in place to measure progress towards GES by 2014, but with birds and mammals (Descriptors 1, 4) only addressed by 2020.

Three out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9).

Cyprus has identified monitoring gaps, and plans to address them, for all descriptors in a very general manner.

Cyprus had not established targets for birds and mammals (Descriptors 1 and 4), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Cyprus should:

- (a) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Implement the plans identified to address the monitoring gaps.**

Cyprus reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. In total, Cyprus' Article 11 reporting consists of 25 sub-programmes covering all descriptors.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Cypriot MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁷⁶ and achievement of environmental targets, as defined by the Member State in 2013, and revised and re-submitted on 15 April 2015.

The following table provides an overview (by descriptor) of:

⁷⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address (any) gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | No targets | 2020 | * | Yes |
| D1, 4 Mammals | | No targets | 2020 | * | Yes |
| D1, 4 Fish | | | 2014 | 2014 | Yes |
| D1, 4 Water column | | | 2014 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2014 | 2014 | Yes |
| D2 NIS | | No targets | 2014 | 2014 | Yes |
| D3 Commercial fish | | | 2014 | 2014 | Yes |
| D5 Eutrophication | | | 2014 | 2014 | Yes |
| D7 Hydro. changes | | No targets | 2014 | * | Yes |
| D8 Contaminants | | | 2014 | 2014 | Yes |
| D9 Seafood cont. | | | 2014 | 2014 | Yes |
| D10 Marine litter | | | 2014 | 2014 | Yes |
| D11 Energy/Noise | | No targets | 2014 | * | Yes |

*Timeline not reported

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Cyprus has developed its monitoring programme and sub-programmes in a consistent manner with its GES determinations and targets for commercial fish and shellfish (Descriptor 3), with its GES determinations for eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9); and with its targets for marine litter (Descriptor 10).

- The technical assessment also shows that even though targets have not yet been defined for birds, mammals, non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7) and energy, including underwater noise (Descriptor 11), the Member State has already designed monitoring sub-programmes for these descriptors, which is positive.
- The Cypriot monitoring programme shows consistency with the standards and guidelines produced by the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP), bringing in a regional dimension to the work done by the Member State. Furthermore, the modified GES indicators make the direct link with UNEP/MAP guidance indicators in all descriptors.
- Cyprus has provided plans for future work for all descriptors, even though it considers that its monitoring programme is, for the most part, already adequate to measure progress towards its GES and targets. This is in line with the principle of adaptive management.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Cypriot monitoring programme shows a number of weaknesses that affect its coverage of GES and targets for the biodiversity descriptors (Descriptors 1, 4 and 6) as well as contaminants (Descriptor 8); and descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).
- A number of descriptors have no targets. The establishment of these targets would help inform the development of the monitoring programme for these descriptors.
- Cyprus has not reported on the links between its monitoring and the relevant Regional Sea Convention and EU work for eutrophication (Descriptor 5) (Urban Waste Water Treatment Directive) and energy, including underwater noise (Descriptor 11) (MSFD technical group on underwater noise).
- Cyprus does not elaborate on monitoring transboundary impacts or any other major environmental changes or emerging issues, but refers to the impacts and features it monitors as part of its monitoring sub-programmes.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Cyprus should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive⁷⁷, the Birds, Directive⁷⁸, the Water Framework Directive⁷⁹ and the Invasive Alien

⁷⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁷⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁷⁹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

Species Regulation⁸⁰ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements (habitats and species) and parameters monitored.

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by UNEP/MAP.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) develop targets for birds and mammals;
- (e) building upon point (a), adapt existing monitoring (e.g. under HBD or WFD) to meet the objectives of the MSFD of achieving GES;
- (f) develop the monitoring programme to cover offshore areas, where appropriate, and cover terrestrial habitats in the case of birds;
- (g) develop the monitoring programme for fish biodiversity to include non-commercial fish species and coastal fish;
- (h) develop the monitoring programme for seabed habitats to ensure a wider spatial scope is monitored, where appropriate.

On non-indigenous species (Descriptor 2):

- (i) develop targets;
- (j) extend monitoring to other key species groups and habitat types such as phytoplankton and zooplanktonic species; macrobenthos (sediments) and pelagic fish.

On eutrophication (Descriptor 5):

- (k) extend its monitoring sub-programmes to cover additional geographic areas beyond coastal waters, where necessary based on a risk assessment.

On hydrographical changes (Descriptor 7):

- (l) develop targets;
- (m) strengthen the monitoring programme to assess hydrographical significant and permanent changes.

On contaminants (Descriptor 8):

- (n) develop a monitoring programme of contamination effects on biota, where necessary, as per GES definition.

On contaminants in seafood (Descriptor 9):

⁸⁰ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (o) develop a monitoring programme that covers all seafood for consumption, as per GES definition.

On marine litter (Descriptor 10):

- (p) develop monitoring of micro-litter.

On underwater noise (Descriptor 11):

- (q) develop targets ;
- (r) develop, as appropriate, monitoring on impulsive noise.

12. Latvia

OVERALL CONCLUSION

Overall, the monitoring programme of Latvia does not constitute an appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Latvia reports that its monitoring programme to measure progress towards its GES will not be fully in place until after 2020.

Latvia has not reported monitoring for mammals (Descriptors 1, 4).

None of the thirteen descriptor categories have been sufficiently addressed.

Latvia has identified monitoring gaps, and plans to address these, for the following descriptors: birds, water column habitats, seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10).

Plans to address monitoring gaps for the remaining descriptors, i.e. mammals, fish and cephalopods (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11), are therefore still missing.

Latvia has not determined GES and targets for birds, mammals and fish (Descriptors 1 and 4), hydrographical changes (Descriptor 7), contaminant (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Latvia should:

- (a) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Address all descriptors in the monitoring programme;**
- (c) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (d) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Latvia reported under Article 11 Marine Strategy Framework Directive (MSFD) in December 2014. In total, Latvia's Article 11 reporting includes consists of 22 sub-programmes covering all descriptors, apart from mammals and fish (D1, 4). Latvia has not defined good

environmental status (GES)⁸¹ and targets for birds, mammals and fish (Descriptors 1, 4), as well as hydrographical changes (Descriptor 7), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Latvian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status and achievement of environmental targets, as defined by Latvia in 2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

⁸¹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|-------------------------|-----------------------------|-------------------|------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | No GES | No targets | After 2020 | After 2020 | Yes |
| D1, 4 Mammals | No GES No monitoring | No targets No monitoring | * | * | No |
| D1, 4 Fish | No GES | No targets | * | * | No |
| D1, 4 Water column | | | After 2020 | After 2020 | Yes |
| D1, 4, 6 Seabed | | | After 2020 | After 2020 | Yes |
| D2 NIS | | | After 2020 | After 2020 | Yes |
| D3 Commercial fish | | | 2014 | After 2020 | No |
| D5 Eutrophication | | | 2020 | 2020 | Yes |
| D7 Hydro. changes | No GES | No targets | 2020 | 2020 | Yes |
| D8 Contaminants | No GES | No targets | 2020 | 2020 | Yes |
| D9 Seafood cont. | | | 2018 | 2014 | No |
| D10 Marine litter | No GES | No targets | 2020 | After 2020 | Yes |
| D11 Energy/Noise | No GES | No targets | After 2020 | After 2020 | No |

*Timeline of coverage is not reported by Latvia



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- Although Latvia has not yet defined GES and targets for birds (Descriptors 1, 4) hydrographical changes (Descriptor 7), contaminants (Descriptor 8), marine litter (Descriptor 10), energy, including underwater noise (Descriptor 11), it has nevertheless reported monitoring programmes, which is positive as it indicates that some monitoring for these descriptors is already taking place in view of a future GES/targets definition.
- Efforts have been by Latvia to link its monitoring programmes with existing ones at Union level in the context of the Water Framework Directive (WFD) (seabed and water column habitats (Descriptors 1, 4 and 6), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9), the Common Fisheries Policy (Descriptor 3), the Birds Directive (birds), the Habitats Directive (non-indigenous species (Descriptor 2), seabed habitats (Descriptors 1, 4 and 6)), the Nitrates Directive (eutrophication

(Descriptor 5)) and Commission Regulation No 1881/2006 setting maximum levels for certain contaminants in foodstuffs (contaminants in seafood (Descriptor 9)).

- Regional cooperation is referred to by Latvia, with HELCOM being linked to monitoring activities under most descriptors. Latvia reports that existing gaps in its monitoring programmes, as well as transboundary issues will be progressively addressed, often in the context of regional cooperation through HELCOM.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Latvian monitoring programme and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors.
- Latvia has not defined GES and targets for birds, mammals and fish (Descriptors 1, 4), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).
- Latvia does not report any monitoring programmes and associated timeline for mammals and fish (Descriptors 1, 4).
- Latvia does not elaborate on major environmental changes and emerging issues. It states that its monitoring programmes are not statistically tested for their ability to identify major changes in the environment, and thus cannot identify new and emerging issues.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Latvia should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁸², the Birds Directive⁸³, the Water Framework Directive⁸⁴ and the Invasive Alien Species Regulation⁸⁵ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by HELCOM.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

⁸² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁸³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁸⁴ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁸⁵ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) develop GES and targets for birds, mammals and fish
- (e) develop monitoring programmes for mammals as soon as possible.
- (f) further develop its monitoring programmes, refine survey methods and render them operational as soon as possible.

On non-indigenous species (Descriptor 2):

- (g) further develop its existing monitoring programme to cover pathways of introduction;
- (h) further develop its existing monitoring programme to monitor NIS distribution and biomass, as per GES definition.

On eutrophication (Descriptor 5):

- (i) expand its monitoring programme to cover additional elements and parameters (e.g. macroalgal colonisation depth along transects from shore), as per its GES definition.

On hydrographical changes (Descriptor 7)

- (j) develop GES and targets.

On contaminants (Descriptor 8):

- (k) develop GES and targets.

On contaminants in seafood (Descriptor 9):

- (l) expand its monitoring programme to cover additional species (beyond the four species identified), as per its GES definition.

On marine litter (Descriptor 10)

- (m) develop GES and targets.

On energy, including underwater noise (Descriptor 11)

- (n) develop GES and targets.

13. Lithuania

OVERALL CONCLUSION

Overall, the monitoring programme of Lithuania constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Lithuania reports that its monitoring programme will mostly be in place to measure progress towards GES by 2020, but with some aspects (birds, seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11)), only covered after 2020.

Monitoring of mammals (Descriptor 1, 4) **has not been reported.**

Three out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9).

Lithuania has identified monitoring gaps, and plans to address them, for all descriptors, except for birds (Descriptors 1, 4 and 6), which are still missing.

Lithuania has not determined GES and targets for mammals (Descriptors 1 and 4), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Lithuania should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Address all descriptors in the monitoring programme;**
- (c) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Lithuania reported under article 11 Marine Strategy Framework Directive (MSFD) in March 2015. In total, Lithuania's article 11 reporting consists of 23 sub-programmes covering all descriptors, apart from mammals (Descriptors 1, 4) and energy, including underwater noise (Descriptor 11).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Lithuanian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁸⁶ and achievement of environmental targets, as defined by Lithuania in 2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|-------------------------|-----------------------------|-------------------|------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | After 2020 | After 2020 | No |
| D1, 4 Mammals | No GES No monitoring | No targets No monitoring | * | * | Yes |
| D1, 4 Fish | | | 2018 | 2018 | Yes |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | After 2020 | After 2020 | Yes |
| D2 NIS | | | After 2020 | After 2020 | Yes |
| D3 Commercial fish | ** | | 2014 | 2014 | Yes |
| D5 Eutrophication | | | 2020 | 2020 | Yes |
| D7 Hydro. changes | No GES | No targets | After 2020 | After 2020 | Yes |
| D8 Contaminants | | | 2018 | 2020 | Yes |
| D9 Seafood cont. | | | 2020 | 2020 | Yes |
| D10 Marine litter | No GES | No targets | After 2020 | After 2020 | Yes |
| D11 Energy/Noise | No GES | No targets | After 2020 | After 2020 | Yes |

*Not reported, **inaccuracies and lack of data in paper report



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

⁸⁶ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- According to the technical assessment Lithuania has developed its monitoring programme and sub-programmes in a consistent manner with its GES determination and environmental targets, for commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), and contaminants in seafood (Descriptor 9).
- Although Lithuania has not yet defined GES and targets for hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11), it has nevertheless reported monitoring programmes, which is positive as it indicates that some monitoring for these descriptors is already taking place in view of a future GES/targets definition, even though it is fairly high-level for energy, including underwater noise (Descriptor 11).
- Some efforts have been by Lithuania to link its monitoring programmes with existing ones at Union level in the context of the Water Framework Directive (WFD) for fish and cephalopods, seabed habitats, and water column habitats (Descriptors 1, 4, 6) monitoring, as well as for eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9). The Common Fisheries Policy (CFP) forms the basis of the monitoring programmes for commercial fish and shellfish (Descriptor 3) and fish (Descriptors 1, 4). The Habitats Directive has been linked with fish and cephalopods, seabed habitats (Descriptors 1, 4 and 6) and eutrophication (Descriptor 5).
- Regional cooperation is systematically referenced by the Member State, with HELCOM being linked to monitoring activities under most descriptors. Lithuania reports that existing gaps in its monitoring programme, as well as transboundary issues will be progressively addressed, often in the context of regional cooperation through HELCOM.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Lithuanian monitoring programmes and sub-programmes show a number of weaknesses for birds, fish and cephalopods, water column and seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2) commercial fish and shellfish (Descriptor 3) and contaminants (Descriptor 8).
- Furthermore, Lithuania has not defined a specific MSFD monitoring programme for mammals (Descriptors 1, 4).
- Lithuania has not defined GES and targets for mammals (Descriptors 1, 4), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy and underwater noise (Descriptor 11).
- A timeline for adequate monitoring of mammals has not been reported by the Member State.
- Justifications and plans have not been presented for the birds monitoring, which the Member State reports will be adequate after 2020.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Lithuania should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive⁸⁷, the Birds Directive⁸⁸, the Water Framework Directive⁸⁹ and the Invasive Alien Species Regulation⁹⁰ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by HELCOM.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) develop GES and targets on mammals;
- (e) develop a monitoring programme for mammals as soon as possible;
- (f) further develop its monitoring programme for fish to ensure the coverage of non-commercial species.

On non-indigenous species (Descriptor 2):

- (g) make efforts to monitor more hotspots and pathways of introduction, as per GES definition.
- (h) further develop its existing monitoring programme to ensure that collected data is adequately assessed to monitor impact, as per GES definition.

On hydrographical changes (Descriptor 7):

- (i) develop GES and targets.

On marine litter (Descriptor 10):

- (j) develop GES and targets.

On underwater noise (Descriptor 11):

- (k) develop GES and targets.
- (l) develop monitoring sub-programmes for underwater noise.

⁸⁷ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁸⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁸⁹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁹⁰ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

14. Netherlands

OVERALL CONCLUSION

Overall, the monitoring programme of Netherlands constitutes a mostly appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

The Netherlands reports that its monitoring programme was almost completely in place by 2014, except for energy including underwater noise (Descriptor 11), only covered as of 2018.

Five out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11).

The Netherlands has identified monitoring gaps, and plans to address these, for the following descriptors: birds, mammals, fish and cephalopods, water column habitats, seabed habitats (Descriptors 1, 4 and 6), hydrographical changes (Descriptor 7), contaminants in seafood (Descriptor 9), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11). A plan to address gaps for non-indigenous species (Descriptor 2) is missing.

MAIN GUIDANCE

Netherlands should:

- (a) Ensure that the monitoring programme constitutes a fully appropriate framework** that enables complete coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Implement the plans identified to address the monitoring gaps.**

The Netherlands reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. The Dutch Article 11 reporting includes 28 sub-programmes covering all descriptors except hydrographical changes (Descriptor 7). This descriptor was reported in the general monitoring programme reporting sheet.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Dutch MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁹¹ and achievement of environmental targets, as defined by the Netherlands in 2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;

⁹¹ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2014 | Yes |
| D1, 4 Mammals | | | 2014 | 2014 | Yes |
| D1, 4 Fish | | | 2014 | 2014 | Yes |
| D1, 4 Water column | | | 2014 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2014 | 2014 | Yes |
| D2 NIS | | | 2014 | 2014 | No |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014 | 2014 | No |
| D7 Hydro. changes | | | 2014 | 2014 | Yes |
| D8 Contaminants | | | 2014 | 2014 | No |
| D9 Seafood cont. | | | 2014 | 2014 | Yes |
| D10 Marine litter | | | 2014 | 2014 | Yes |
| D11 Energy/Noise | | | 2018 | 2018 | Yes |

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that the Netherlands has developed its monitoring programme and sub-programmes in a consistent manner with its MSFD environmental targets. The Dutch monitoring programme is considered sufficient to assess progress towards all targets except those for hydrographical changes (Descriptor 7),
- With regard to measuring progress towards GES, the Dutch programme is considered sufficient for a number of key pressure descriptors, including those on commercial fisheries (Descriptor 3), eutrophication (Descriptor 5) and contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).
- The Dutch monitoring programme shows a high level of consistency with the standards and guidelines produced by OSPAR, bringing in a strong regional dimension in the work done by the Member State.

- The Netherlands has provided plans for future work for a number of descriptors, even though it considers that its monitoring programme is, for the most part, already adequate to measure progress towards its GES and targets. This is in line with the principle of adaptive management.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Dutch monitoring programme shows a few weaknesses that affect its coverage of GES and targets for biodiversity (Descriptors 1, 4 and 6) (although relatively minor) and descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), marine litter (Descriptor 10) and hydrographical changes (Descriptor 7).
- In particular for hydrographical changes (Descriptor 7), the Netherlands has not yet defined a specific MSFD monitoring sub-programme and any monitoring currently done on hydrographical changes is done under other processes (e.g. Water Framework Directive and licensing procedures).

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Netherlands should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁹², the Birds Directive⁹³, the Water Framework Directive⁹⁴ and the Invasive Alien Species Regulation⁹⁵ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptor 1, 4 and 6):

- (d) develop further its biodiversity monitoring sub-programmes to address some of the minor weaknesses identified (e.g. coverage of relevant monitoring parameters).

On non-indigenous species (Descriptor 2):

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

⁹³ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

⁹⁴ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

⁹⁵ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (e) further develop its monitoring programme to cover relevant habitats or species groups (e.g. water-bound NIS, such as phytoplankton and zooplankton species) using a risk-based approach, as well as additional activities, hotspots and pathways of introduction.

On hydrographical changes (Descriptor 7):

- (f) complement the monitoring sub-programme, in particular to ensure the monitoring of activities beyond coastal zones, where necessary.

On marine litter (Descriptor 10):

- (g) further improve its sub-programmes in relation to the monitoring of microlitter and, where necessary, impacts on marine biota.

15. Portugal

OVERALL CONCLUSION

Overall, the monitoring programme of Portugal does not constitute an appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards achievement of good environmental status (GES).

Portugal has not reported the timing by when its monitoring programme will be in place to measure progress towards its GES.

Portugal has not reported monitoring on eutrophication (Descriptor 5) and on hydrographical changes (Descriptor 7).

Two out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3) and marine litter (Descriptor 10).

Portugal has not identified monitoring gaps, nor plans to address them, except on part of energy, including underwater noise (Descriptor 11) and contaminants in seafood (Descriptor 9).

Plans to address monitoring gaps are therefore still missing for birds, mammals, fish and cephalopods, water column habitats biodiversity and seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Portugal should:

- (a) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Address all descriptors in the monitoring programme;**
- (c) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (d) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Portugal reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in January 2015. The Portuguese Article 11 reporting consists of 23 monitoring sub-programmes covering all descriptors, apart from eutrophication (Descriptor 5) and hydrographical changes

(Descriptor 7). The reported monitoring programmes cover all three Portuguese sub-divisions: Continental, Azores and Madeira⁹⁶.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Portuguese MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)⁹⁷ and achievement of environmental targets, as defined by Portugal in 2015.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

⁹⁶ The Process of Extension of the Continental Shelf is currently on-going within the framework of the United Nations. As such, the present assessment does not cover the 'extended continental shelf' sub-division.

⁹⁷ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | * | * | No |
| D1, 4 Mammals | | | * | * | No |
| D1, 4 Fish | | | * | * | No |
| D1, 4 Water column | | | * | * | No |
| D1, 4, 6 Seabed | | | * | * | No |
| D2 NIS | | | * | * | No |
| D3 Commercial fish | | | * | * | No |
| D5 Eutrophication | No monitoring | No monitoring | * | * | No |
| D7 Hydro. changes | No monitoring | No monitoring | * | * | No |
| D8 Contaminants | | | * | * | No |
| D9 Seafood cont. | | | * | * | Yes |
| D10 Marine litter | | | * | * | No |
| D11 Energy/Noise | | | * | * | Yes |

*Dates not provided



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- The technical assessment shows that Portugal has developed its monitoring programme and sub-programmes in a consistent manner with its GES determinations and targets for commercial fisheries (Descriptor 3); with its GES determination for marine litter (Descriptor 10); and with its targets for energy including underwater noise (Descriptor 11).
- Portugal has reported on the use of existing monitoring programmes in the context of the MSFD. The Member State has referred to relevant monitoring done as part of various Union legislative frameworks, such as the Common Fisheries Policy (CFP) for fish and cephalopods (Descriptors 1, 4), commercial fish and shellfish (Descriptor 3), and non-indigenous species (Descriptor 2). Monitoring under the Water Framework Directive is referred to in the case of all biodiversity descriptors (Descriptors 1, 4, 6), non-indigenous species (Descriptor 2) and contaminants (Descriptor 8). The Habitats Directive is referred to in relation to the birds, mammals and reptiles monitoring

(Descriptors 1, 4) as well as to marine litter (Descriptor 10) and energy including underwater noise (Descriptor 11), while the Birds Directive is referred to in the context of bird monitoring programmes reported for birds (Descriptors 1, 4) and marine litter (Descriptor 10).

- Portugal's report considers relevant regional and Union processes, in particular OSPAR and the Common Implementation Strategy working groups and technical subgroup, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.
- Portugal occasionally refers to monitoring done under other international and regional agreements, in addition to the Regional Sea Conventions, in particular the Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) and the Convention on Wetlands (Ramsar Convention).
- Portugal has already reported on measures in 2015.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Portuguese monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors except commercial fish and shellfish (Descriptor 3).
- Portugal has not designed and implemented monitoring programmes for eutrophication (Descriptor 5) and hydrographical changes (Descriptor 7), as such it is currently not monitoring progress towards GES and targets for these descriptors, and this has not been justified.
- Portugal does not report on a timeline to complete its monitoring programmes. This is necessary in order to ensure that monitoring needs to measure progress towards GES and targets, as defined by the Member State, are met.
- OSPAR standards and guidelines are not systematically referred to. Only the monitoring programmes for non-indigenous species (Descriptor 2), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10) have been explicitly linked to OSPAR activities.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Portugal should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive⁹⁸, the Birds Directive⁹⁹, the Water Framework Directive¹⁰⁰ and the Invasive Alien

⁹⁸ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

⁹⁹ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

¹⁰⁰ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

Species Regulation¹⁰¹ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

- (b) implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular¹⁰²:

On biodiversity (particularly Descriptors 1, 4 and 6):

- (d) further develop its biodiversity monitoring sub-programmes to address weaknesses, which relate to the coverage of monitoring of habitats (in the case of birds), abundance and distribution of stocks (in the case of fish) and indicator species (for seabed and water column habitats).

On non-indigenous species (Descriptor 2):

- (e) further develop the monitoring programme to ensure the coverage of fish species.

On eutrophication (Descriptor 5):

- (f) develop and establish a monitoring programme or report, for MSFD purposes, relevant existing monitoring.

On hydrographical changes (Descriptor 7):

- (g) develop and establish a monitoring programme or report, for MSFD purposes, relevant existing monitoring.

On contaminants (Descriptor 8):

- (h) expand its programme to monitor additional contaminants, including radionuclides, as per GES definition.
- (i) develop a monitoring programme of contamination effects on biota, where necessary, and of significant acute pollution events if they occur, as per GES definition.

On contaminants in seafood (Descriptor 9):

- (j) clearly link its MSFD monitoring programme to monitoring done under Regulation (EC) No 1881/2006.

On underwater noise (Descriptor 11):

- (k) expand its monitoring programmes for underwater noise as soon as possible on Azores and Continental subdivisions on the basis of occurring human activities.

¹⁰¹ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

¹⁰² The Portuguese Article 11 reporting is not detailed enough to allow for a full assessment in most descriptors. Best efforts have been made to extract information from the paper reports, but this was sometimes not possible given the data at hand.

16. Romania

OVERALL CONCLUSION

Overall, the monitoring programme of Romania constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards achievement of good environmental status (GES) and targets.

Romania reports that its monitoring programme will be fully in place by 2018 at the latest to measure progress towards GES.

Seven out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are mammals, water column habitats biodiversity, seabed habitats (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9). The remaining descriptors were not assessed because Romania had not defined GES and targets for these, in time for this assessment.

Romania has identified monitoring gaps, and plans to address these, for all descriptors.

MAIN GUIDANCE

Romania should:

- (a) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES.
- (c) Implement the plans identified to address the monitoring gaps.**

Romania reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in November 2014, with additional monitoring programme reports submitted in October 2015. In total, Romania's Article 11 reporting includes a single monitoring programme consisting of 62 sub-programmes covering all descriptors.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Romanian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)¹⁰³ and achievement of environmental targets, as defined by Romania in 2013, and modified in 2014-2015.

¹⁰³ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|-------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | No GES* | No targets* | 2018 | 2018 | Yes |
| D1, 4 Mammals | | | 2018 | 2018 | Yes |
| D1, 4 Fish | No GES* | No targets* | 2018 | 2018 | Yes |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2018 | 2018 | Yes |
| D2 NIS | No GES* | No targets* | 2018 | 2018 | Yes |
| D3 Commercial fish | | | 2018 | 2018 | Yes |
| D5 Eutrophication | | | 2018 | 2018 | Yes |
| D7 Hydro. Changes | No GES* | No targets* | 2018 | 2018 | Yes |
| D8 Contaminants | | | 2018 | 2018 | Yes |
| D9 Seafood cont. | | | 2018 | 2018 | Yes |
| D10 Marine litter | No GES* | | 2018 | 2018 | Yes |
| D11 Energy/Noise | No GES* | No targets* | 2018 | 2018 | Yes |

* No GES had been reported in 2014. Romania clarified in late 2015 that GES has been defined and that this will be reported in the second cycle of the MSFD implementation, as part of the reporting obligations in 2018. Due to this late determination of GES and targets, no assessment of the monitoring programme could be carried out.

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Romania has developed its monitoring programme and sub-programmes in a consistent manner with its GES determinations and targets for eutrophication (Descriptor 5), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9); and with its GES determinations for mammals, water column and seabed habitats (Descriptors 1, 4, 6) and commercial fish and shellfish (Descriptor 3).

- Romania reports to consider relevant regional and Union processes, in particular the Black Sea Commission and work done under the Common Implementation Strategy working groups and technical groups, to ensure coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes.
- Romania reports extensive bilateral cooperation with Bulgaria in the coordinated development of its monitoring programmes, an aspect that has contributed to regional coherence in the context of the MSFD implementation.
- In 2014, Romania had not yet defined GES and targets for a number of descriptors, yet the Member State has made efforts in already establishing monitoring programmes which is positive. This is the case for biodiversity birds and fish (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) (where there were no GES, but there were targets) and energy, including underwater noise (Descriptor 11). However, GES and targets were defined for these descriptors in late 2015 and Romania indicated that they will be reported in the second cycle of the MSFD implementation.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Romanian monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors except for eutrophication (Descriptor 5), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).
- Regarding the implementation timeline, monitoring programmes are in most cases planned to start in 2015-2016 and will only be in place by 2018.
- Monitoring programmes have gaps which mainly relate to lack of knowledge, techniques and (as reported by Romania) funds, that are planned to be addressed by 2018.
- Romania had not defined GES and targets, in 2014, for birds and fish (Descriptors 1, 4), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7) and energy including underwater noise (Descriptor 11) and has not defined GES for marine litter (Descriptor 10). As explained above, Romania has in the meantime defined GES and targets for these descriptors.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Romania should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive¹⁰⁴, the Birds, Directive¹⁰⁵, the Water Framework Directive¹⁰⁶ and the Invasive Alien

¹⁰⁴ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

¹⁰⁵ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

Species Regulation¹⁰⁷ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by the Black Sea Commission and/or in cooperation with Bulgaria.
- (c) Enhance, in cooperation with Bulgaria, comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level, where such practices have been agreed and are being implemented.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) further strengthen the monitoring programmes for all its biodiversity monitoring programmes to ensure more appropriate spatial scope and frequency of monitoring.
- (e) ensure that its monitoring programmes are adaptive in view of its future GES and targets definitions.

On non-indigenous species (Descriptor 2):

- (f) ensure that non-indigenous species monitoring is fit for the purposes of the MSFD.

On commercial fisheries (Descriptor 3):

- (g) ensure the coverage of additional species, beyond the ones already being covered by the monitoring sub-programmes.

On hydrographical changes (Descriptor 7):

- (h) ensure adequate monitoring as soon as possible.

On marine litter (Descriptor 10):

- (i) further develop criteria and indicators, for the assessment of marine biota and micro-litter including.
- (j) further expand the frequency of monitoring of beach litter.

On underwater noise (Descriptor 11):

- (k) consider a dedicated permanent monitoring network.

¹⁰⁶ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

¹⁰⁷ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

17. Slovenia

OVERALL CONCLUSION

Overall, the monitoring programme of Slovenia does not constitute an appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Slovenia reports that its monitoring programme to measure progress towards its GES will mostly not be in place until after 2020. For some aspects, no timeline has been reported.

Slovenia **has not reported monitoring** for birds, mammals, fish (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11).

None of the thirteen descriptor categories have been sufficiently addressed.

For the descriptors on which it has reported, Slovenia has identified monitoring gaps, and plans to address these, on: water column habitats, seabed habitats (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8) and marine litter (Descriptor 10). Plans to address monitoring gaps for hydrographical changes (Descriptor 7) are therefore still missing. In addition, for the descriptor categories on which no monitoring is reported, justifications and/or plans are also still missing.

MAIN GUIDANCE

Slovenia should:

- (a) Address all descriptors in the monitoring programme;**
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Ensure immediate implementation of the monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (d) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Slovenia reported under Article 11 Marine Strategy Framework Directive (MSFD) in October 2014. In total, Slovenia's Article 11 reporting consists of eight sub-programmes covering seabed habitats, water column habitats (Descriptors 1, 4, 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Slovenian MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the

monitoring needs for the assessment of progress towards good environmental status (GES)¹⁰⁸ and achievement of environmental targets, as defined by Slovenia in 2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------------|-------------------|------------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | No monitoring | No monitoring | * | * | No |
| D1, 4 Mammals | No monitoring | No monitoring | * | * | No |
| D1, 4 Fish | No monitoring | No monitoring | * | * | No |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2020 | 2020 | Yes |
| D2 NIS | No monitoring | No monitoring | * | * | No |
| D3 Commercial fish | | | After 2020 | After 2020 | Yes |
| D5 Eutrophication | | | 2020 | * | Yes |
| D7 Hydro. changes | | | After 2020 | After 2020 | No |
| D8 Contaminants | | | 2020 | 2020 | Yes |
| D9 Seafood cont. | No monitoring | No monitoring | * | * | No |
| D10 Marine litter | | | 2018 | 2020 | Yes |
| D11 Energy/Noise | No monitoring | No monitoring | * | * | No |

* Information not reported by Slovenia



Full coverage
Partial coverage
No coverage



No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

¹⁰⁸ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

ACHIEVEMENTS SO FAR

- Slovenia has made efforts to link its monitoring programmes with the Water Framework Directive (WFD) for eutrophication (Descriptor 5), contaminants (Descriptor 8), as well as seabed and water column habitats (Descriptors 1, 4, 6).

ASPECTS WHERE IMPROVEMENT IS NEEDED

- No monitoring programmes have been implemented (and no information has been reported) for birds, mammals and reptiles, fish and cephalopods (Descriptors 1, 4), non-indigenous species (Descriptor 2), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11), and as such the Slovenian monitoring programme has significant gaps.
- Gaps have not been justified by the Member State and no plans have been presented.
- According to the technical assessment, the Slovenian monitoring programmes and sub-programmes show many weaknesses for all descriptor categories on which it has reported, namely water column and seabed habitats (Descriptors 1, 4, 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and marine litter (Descriptor 10).
- Slovenia has not systematically reported on the links between its MSFD monitoring and relevant Regional Sea Convention and Union work for the majority of its descriptors. In particular, no links are made with the Birds and Habitats Directives in any biodiversity related monitoring programmes, eutrophication (Descriptor 5) is not linked to the Urban Waste Water Treatment Directive nor to the Bathing Water Directive and the work done by the MSFD Common Implementation Strategy technical group on underwater noise has not been fully taken up in energy, including underwater noise (Descriptor 11). Very limited links are made with the United Nations Environment Programme/Mediterranean Action Plan (UNEP/MAP) (only for water column habitats, eutrophication (Descriptor 5) and marine litter (Descriptor 10) monitoring programmes).

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Slovenia should:

In general:

- (a) integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive¹⁰⁹, the Birds Directive¹¹⁰, the Water Framework Directive¹¹¹ and the Invasive Alien Species Regulation¹¹² with MSFD monitoring programmes, while at the same time ensuring

¹⁰⁹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

¹¹⁰ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

¹¹¹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

¹¹² Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.

- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by UNEP/MAP.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular on Descriptors 1, 4 and 6):

- (d) develop monitoring programmes for birds, mammals and reptiles as well as fish and cephalopods as soon as possible;
- (e) further develop monitoring programme for seabed habitats to cover pressure impacts, as per GES definition.

On non-indigenous species (Descriptor 2):

- (f) develop a monitoring programme as soon as possible.

On commercial fisheries (Descriptor 3):

- (g) further develop the monitoring programme to cover additional species beyond those included in the Mediterranean International Bottom Trawl Survey (MEDITS), as per GES definition;
- (h) further develop its monitoring programme to cover pressures (including fishing mortality); in line with its targets definition.

On eutrophication (Descriptor 5):

- (i) further develop its monitoring programme to cover larger geographic areas, where necessary based on a risk assessment.

On hydrographical changes (Descriptor 7):

- (j) further develop its monitoring programme to monitor elements relating to measuring impact on biodiversity, as per GES definition.

On contaminants (Descriptor 8):

- (k) further develop a monitoring programme of effects of contaminants, as per GES definition.

On contaminants in seafood (Descriptor 9):

- (l) develop a monitoring programme for contaminants in seafood as soon as possible.

On marine litter (Descriptor 10):

- (m) further develop a monitoring programme to measure micro-litter and impacts of marine litter, where necessary, on marine biota, as per GES definition.

On underwater noise (Descriptor 11):

- (n) develop a monitoring programme for underwater noise as soon as possible.

18. Finland

OVERALL CONCLUSION

Overall, the monitoring programme of Finland constitutes a mostly appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Finland reports that its monitoring programmes was almost completely in place to measure progress towards GES by 2014, except for non-indigenous species (Descriptor 2), only covered as of 2018.

Ten out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programme. These are birds, mammals, fish and cephalopods, seabed habitats, water column habitats, (Descriptors 1, 4 and 6), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).

Finland has identified monitoring gaps, and plans to address them, for non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Finland should:

- (a) Ensure that the monitoring programme constitutes a fully appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (b) Implement the plans identified to address the monitoring gaps.**

Finland reported under Article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. The Finnish Article 11 reporting consists of 39 monitoring sub-programmes covering all descriptors.

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Finnish MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)¹¹³ and the achievement of environmental targets, as defined by Finland in 2012-2013.

The following table provides an overview (by descriptor) of:

- The results of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;

¹¹³ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2014 | No* |
| D1, 4 Mammals | | | 2014 | 2014 | No* |
| D1, 4 Fish | | | 2014 | 2014 | No* |
| D1, 4 Water column | | | 2014 | 2014 | No* |
| D1, 4, 6 Seabed | | | 2014 | 2014 | No* |
| D2 NIS | | | 2018 | 2014 | Yes |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014 | 2014 | Yes |
| D7 Hydro. changes | | | 2014 | 2014 | Yes |
| D8 Contaminants | | | 2014 | 2014 | No |
| D9 Seafood cont. | | | 2014 | 2014 | No |
| D10 Marine litter | | | 2014 | 2020 | Yes |
| D11 Energy/Noise | | | 2014 | 2014 | Yes |

* Gaps are identified in the HELCOM factsheet but not in the Finnish reporting sheets



Full coverage
Partial coverage
No coverage

No GES
No targets
No monitoring

GES not defined
Targets not defined
No monitoring programme reported

ACHIEVEMENTS SO FAR

- The technical assessment shows that Finland has developed its monitoring programme and sub-programmes in a consistent manner with its GES determinations and targets for commercial fish and shellfish (Descriptor 3), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9); with its GES determinations for biodiversity (Descriptors 1, 4, 6), eutrophication (Descriptor 5) and hydrographical changes (Descriptor 7); and with its targets for energy, including underwater noise (Descriptor 11).
- Finland has reported on the use of existing monitoring programmes in the context of the MSFD. Finland has reported the use of its Water Framework Directive monitoring programmes for biodiversity (Descriptors 1, 4, 6), non-indigenous species (Descriptor 2), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9) sub-

programmes. The monitoring on commercial fish and shellfish (Descriptor 3) has been linked to Common Fisheries Policy monitoring programmes.

- Finland has identified relevant activities at regional and Union level for the implementation of the MSFD, including for monitoring programmes. Firstly, Finland's monitoring programme and sub-programmes are linked to monitoring activities carried out by HELCOM. In addition, reference is also made to OSPAR standards in the case of marine litter (Descriptor 10) monitoring programme. Secondly, Finland's monitoring programme and sub-programmes also contain links to relevant Union processes, in particular the Common Implementation Strategy working groups and technical subgroup.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Finnish monitoring programme and sub-programmes show a few weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors except commercial fish and shellfish (Descriptor 3), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).
- Finland does not link its monitoring programmes to activities carried out for other international conventions other than those activities undertaken for the Regional Sea Conventions.
- Finland does not elaborate on monitoring transboundary impacts or any other major environmental changes or emerging issues, but refers to HELCOM priorities.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Finland should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant Union legislation and other international agreements, in particular the Habitats Directive¹¹⁴, the Birds Directive¹¹⁵, the Water Framework Directive¹¹⁶ and the Invasive Alien Species Regulation¹¹⁷ with MSFD monitoring programmes, while at the same time ensuring that MSFD- specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by HELCOM.

¹¹⁴ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

¹¹⁵ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

¹¹⁶ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

¹¹⁷ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (c) continue to enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular for Descriptors 1, 4 and 6):

- (d) ensure that any monitoring undertaken as part of its HELCOM activities is also reported in its national MSFD monitoring programme.

On non-indigenous species (Descriptor 2):

- (e) improve monitoring to cover ecosystems, as per its GES definition.
- (f) improve the monitoring of hotspots and pathways of introduction, including ports.

On eutrophication (Descriptor 5):

- (g) in relation to the monitoring of macrophytes and phytoplankton-related parameters.
- (h) ensure that any monitoring undertaken as part of its HELCOM activities is also reported in its national MSFD monitoring programme.

On marine litter (Descriptor 10):

- (i) further improve its programme to monitor impacts of litter on ecosystems, as per its GES definition and marine litter on the seafloor, where appropriate, as per its target.

On energy, including underwater noise (Descriptor 11):

- (j) implement its plans to improve its underwater noise monitoring;
- (k) ensure that any monitoring undertaken as part of its HELCOM activities is also reported in its national MSFD monitoring programme.

19. Sweden

OVERALL CONCLUSION

Overall, the monitoring programme of Sweden constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

Sweden reports that its monitoring programme will be fully in place to measure progress towards GES by 2020, but with some aspects already covered as of 2014 such as commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), and contaminants in seafood (Descriptor 9).

Three out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and hydrographical changes (Descriptor 7).

Sweden has identified monitoring gaps, and plans to address them, for birds, mammals, fish and cephalopods, water column habitats seabed habitats (Descriptors 1, 4 and 6), non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

Plans to address monitoring gaps for the remaining descriptors (contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9)) are therefore still missing.

Sweden has not established targets for birds, mammal and water column (Descriptors 1, 4), and energy, including underwater noise (Descriptor 11).

MAIN GUIDANCE

Sweden should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

Sweden reported under Article 11 of the Marine Strategy Framework Directive (MSFD) between October and December 2014. The Swedish Article 11 reporting consists of 43 monitoring sub-programmes for the Baltic Sea region and 39 monitoring sub-programmes for the North Sea sub-region. The sub-programmes in both regions are similar and often have the same titles. The monitoring programmes in place address all descriptors in both sub-regions, apart from descriptor 11 (underwater noise).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the Swedish MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)¹¹⁸ and achievement of environmental targets, as defined by Sweden in 2012-2013.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps.

¹¹⁸ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|--------------------|----------------------|--------------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | No targets** | 2020 | 2020 | Yes |
| D1, 4 Mammals | | No targets** | 2020 | 2020 | Yes |
| D1, 4 Fish | | | 2020 | 2014 | Yes |
| D1, 4 Water column | | No targets** | 2020 | 2014 | Yes |
| D1, 4, 6 Seabed | | | 2020 | 2020 | Yes |
| D2 NIS | | | 2018 | 2018 | Yes |
| D3 Commercial fish | | | 2014 | 2014 | No |
| D5 Eutrophication | | | 2014 | 2014 | No |
| D7 Hydro. changes | | | 2014 | 2014 | Yes |
| D8 Contaminants | | | 2020 | 2020 | No |
| D9 Seafood cont. | * | * | 2014* | 2014* | No |
| D10 Marine litter | | | 2020 | 2020 | Yes |
| D11 Energy/Noise | No monitoring*** | No targets | 2020 | 2020 | Yes |

* Applicable to the Baltic Sea region only: no monitoring programme is yet in place for the North Sea sub-region.

** Sweden did not report specific targets for these descriptor categories, only generic targets.

*** Sweden has not reported a monitoring programme in 2014 but has subsequently clarified that monitoring started during 2015.

| | | | |
|--|------------------|---------------|----------------------------------|
| | Full coverage | No GES | GES not defined |
| | Partial coverage | No targets | Targets not defined |
| | No coverage | No monitoring | No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that Sweden has developed its monitoring programme and sub-programmes in a consistent manner with its GES determination and targets for commercial fish and shellfish (Descriptor 3) and eutrophication (Descriptor 5), with its GES determinations for hydrographical changes (Descriptor 7) and with its targets for fish and cephalopods (Descriptor 1, 4), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).
- Sweden has not set specific targets for birds, mammals and water column habitats (Descriptors 1, 4), however it has established general targets and monitoring programmes to monitor progress towards these general targets, which is positive.
- Sweden has reported on the use of existing monitoring programmes in the context of the MSFD. The Member State has referred to relevant monitoring done as part of various Union legislative frameworks such as the Water Framework Directive (in the

context of monitoring programme on non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), as well as mammals, seabed habitats and water column habitats (Descriptor 1, 4 and 6). The Common Fisheries Policy (CFP) is linked with commercial fish and shellfish (Descriptor 3) and fish and cephalopods (Descriptors 1, 4) while the Habitats Directive is linked to monitoring programmes for commercial fish and shellfish (Descriptor 3) and biodiversity (Descriptors 1, 4 and 6).

- Sweden reports on its coordination at regional and Union level for the implementation of the MSFD, including for monitoring programmes. Firstly, Sweden's monitoring programme and sub-programmes are linked to monitoring activities carried out by both HELCOM and OSPAR. The Member State reports the use of standards/guidelines from either Regional Sea Convention for both regions, thus ensuring consistency in their national approach. Secondly, Sweden's monitoring programme and sub-programmes also contain links to relevant Union processes, in particular work done under the Common Implementation Strategy working groups and technical group.
- Finally, Sweden links its monitoring programmes to monitoring done under international conventions and agreements, such as the Convention on Wetlands (Ramsar Convention), the Ballast Water Management Convention and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) among others.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the Swedish monitoring programmes and sub-programmes show a number of weaknesses that affect their coverage of GES and targets. This is applicable, to various extents, to all descriptors, except commercial fish and shellfish (Descriptor 3) and eutrophication (Descriptor 5).
- Sweden only reported generic targets for birds, mammals and water column habitats (Descriptors 1, 4), but no specific targets for each of these descriptor-categories. Since these targets are not specific to birds, mammals and water column habitats (Descriptors 1, 4) an assessment of the monitoring programmes to measure progress towards specific targets cannot be made. This needs to be seen in relation with the existing monitoring programme and the future target definition, reported under 'Achievements'.
- No monitoring programme has been reported for the North Sea sub-region for contaminants in seafood (Descriptor 9). This needs to be further clarified.
- Sweden had not established monitoring programmes for energy, including underwater noise (Descriptor 11) in 2014. However, it has subsequently clarified that monitoring started during 2015 for this descriptor.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

Sweden should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive¹¹⁹, the Birds Directive¹²⁰, the Water Framework Directive¹²¹ and the Invasive Alien Species Regulation¹²² with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR and HELCOM.
- (c) continue to enhance comparability and consistency of monitoring methods within its marine (sub-)regions, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

In particular:

On biodiversity (in particular for Descriptors 1, 4 and 6):

- (d) further develop its monitoring of seabirds in the North Sea and expand it to offshore areas in both (sub-)regions.
- (e) strengthen its seabed monitoring programme and cover biogenic substrates, as well as areas of seabed affected by permanent structures.
- (f) develop more transboundary approaches and cooperation for monitoring, particularly for mobile species, which frequently move between Member States' waters.

On non-indigenous species (Descriptor 2):

- (g) strengthen its monitoring programmes to gather data on genetically modified organisms and monitoring of ecosystem effects, as per its GES definition.

On hydrographical changes (Descriptor 7):

- (h) strengthen its monitoring programme to ensure the monitoring of impacts of activities.

On contaminants (Descriptor 8):

- (i) strengthen its monitoring programme by monitoring the blubber thickness indicator proposed for both (sub-)regions in its GES definition.

On contaminants in seafood (Descriptor 9):

- (j) develop and implement a monitoring programme in the North Sea.
- (k) ensure the traceability of its biota samples to the location of the contamination.

On marine litter (Descriptor 10):

¹¹⁹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

¹²⁰ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

¹²¹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

¹²² Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

- (l) improve its monitoring of litter and micro-litter and of impacts on marine biota, where necessary, as per its GES definition.

On energy, including underwater noise (Descriptor 11):

- (m) continue development and implementation of a monitoring programme for underwater noise.

20. United Kingdom

OVERALL CONCLUSION

Overall, the monitoring programme of United Kingdom constitutes a partially appropriate framework to meet the requirements of Directive 2008/56/EC and to measure progress towards the achievement of good environmental status (GES).

The United Kingdom reports that its monitoring programme will be fully in place to measure progress towards GES by 2020 at the latest, with some aspects already covered as of 2014 or 2018.

Six out of thirteen descriptor categories are sufficiently addressed in the reported monitoring programmes. These are commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11).

The United Kingdom has identified monitoring gaps, and plans to address them, for all descriptor categories except fish and cephalopods (Descriptors 1, 4 and 6), which is missing.

MAIN GUIDANCE

United Kingdom should:

- (a) Ensure immediate implementation of the whole monitoring programme** pursuant to point (iv) of Article 5(2)(a) of Directive 2008/56/EC which required implementation by 15 July 2014;
- (b) Ensure that the monitoring programme constitutes an appropriate framework** that enables full coverage of the monitoring needs for the assessment of progress towards GES;
- (c) Identify plans to address monitoring gaps where this has not been done and implement those plans.**

The UK reported under article 11 of the Marine Strategy Framework Directive (MSFD) in October 2014. In total, the UK's article 11 reporting includes 96 sub-programmes covering all descriptors, apart from non-indigenous species (Descriptor 2).

CONCLUSIONS ON MEMBER STATE-SPECIFIC TECHNICAL ASSESSMENT

The adequacy of the UK MSFD monitoring programme has been assessed by considering whether the programme and related sub-programmes are sufficient to cover the monitoring needs for the assessment of progress towards good environmental status (GES)¹²³ and achievement of environmental targets, as defined by the UK in 2012-2013.

¹²³ 'Good environmental status' (GES) is defined under Article 3(5) of the MSFD. Member States then determine GES per descriptor in accordance with Art. 9 of the MSFD.

The following table provides an overview (by descriptor) of:

- The conclusions of the technical assessment in relation to the coverage of GES and targets by the Member State's monitoring programme and sub-programmes;
- The Member State's own assessment of the date by which their monitoring programme is or will be adequate to measure progress towards GES and targets;
- Whether the Member State has provided justifications and/or plans to address gaps present as of 2014.

| Descriptor | Technical assessment | | Timeline reported | | Member State plans/justifications |
|---------------------------|----------------------|---------|-------------------|---------|-----------------------------------|
| | GES | Targets | GES | Targets | |
| D1, 4 Birds | | | 2014 | 2020 | Yes |
| D1, 4 Mammals | | | 2014 | 2014 | Yes |
| D1, 4 Fish | | | 2020 | 2020 | No |
| D1, 4 Water column | | | 2018 | 2018 | Yes |
| D1, 4, 6 Seabed | | | 2020 | 2020 | Yes |
| D2 NIS | * | * | 2020 | 2020 | Yes |
| D3 Commercial fish | | | 2020 | 2020 | Yes |
| D5 Eutrophication | | | 2014 | 2014 | Yes |
| D7 Hydro. changes | | | 2014 | 2014 | Yes |
| D8 Contaminants | | | 2014 | 2014 | Yes |
| D9 Seafood cont. | | | 2014 | 2020 | Yes |
| D10 Marine litter | | | 2018 | 2018 | Yes |
| D11 Energy/Noise | | | 2020 | 2020 | Yes |

* The UK has since clarified that a NIS monitoring strategy has been developed in 2015, which will be progressively implemented in the coming years.

| | |
|--|------------------|
| | Full coverage |
| | Partial coverage |
| | No coverage |

| |
|----------------------|
| No GES |
| No targets |
| No monitoring |

| |
|----------------------------------|
| GES not defined |
| Targets not defined |
| No monitoring programme reported |

ACHIEVEMENTS SO FAR

- The technical assessment shows that with regard to measuring progress towards GES, the UK monitoring programme is considered sufficient for a number of pressure-based descriptors, including those on commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9).

- The technical assessment also shows that the UK has developed its monitoring programme and sub-programmes in a consistent manner with its MSFD environmental targets. The UK monitoring programme is considered mostly sufficient to assess progress towards all targets except those for non-indigenous species (Descriptor 2) and hydrographical changes (Descriptor 7) and biodiversity (Descriptors 1, 4 and 6).
- The UK monitoring programme shows a high level of consistency with the standards and guidelines produced by OSPAR.
- The UK has provided plans for future work for a number of descriptors, even though it considers that its monitoring programme is, for the most part, already adequate to measure progress towards its GES and targets. This is in line with the principle of adaptive management.

ASPECTS WHERE IMPROVEMENT IS NEEDED

- According to the technical assessment, the UK monitoring programme shows a number of weaknesses that affect its monitoring coverage of GES and targets for the biodiversity descriptors (although relatively minor) and descriptors considered less advanced in terms of knowledge and methodologies, i.e. non-indigenous species (Descriptor 2), hydrographical changes (Descriptor 7) and marine litter (Descriptor 10).
- In particular for non-indigenous species (Descriptor 2), the UK is in the process of developing a specific MSFD monitoring programme. Implementation of the strategy and plans in the coming years should be ensured.

OUTCOME OF DESCRIPTOR-SPECIFIC ASSESSMENT

The UK should:

In general:

- (a) continue to integrate monitoring programmes already existing under relevant EU legislation and other international agreements, in particular the Habitats Directive¹²⁴, the Birds, Directive¹²⁵, the Water Framework Directive¹²⁶, the Common Fisheries Policy and the Invasive Alien Species Regulation¹²⁷ with MSFD monitoring programmes, while at the same time ensuring that MSFD-specific monitoring needs are appropriately met in terms of spatial scope as well as elements, parameters, habitats and species monitored.
- (b) continue to implement, where they exist, coordinated and joint monitoring programmes developed at regional or subregional level, for instance by OSPAR.
- (c) enhance comparability and consistency of monitoring methods within its marine region, in particular, by considering the monitoring scope, coverage, frequency and choice of indicators with practices at the regional level.

¹²⁴ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

¹²⁵ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

¹²⁶ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

¹²⁷ Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species (OJ L 317, 4.11.2014, p. 35)

In particular:

On biodiversity (in particular for Descriptors 1, 4 and 6):

- (d) further develop its biodiversity monitoring sub-programmes to addresses weaknesses which relate to the coverage of specific species and species groups (e.g. in the case of birds and fish).

On non-indigenous species (Descriptor 2):

- (e) further develop and implement a monitoring programme as soon as possible

On hydrographical changes (Descriptor 7):

- (f) ensure that the spatial extent and change in habitats due to altered hydrographical conditions, is monitored and assessed.

On marine litter (Descriptor 10):

- (g) develop its monitoring to cover micro-litter and, where necessary, the impacts of litter on biota, as per GES definition.

PART II – SUMMARY FINDINGS AND RECOMMENDATIONS PER MEMBER STATE ON THEIR INITIAL ASSESSMENT, GES DETERMINATIONS AND ENVIRONMENTAL TARGETS, REPORTED UNDER ARTICLE 9(2) AND 10(2) OF DIRECTIVE 2008/56/EC

This Annex only contains Member State-specific recommendations on their initial assessment (Article 8 of Directive 2008/56/EC), GES determination (Article 9 of Directive 2008/56/EC), and environmental targets (Article 10 of Directive 2008/56/EC), **for those Member States that were not part of the Commission's first assessment¹²⁸ (Croatia and Malta) and for Member States that had only reported partially under the first implementation phase of the Directive** (Portugal, Bulgaria and United Kingdom).

For Portugal and the United Kingdom, the Commission's initial recommendations under its 2014 assessment were updated to reflect the data on Macaronesia for Portugal and on Gibraltar for the United Kingdom. For Bulgaria, the Commission's assessment only concerns Bulgaria's reporting on its initial assessment (Article 8 of Directive 2008/56/EC), which was missing from the Commission's report in 2014.

Poland is not part of this exercise, since, at the time of preparation of this report, Poland had still not reported on its environmental targets under Article 10¹²⁹. The Commission has therefore not been able to assess its environmental targets.

This Annex gives a summary per Member State of the findings in the Member State-specific technical assessments, made by the Commission's consultants on the basis of the Member State's reporting per descriptor and general questionnaire. It describes some general features and highlights, per article, strong and weak points; it addresses identified gaps in knowledge and information and plans to address them and concludes with recommendations.

¹²⁸ Report from the Commission to the Council and the European Parliament "The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance" COM(2014)097 final, and its accompanying Commission Staff Working Document, 20.2.2014, SWD(2014) 49 final, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0049&from=EN>

¹²⁹ Poland reported on its environmental targets under Article 10 in November 2015. The Commission intends to assess Poland's environmental targets, along with the other elements of its marine strategy already reported, as part of its next assessment exercise (along with other Member States' programmes of measures).

1. Bulgaria

GENERAL ISSUES

Bulgaria was due to report on its initial assessment (Article 8 of Directive 2008/56/EC), GES determination (Article 9 of Directive 2008/56/EC), and environmental targets (Article 10 of Directive 2008/56/EC) by 15 October 2012.

However, Bulgaria reported late, which only allowed the Commission services to assess the Bulgarian implementation of Articles 9 and 10 of Directive 2008/56/EC in the 2014 Commission report. Bulgaria submitted its paper reports, including an initial assessment report in three parts, on 6 June 2013.

Below is the evaluation by the Commission services of Bulgaria's implementation of Article 8 on the basis of this report, which complements the evaluation on Articles 9 and 10 published in 2014.

INITIAL ASSESSMENT (ART. 8)

Strong points

Bulgaria usefully referred to the Bucharest Convention and where relevant to other Regional Sea Conventions (OSPAR and HELCOM). It also made an effective use of existing data and efforts are made to provide a quantification of various parameters.

Data and knowledge gaps are identified for each descriptor and for certain descriptors, high-level recommendations are provided to address gaps.

Assessment areas are defined and specific threshold values are attributed for each assessment area for certain descriptors (e.g. eutrophication (Descriptor 5)).

Finally, Bulgaria also reports on confidence levels in its assessment.

Weak points

For several descriptors (such as eutrophication (Descriptor 5) and contaminants (Descriptor 8)) assessment of impacts or status judgments are not provided,

The initial assessment was considered inadequate for hydrographical changes (Descriptor 7), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

A fairly detailed socio-economic analysis of marine water uses is provided, but it suffers from an information deficit on key economic indicators and environmental impact.

RECOMMENDATIONS¹³⁰

Bulgaria should:

- (a) Strengthen methodology for the socio-economic analysis allowing assessment of the degradation/restoration costs and MSFD implementation costs/benefit analysis.
- (b) Address knowledge gaps identified in the initial assessment, i.e. through the monitoring programme under the MSFD and research programmes, focusing on those descriptors considered as inadequate or partially adequate;
- (c) Further develop its approaches to assessing (quantifying) impacts from the main pressures to lead to improved and more conclusive assessment results for 2018 reporting.

¹³⁰ These are to be considered as additional recommendations compared to the ones concerning GES and environmental targets published in the report from the Commission to the Council and the European Parliament "The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance" COM(2014)097 final, and its accompanying Commission Staff Working Document, 20.2.2014, SWD(2014) 49 final, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0049&from=EN>

2. Croatia

GENERAL ISSUES

Marine waters

Croatian marine waters are part of the Mediterranean marine region and the Adriatic Sea sub-region.

Areas assessed

Croatia's initial assessment, characteristics of GES and associated targets have been developed for the Croatian marine waters as a whole.

Regional Cooperation

Croatia is a signatory to the Barcelona convention and it reports participation in all activities of the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP). When defining GES or targets, Croatia has not made reference to UNEP/MAP but the need for international cooperation with other Adriatic countries in setting some targets (e.g. hydrographical changes (Descriptor 7)).

Other features

The Croatian economic and social analysis of marine uses has been carried out using the water accounts approach. The assessment however lacks a lot of relevant data such as the reported value of the activities, employment and main pressures caused by the activity.

DETERMINATION OF GOOD ENVIRONMENTAL STATUS (ART 9)

Strong points

Croatia has provided a definition of GES for all descriptors.

Weak points

The approach used by Croatia to define GES varies between descriptors. In some cases it is unclear if GES is actually defined for the Descriptor, while other GES definitions are indicated as being proposals (e.g. for (Non-indigenous species (Descriptor 2)).

Overall score

Four GES definitions are considered as partially adequate (Biodiversity (Descriptor 1), Commercial fish and shellfish (Descriptor 3), Food webs (Descriptor 4) and Eutrophication (Descriptor 5)). For the latter descriptor Croatia has reported different GES definitions in the paper report and the reporting sheets. For the remaining descriptors (Non-indigenous species (Descriptor 2), Sea-floor integrity (Descriptor 6), Hydrographical changes (Descriptor 7), Contaminants (Descriptor 8), Contaminants in seafood (Descriptor 9), litter (Descriptor 10)

and Energy, including underwater noise (Descriptor 11) the determination of GES is assessed as inadequate since it does not meet the minimum requirements.

INITIAL ASSESSMENT (ART 8)

Strong points

The initial assessment is extensive for most Descriptors and where possible assessments of the current status in relation to GES have been made. The criteria and data used to assess current status in relation to GES are in most cases well explained.

Weak points

Croatia has not provided an initial assessment for Litter (Descriptor 11), although it states that some data and studies are available.

Overall score

Only the initial assessment of Contaminants in seafood (Descriptor 9) is considered as adequate based on the assessment of pressures and the provision of judgment on current status. The assessment also addresses microbial pathogens.

Four initial assessments are considered as partially adequate: non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and contaminants (Descriptor 8) mainly due to the lack of quantitative data and unclear judgment in relation to GES and limited assessment of impacts or pressures. The assessment of the biological features also belongs in this category due to limited information and the use of non-transparent methodology for the judgment of status.

Two initial assessments (hydrographical changes (Descriptor 7) and energy, including underwater noise (Descriptor 7) are considered as inadequate. The assessment carried out in relation to the pressure caused by physical loss and damage is also considered inadequate due to lack of assessment on the extent, distribution or type of damage.

Croatia has not made an initial assessment for litter (Descriptor 10).

ENVIRONMENTAL TARGETS (ART 10)

Strong points

Croatia has defined environmental targets for all descriptors.

Weak points

Although Croatia has defined environmental targets for all descriptors, the approaches taken vary per Descriptor. Targets also often lack clear thresholds and baselines.

Overall score

Only the target related to energy, including underwater noise (Descriptor 11) is considered adequate.

Targets related to biodiversity (Descriptors 1, 4, and 6), non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5) and litter (Descriptor 10) are partially adequate as they are vague, unclear, lacking ambition or baselines.

The targets of the remaining descriptors, hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9) are considered as inadequate, mainly due to the fact that they are not 'SMART'¹³¹, they are vague, and they are unclear on how they will achieve GES.

CONSISTENCY

There is a lack of consistency in the approach undertaken to set GES and environmental targets across the different descriptors. Even for biodiversity (Descriptor 1, 4 and 6), fisheries (Descriptor 3), eutrophication (Descriptor 5) and contaminants in seafood (Descriptor 9), where there is some degree of consistency there are still some issues of unclear definitions of GES and targets, discrepancies between paper report and reporting sheets.

IDENTIFIED GAPS AND PLANS TO ADDRESS THEM

While data and knowledge gaps are generally identified and described, the plans to address these gaps are usually quite vague and without details of timescale or responsibilities.

RECOMMENDATIONS

Croatia should consider:

- (a) Strengthening the methodology for the socio-economic analysis allowing assessment of the degradation/restoration costs and MSFD implementation costs/benefit analysis.
- (b) Improving GES definitions focusing on quantitative aspects and baselines, with the aim to make GES measurable, focusing especially on those descriptors assessed as inadequate or partially adequate in cooperation with the Regional Seas Convention.
- (c) Further developing its approaches to assessing (quantifying) impacts from the main pressures to lead to improved and more conclusive assessment results for 2018 reporting.
- (d) Ensuring that the targets cover all relevant pressures, are measurable, SMART and sufficiently ambitious in order to achieve the requirements and timelines of the MSFD.
- (e) Improving the consistency between the criteria used in GES, the assessment of the impact and the proposed targets.

¹³¹ S.M.A.R.T. is an acronym that is used to guide the development of measurable goals. Each objective should be: specific, measurable, achievable, relevant and time-orientated.

3. Malta

GENERAL ISSUES

Marine waters

The Maltese marine waters fall within the Ionian Sea and the Central Mediterranean Sea marine sub-region. No formal subdivision has been identified.

Areas assessed

Malta has defined in the reporting sheets a number of assessment areas for specific pressures, features and economic sectors. These assessment areas were to the extent possible delineated with existing boundaries such as the boundaries of the protected areas and the boundaries of the coastal water bodies as identified in Malta's Water Catchment Management Plan.

Reference to these assessment areas however is not systematic in the initial assessment or in the reporting on GES and targets.

Regional Cooperation

Malta describes efforts for regional cooperation made in the framework of the Barcelona Convention and in particular the Ecosystem Approach (EcAp) process. Efforts have been also made at a bilateral level with Italy. However, Malta acknowledges that due to delays in reporting on Articles 8, 9 and 10, it has not been able to take into account the whole regional scale for its initial assessment and describes regional cooperation as 'incomplete'.

Other features

No paper report on socio-economic analysis is provided although it was available since September 2013 and uploaded on the national website. The reporting sheets on socio-economic analysis are almost empty, except for metadata, as there have been some technical problems during the conversion of files to XML schemas that led to loss of data.

DETERMINATION OF GOOD ENVIRONMENTAL STATUS (ART 9)

Strong points

Almost all the descriptors under the MSFD are covered with the exception of marine food webs (Descriptor 4). For some descriptors, GES is defined at descriptor, criteria and indicator level (biological diversity (Descriptor 1), eutrophication (Descriptor 5), sea floor integrity (Descriptor 6), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9)) and in other cases GES is defined at descriptor level only (non-indigenous species (Descriptor 2),

commercial fish and shellfish (Descriptor 3), hydrographical changes (Descriptor 7), litter (Descriptor 10) and energy, including underwater noise (Descriptor 11)).

Weak points

The GES definitions are mainly qualitative and in some cases contain caveats that indicate a low level of ambition. In addition, the approach used to define GES varies (either at descriptor, criteria and indicator level or only at descriptor level). In most of the cases no threshold values, baselines or trends are provided. Thus, GES definition is not measurable.

The definition of GES for biodiversity (Descriptors 1, 4 and 6) does not contain any reference to other Union legislation or to any regional or international agreements. For non-indigenous species (Descriptor 2), it focuses specifically on "invasive" non-indigenous species and for commercial fish and shellfish (Descriptor 3) it covers only "selected" commercial species.

Overall score

Three GES definitions are considered as partially adequate, namely biological diversity (Descriptor 1), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9) as GES is defined at qualitative level. For D4 (marine food webs) Malta has not defined GES due to a lack of information and knowledge.

For the remaining descriptors non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), sea floor integrity (Descriptor 6), hydrographical changes (Descriptor 7), litter (Descriptor 10) and energy, including underwater noise (Descriptor 11), the determination of GES is assessed as inadequate since it does not meet the minimum requirements.

INITIAL ASSESSMENT (ART 8)

Strong points

The initial assessment is mainly descriptive but there is a good attempt to use existing qualitative and quantitative data where it is available. For a few descriptors (e.g. biological diversity (Descriptor 1), non-indigenous species (Descriptor 2) and contaminants (Descriptor 8) Malta has made a judgment on current status in relation to GES.

In particular, for non-indigenous species (Descriptor 2) the main vectors have been identified and a trend and judgment is provided. For commercial fish and shellfish (Descriptor 3), a comprehensive assessment of fleets, fishing stocks and fisheries impacts has been performed. Malta has reported on all relevant pressures, including microbial pathogens and ocean acidification and has reported extensively on acute pollution events.

In most cases, the initial assessments describe extensively the existing legal and policy frameworks.

Weak points

The reporting on the impacts from pressures is very limited and in many cases, no judgment on the level of pressure or trends is provided. Assessments on the current status in relation to GES are made mainly based on expert judgment. Malta has not made an assessment of the contamination of its marine waters by radionuclides.

Overall score

Three initial assessments are considered as adequate, namely non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), litter (Descriptor 10) thanks to the assessment of pressures and related impacts, the provision of judgment in relation to GES on trends, and identification of knowledge gaps.

Five initial assessments for the pressure/impact are considered as partially adequate, namely biodiversity (Descriptors 1, 4 and 6), eutrophication (Descriptor 5) and contaminants (Descriptor 8) mainly due to the lack of quantitative data and judgment in relation to GES and to limited assessment of impacts.

Three initial assessments (hydrographical changes (Descriptor 7), contaminants in seafood (Descriptor 9) and energy, including underwater noise (Descriptor 11) are considered as inadequate mainly due to limited information and the lack of judgment of status in relation to GES.

ENVIRONMENTAL TARGETS (ART 10)

Strong points

Malta has set environmental targets for almost all descriptors except D9 (contaminants in seafood). For biological diversity (Descriptor 1) targets cover the main ecosystem components, and in the case of seabirds are specific and measurable, requiring a reduction in the level of pressure. For contaminants (Descriptor 8), one target is more stringent than the GES definition, ensuring its achievement.

Weak points

Although Malta has set environmental targets for all descriptors, in some cases indicators still need to be developed or choices need to be made in the final parameter to be measured.

Many environmental targets are knowledge targets related to better knowledge (i.e. non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), contaminants (Descriptor 8), litter (Descriptor 10) and energy, including underwater noise (Descriptor 11). Some targets are phrased very similar to the GES definitions (i.e. eutrophication (Descriptor 5)).

Generally, the targets show a low level of ambition.

In most cases, neither threshold values nor baselines are provided.

Overall score

Targets related to biological diversity (Descriptor 1) and contaminants (Descriptor 8) are partially adequate. Targets for contaminants in seafood (Descriptor 9) are not reported.

The targets of all the remaining descriptors (non-indigenous species (Descriptor 2), commercial fish and shellfish (Descriptor 3), marine food webs (Descriptor 4), (eutrophication (Descriptor 5), sea floor integrity (Descriptor 6), hydrographical changes (Descriptor 7), litter (Descriptor 10) and energy, including underwater noise (Descriptor 11)) are considered as inadequate, mainly due to the fact that they are not SMART, they are vague, and they are unclear on how they will achieve GES.

CONSISTENCY

For biodiversity and contaminants, Malta has taken an approach of coupling the GES definition with the targets, keeping the GES at high qualitative level and providing more specific targets. For non-indigenous species (Descriptor 2) the consistency between the assessment of pressures and impacts and the definition of GES and setting of environmental targets is high. Low consistency has been reported for commercial fish and shellfish (Descriptor 2), hydrographical changes (Descriptor 7), litter (Descriptor 10) and energy, including underwater noise (Descriptor 11). For eutrophication (Descriptor 5) it was not possible to assess consistency, since it was unclear what Malta intends to monitor and use as indicators for the assessment of the relevant pressures and their impacts.

IDENTIFIED GAPS AND PLANS TO ADDRESS THEM

Data gaps are well identified and explained for all different pressures and features of the initial assessment. However, plans to address data gaps have not been clearly addressed and knowledge targets remain very general. Malta specifies that the monitoring programme will address the data gaps in order to apply the criteria and indicators missing in the next implementation cycle.

RECOMMENDATIONS

Malta should:

- (a) Improve GES definitions focusing on quantitative aspects and baselines, with the aim to make GES measurable.
- (b) Address identified knowledge gaps identified in the initial assessment, i.e. through the monitoring programme under the MSFD and research programmes, focusing on those descriptors considered as inadequate or partially adequate.
- (c) Further develop its approaches to assessing (quantifying) impacts from the main pressures to lead to improved and more conclusive assessment results for 2018 reporting.

- (d) Ensure that the targets cover all relevant pressures, are measurable, SMART and sufficiently ambitious in order to achieve the requirements and timelines of the MSFD.

4. Portugal (Azores and Madeira)

GENERAL ISSUES

Marine waters

Portugal reported for its continental sub-division (i.e. mainland waters) and for its extended continental shelf area beyond 200 nm in 2012. The reports on the Azores and Madeira islands (Macaronesia) were submitted on 9 January 2015.

Areas assessed

Regarding the continental, Azores and Madeira sub-divisions, Portugal has used various assessment areas depending on the descriptor, based on the geographical boundaries and the specificities of the descriptor. For the extended continental shelf, Portugal chose five areas corresponding to the OSPAR marine protected areas. However, it does not focus specifically on the subsoil and seabed, which is precisely where its jurisdictional rights are when it comes to the extended shelf.

Regional cooperation

Portugal shows efforts to ensure regional coordination, within regional conventions and through bilateral contacts with Spain and France. These are extensively described. Portugal also refers often to OSPAR and ICES background documents, mainly in the initial assessment.

Other features

Portugal has followed a water account approach for its economic and social analysis. The methodology has been comprehensively described for each of the marine sub-divisions. The average level of confidence in the results is high as they are based on statistical and other credible sources. The cost of degradation has been estimated following a cost-based approach. Portugal intends to develop further the analysis of the cost of degradation by the end of 2013 so that the results are available on time for the preparation of the programme of measures.

DETERMINATION OF GOOD ENVIRONMENTAL STATUS (ART. 9)

Strong points

Portugal has reported on GES for all descriptors in the continental and Madeira subdivisions.

Weak points

In general terms the report is unclear with regards to the definition of GES. Moreover, there are insufficient details provided so as to evaluate if and when GES level is achieved. In addition, Portugal reported on GES only for eutrophication (Descriptor 5) and contaminants (Descriptor 8) in the Azores subdivision.

Overall score

Contaminants in seafood (Descriptor 9) is partially adequate since it refers to official levels and is measurable. All the other descriptors are inadequate as they are defined at descriptor level only and lack specificity and baselines.

INITIAL ASSESSMENT (ART. 8)

Strong points

Portugal has made a comprehensive assessment of the relevant types and causes of pressures, physical loss and damage in its marine waters, including microbial pathogens. It provides a detailed description of the assessment of contamination in fish and seafood. Portugal acknowledges that information on the full spatial distribution and intensity of physical loss and damage is not homogeneous and therefore the assessment areas vary depending on the specific indicators and the information available.

Weak points

The main pressures on each seabed habitat type have not been identified.

Portugal considers that GES is currently achieved for several descriptors in spite of acknowledging that due to insufficient information it is not possible to draw conclusive judgment on the physical losses and damages.

Overall score

An assessment of underwater noise was not made. Five descriptors have been assessed partially adequate, namely commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and contaminants in seafood (Descriptor 9) because of lack of information on impacts. The remaining descriptors are assessed as adequate.

ENVIRONMENTAL TARGETS (ART. 10)

Weak points

Portugal has in many cases defined targets as plans to address information and data gaps or to increase the knowledge rather than as targets defined to reach GES. Portugal has set a limited number of specific targets which are in most cases neither state, impact or pressure targets, and not measurable. Portugal did not define specific environmental targets for the biodiversity descriptors in the continental subdivision.

Overall score

All the environmental targets are assessed as being inadequate or not reported on, except for D3 (commercial fish and shellfish) which is assessed to be partially adequate in the continental subdivision.

CONSISTENCY

The approach used by Portugal for defining GES and setting targets is inconsistent. GES is defined in general terms and at high level and targets are missing.

IDENTIFIED GAPS AND PLANS TO ADDRESS THEM

Portugal discusses data and knowledge gaps in a very comprehensive manner. Logically, the extended continental shelf is the area where information is most scarce. Many targets aim at addressing data and knowledge gaps through research and monitoring. However, they are very general and are not time-bound. Several gaps in knowledge have no specific plans to address the problems.

RECOMMENDATIONS

Portugal should:

- (a) Provide additional GES definitions in the Azores subdivision;
- (b) Strengthen the GES definition of the biodiversity descriptors which goes beyond what is in existing legislation;
- (c) Improve GES definitions including through regional cooperation using the work of the Regional Seas Convention as much as possible focusing on quantitative aspects and baselines, with the aim to make GES measurable, focusing especially on those descriptors assessed as inadequate or partially adequate;
- (d) Address knowledge gaps identified in the initial assessment, i.a. through the monitoring programme under the MSFD and research programmes, focusing on those descriptors considered as inadequate or partially adequate;
- (e) Ensure that the targets cover all relevant pressures, are SMART and sufficiently ambitious in order to achieve the requirements and timelines of the MSFD;
- (f) Improve the consistency between the criteria used in GES, the assessment of the impact and the proposed targets.

5. United Kingdom (Gibraltar)

GENERAL ISSUES

Marine waters

The UK's marine waters fall within the North-East Atlantic Ocean region and two of its subregions (the Celtic Seas and the Greater North Sea), and in the Mediterranean Sea region within the Western Mediterranean Sea subregion.

Their marine waters in the North-East Atlantic Ocean region include coastal waters, as defined under the Water Framework Directive, and a Renewal Energy Zone (REZ). An area of Continental Shelf beyond the REZ (the Hatton Rockall area) is also included, whilst another Continental Shelf area beyond the REZ awaits the outcomes of UNCLOS processes and so is not yet included in the UK's MSFD marine strategy. In the Mediterranean Sea region their marine waters extend out to 3 nautical miles of Territorial Seas around Gibraltar.

There are areas of overlap and gaps with the marine waters reported by Ireland at both the coastal boundaries with Ireland and the median line boundary in the Irish Sea and Celtic Sea. The marine waters around Gibraltar overlap with those claimed by Spain.

Areas assessed

For the purposes of reporting on MSFD Articles 9 and 10 the UK has defined GES and targets for the UK marine waters in the North-East Atlantic Ocean region as a whole, but reflecting significant biogeographical differences between the two subregions, if needed. For MSFD Article 8, the UK has used eight biogeographically-defined assessment areas for their marine waters of the Greater North Sea and Celtic Seas subregions.

The UK indicates that the boundaries between the Celtic Seas and Greater North Sea subregions are still under consideration.

The waters around Gibraltar are reported separately as a single assessment area for Articles 8, 9 and 10.

Regional cooperation

The UK is party to the OSPAR Convention. Efforts for regional coordination within the OSPAR convention, as well as bilaterally with neighbouring countries in the North-East Atlantic Ocean region, are extensively described.

In the Mediterranean, the UK is seeking to become a party to the Barcelona Convention to enable them to take a more active role in regional coordination.

Other features

For the North-East Atlantic Ocean region, the UK has used the ecosystem-services approach for their economic and social assessment and to estimate the costs of degradation, with its assessment undertaken at the UK level. It notes that it will develop its data at a scale more suited to MSFD implementation in time for the next (2018) assessment.

Only a brief socio-economic assessment, addressing water desalination and port facilities, has been presented for Gibraltar.

DETERMINATION OF GOOD ENVIRONMENTAL STATUS (ART. 9)

For the North-East Atlantic Ocean region, please refer to the Commission Staff Working Document accompanying the Commission Report on the first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC), published on 20 February 2014¹³².

For the Mediterranean region (relevant for Gibraltar):

Strong points

The UK addresses GES for all descriptors, excepting for commercial fish and shellfish (Descriptor 3) and contaminants in seafood (Descriptor 9), even though the UK indicates there are commercial fishing activities in their marine waters. The Decision criteria for D1 biological diversity (Descriptor 1), eutrophication (Descriptor 5), sea floor integrity (Descriptor 6), contaminants (Descriptor 8), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11) are incorporated (typically into a more general GES definition).

They have used existing Union standards for contaminants (Environmental Quality Standards values) under D8 (contaminants); further, concentrations of contaminants should not increase, even if currently below regulatory maximum levels.

Weak points

GES is defined mainly at the descriptor level and is generally only qualitative and therefore not measurable. There is limited or no use of the Decision criteria for non-indigenous species (Descriptor 2), marine food webs (Descriptor 4) and hydrographical changes (Descriptor 7). A determination of GES for commercial fish and shellfish (Descriptor 3) and contaminants (Descriptor 9) may be applicable for Gibraltar's waters, even though there is no UK commercial fishing and a majority of seafood for sale comes from beyond Gibraltar's waters.

Overall score

Energy, including underwater noise (Descriptor 11) is assessed as adequate.

¹³² Commission Staff Working Document - Annex Accompanying the document "Commission Report to the Council and the European Parliament - The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) - The European Commission's assessment and guidance", 20.2.2014, SWD(2014) 49 final, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0049&from=EN>

Biological diversity (Descriptor 1), non-indigenous species (Descriptor 2), contaminants (Descriptor 8) and marine litter (Descriptor 10) are assessed as partially adequate, as they either do not fully address the Decision criteria or they lack key elements or specificity.

Commercial fish and shellfish (Descriptor 3), marine food webs (Descriptor 4), eutrophication (Descriptor 5), sea-floor integrity (Descriptor 6), hydrographical changes (Descriptor 7) and contaminants in seafood (Descriptor 9) are assessed as inadequate, as they either do not cover all criteria, are not specific enough to be measurable, or have not been reported.

INITIAL ASSESSMENT (ART. 8)

For the North-East Atlantic Ocean, please refer to the Commission Staff Working Document accompanying the Commission Report on the first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC), published on 20 February 2014.

For the Mediterranean region (relevant for Gibraltar)::

Strong points

The initial assessment addresses all descriptors; most main pressures have been identified and reported on. Biodiversity assessments make use of Habitats and Birds Directive assessments.

Weak points

For most descriptors, assessments are generally qualitative, with few conclusive judgments on current environmental status. There is limited or no assessment of physical disturbance pressures, non-indigenous species, commercial fish species and litter. Overall, there is limited assessment of impacts from pressures.

Overall score

For biological diversity (Descriptor 1), commercial fish and shellfish (Descriptor 3), marine food webs (Descriptor 4), sea floor integrity (Descriptor 6), hydrographical changes (Descriptor 7), contaminants (Descriptor 8) and energy, including underwater noise (Descriptor 11) the initial assessment is considered partially adequate, with several key elements missing or poorly assessed and limited assessments of impacts.

For physical loss and damage, and for non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), contaminants in seafood (Descriptor 9) and marine litter (Descriptor 10) the initial assessment is considered inadequate, due to the limited information provided on the pressures, on their impacts and to a lack of conclusion on current environmental status.

ENVIRONMENTAL TARGETS (ART. 10)

For the North-East Atlantic Ocean: please refer to the Commission Staff Working Document accompanying the Commission Report on the first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC), published on 20 February 2014.

For the Mediterranean region (relevant for Gibraltar)::

Strong points

Environmental targets are provided for D2 (non-indigenous species), D4 (marine food webs), D6 (sea floor integrity) and D7 (hydrographical changes).

Weak points

The targets provided are not sufficiently clear or SMART to be measurable, or do not address key elements (e.g. mobile species groups). There are no targets provided for commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11) or for water column and seabed habitats (Descriptors 1, 4 and 6). The targets for marine birds, mammals and fish are mostly best considered as expressions of GES.

Overall score

The targets for biodiversity (Descriptors 1, 4 and 6) have been assessed as partially adequate since they lack some coverage (e.g. water column and seabed habitats), or are better considered as GES definitions.

The targets for non-indigenous species (Descriptor 2) and hydrographical changes (Descriptor 7) are considered inadequate as they lack specification and are therefore not measurable.

There are no targets for commercial fish and shellfish (Descriptor 3), eutrophication (Descriptor 5), contaminants (Descriptor 8), contaminants in seafood (Descriptor 9), marine litter (Descriptor 10) and energy, including underwater noise (Descriptor 11).

CONSISTENCY

For the Mediterranean region, there are a number of inconsistencies between the determinations of GES, the initial assessments and the environmental targets (e.g. for non-indigenous species (Descriptor 2), eutrophication (Descriptor 5), contaminants (Descriptor 8).

IDENTIFIED GAPS AND PLANS TO ADDRESS THEM

For the North-East Atlantic Ocean region, as a rule, extensive justification/explanation is provided on gaps in data/knowledge and assessment methodology, accompanied most of the time by plans to close these gaps, albeit generally rather vague. This aspect is less clear for Gibraltar.

RECOMMENDATIONS

The UK should:

For the North-East Atlantic Ocean region, please refer to the Commission Staff Working Document accompanying the Commission Report on the first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC), published on 20 February 2014.

For the Mediterranean region (relevant for Gibraltar):

- (a) Strengthen the GES determinations for all descriptors, making them more clearly assessable by focusing on quantitative aspects and baselines;
- (b) Improve the coherence of the GES definitions by linking them, where appropriate, to existing EU legislation, and by improving their consistency in the region or subregion, including through regional cooperation using the work of the Regional Sea Convention;
- (c) Further develop its approaches to assessing (quantifying) impacts from the main pressures to lead to improved and more conclusive assessment results for 2018;
- (d) Strengthen the measurability of the environmental targets, introducing them where currently lacking, and ensuring they focus on the reductions in pressures and impacts that are needed to achieve GES.