

Good Environmental Status and Environmental Targets:

Descriptors 8 & 9

1.1 Introduction

This report outlines the Good Environmental Status (hereinafter referred to as 'GES') and environmental targets established to achieve GES in terms of MSFD Descriptors 8 and 9 reproduced hereunder:

Descriptor 8: Concentrations of contaminants are at levels not giving rise to pollution effects

Descriptor 9: Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards

1.2 Selection of relevant criteria and indicators

Determination of GES was made in consideration of the criteria and indicators stipulated by Commission Decision 2010/477/EU for Descriptors 8 and 9, listed hereunder:

- Criterion 8.1: Concentration of contaminants
 - Concentration of the contaminants which:
 - (i) exceed the relevant Environmental Quality Standards set out pursuant to Article 2(35) and Annex V to Directive 2000/60/EC in coastal or territorial waters adjacent to the marine region or sub-region, be it in water, sediment and biota; and/or
 - (ii) are listed as priority substances in Annex X to Directive 2000/60/EC and further regulated in Directive 2008/105/EC, which are discharged into the concerned marine region, sub-region or subdivision; and/or
 - (iii) are contaminants and their total releases (including losses, discharges or emissions) may entail significant risks to the marine environment from past and present pollution in the marine region, sub-region or subdivision concerned, including as a consequence of acute pollution events following incidents involving for instance hazardous and noxious substances; measured in the relevant matrix (such as biota, sediment and water) in a way that ensures comparability with the assessment under Directive 2000/60/EC (8.1.1).

- Criterion 8.2: Effects of contaminants.
 - Levels of pollution effects on the ecosystem components concerned, having regard to the selected biological processes and taxonomic groups where a cause/effect relationship has been established and needs to be monitored (8.2.1);
 - Occurrence, origin (where possible), extent of significant acute pollution events (e.g. slicks from oil and oil products) and their impact on biota physically affected by this pollution (8.2.2)

- Criterion 9.1: Levels, number and frequency of contaminants
 - Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels (9.1.1);
 - Frequency of regulatory levels being exceeded (9.2.2)

The current data scenario does not permit the full application of all relevant criteria and indicators. In particular, knowledge of the effects of contaminants on ecosystems or biota is very limited in Malta. Research efforts to date have focused on the effects of tributyltin (a synthetic compound mainly used for antifouling practices) on marine gastropods. Although knowledge gained through such research is very valid, it is not deemed sufficient in articulating the desired levels of pollution effects on ecosystem components as per MSFD indicator 8.2.1. This is also in view of the fact that the effects of contaminants, which as per outcome of the MSFD Initial Assessment have exceeded established or proposed Environmental Quality Standards through one or more monitoring events, or, in the absence of set or proposed EQS, are associated with detectable concentrations in the marine environment, have not been studied in Malta. In this regard, it was not deemed possible to articulate a desired state or GES on the level of effects of contaminants in terms of indicator 8.2.1 at this stage. The MSFD monitoring programme will be assessing potential approaches to address the current data gaps in this regard.

1.3 Good Environmental Status

The definition of Good Environmental Status for Descriptor 8 was based on the principles set out by the EU Water Framework Directive (hereinafter referred to as 'WFD') while acknowledging the fact that MSFD Descriptor 8 goes beyond the requirements of the WFD. The WFD calls for achievement of 'Good Surface Water Chemical Status' in coastal waters, which waters are mostly affected by land-based activities. The MSFD requirements would go beyond WFD requirements in terms of extent of marine waters under consideration, hence also in terms of sea-based sources of pollution. Matters which go beyond the requirements of the WFD are as much as possible addressed through the establishment of environmental targets. The proposed GES for criterion 8.1 (concentration of contaminants) would apply to the contaminants listed in the Priority Substances Directive and other contaminants

which are monitored as part of the WFD monitoring regime. This would allow streamlining of the monitoring obligations emanating from the two Directives.

Definition of GES in terms of Indicator 8.2.2 on the occurrence, origin and extent of significant pollution events builds on the requirements of the ‘Protocol concerning cooperation in preventing pollution from ships and in cases of emergency combating pollution of the Mediterranean Sea’, within the framework of the Barcelona Convention. The proposed GES for this indicator is distinguishing between the main sources of significant pollution events, namely shipping and associated port operations together with land-based activities, and hydrocarbon exploration and exploitation. Such distinction is mainly due to the different marine areas which would be affected by pollution events which may result from the different activities, hence the need to apply GES at different scales. GES related to significant pollution events from shipping, port operations and land-based activities would apply at the scale of the assessment area identified for the purposes of the Initial Assessment, while GES for significant pollution events from hydrocarbon exploration and exploitation would apply within the marine areas designated for such purpose.

GES for Descriptor 9 reflects the requirements of EC regulation on contaminants in foodstuff (EC regulation 1831 of 2003 as amended).

The proposed GES for the relevant criteria and indicators are listed in Table 1.

Table 1: Proposed Good Environmental Status and related criteria and indicators

Proposed GES	Related Criteria	Indicators
Concentration of selected contaminants in relevant matrices is in line with set environmental quality standards, or otherwise in line with undisturbed conditions.	8.1 Concentration of contaminants	Concentration of the contaminants mentioned above, measured in the relevant matrix (such as biota, sediment and water) in a way that ensures comparability with the assessments under Directive 2000/60/EC (8.1.1)
Significant acute pollution events resulting from shipping and related operations, and land-based activities, are, in so far as possible, prevented, with any pollution incidents effectively controlled and assessed with a view to avoid significant pollution effects.	8.2 Effects of contaminants	Occurrence, origin (where possible), extent of significant acute pollution events (e.g. slicks from oil and oil products) and their impact on biota physically affected by this pollution (8.2.2)
Significant acute pollution events resulting from hydrocarbon exploration and exploitation are, in so far as possible, prevented, with any pollution incidents effectively		

<p>controlled and assessed with a view to avoid significant pollution effects.</p>		
<p>Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.</p>	<p>9.1 Levels, number and frequency of contaminants</p>	<p>Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels (9.1.1) Frequency of regulatory levels being exceeded (9.1.2).</p>

1.4 Environmental Targets and Associated Indicators

This section outlines the environmental targets and associated indicators set in relation to Descriptors 8 and 9 with a view to achieve the GES with respect to the selected criteria and indicators.

The establishment of environmental targets for these descriptors takes into consideration the following:

- the outcome of the MSFD Initial Assessment providing an indication of the current status of the marine environment in terms of contaminants mainly on the basis of the results of the first monitoring year for the Water Framework Directive;
- measures which have already been put forward by Malta's Water Catchment Management Plan (hereinafter referred to as 'WCMP') aimed at the achievement of Good Surface Water Chemical Status.

Efforts were made to avoid duplication of work as a result of establishment of targets which would already be addressed through the implementation of the WCMP measures. For ease of reference, such measures are reproduced in Table 2 and linked to the relevant MSFD criteria and indicators and potential issues raised by the MSFD Initial Assessment.

On the other hand, state-based targets were identified in order to cater for the requirements of the MSFD, while acknowledging the fact that such targets would reflect WFD's objectives for coastal waters only. Achievement of such state-based targets however depends on the establishment of Environmental Quality Standards, which are not currently available for contaminants in sediments and biota. Within this context, the proposed state-based target is once again building on the measures put forward by Malta's WCMP.

In addition, interim targets are being proposed with a view to improve current state of knowledge on MSFD aspects which go beyond the requirements of the WFD or to address current deficiencies in data as identified through the MSFD Initial Assessment. Achievement of such interim targets would allow articulation of realistic GES targets in the future.

The list of proposed targets is provided in Table 3.

Table 2: List of measures put forward by Malta's Water Catchment Management Plan in relation to MSFD criteria and the outcome of the MSFD Initial Assessment

MSFD Criteria	Outcome of MSFD Initial Assessment	Relevant WCMP measure
8.1 Concentration of contaminants	Concentration of non-synthetic substances exceeding (on a one-off basis) set or proposed Environmental Quality Standards, pending establishment of background levels for such contaminants and establishment of Environmental Quality Standards in sediments and biota.	Create a pollution abatement programme for priority hazardous substances, priority substances and other substances of concern.
		Develop tools to link environmental quality standards (chemical) to emission limits for marine discharges.
		Adopt a regulatory framework for industrial operational practices.
		Improve the regulatory system for industrial discharges into the public sewerage network.
		Monitor dumping operations at the spoil ground
	Concentration of contaminants in harbour areas	Develop and implement harbour environmental management plans with stakeholders.
8.2 Effects of contaminants Occurrence, origin (where possible), extent of significant acute pollution events (e.g. slicks from oil and oil products) and their impact on biota physically affected by this pollution (8.2.2)	Not applicable	Set up an environmental pollution emergency response team. An emergency response team of officers is responsible for carrying out immediate on-site assessment in the locality of the reported pollution incident and for carrying out pollution mitigation of groundwater, coastal waters and protected inland surface waters environments.

Table 3: Proposed Interim Targets to achieve GES in relation to MSFD Descriptors 8 and 9. State-based targets are highlighted in blue, operational targets in green and interim targets in yellow.

Good Environmental Status	Environmental Target	Feature	Indicators
<p>Concentration of selected contaminants in relevant matrices is in line with set environmental quality standards, or otherwise in line with undisturbed conditions.</p>	<p>Long-term monitoring of selected contaminants is indicative of acceptable levels of contaminants, with no deterioration trends for non-synthetic and synthetic contaminants in relevant matrices.</p>	<p>Contaminants listed in the Priority Substances Directive and other substances of concern, as monitored through the EU Water Framework Directive.</p>	<p>Concentration of contaminants in relevant matrices.</p>
	<p>Achieve better understanding of sea-based sources of pollution, through a risk assessment of potential contributions of maritime sectors to contamination in the marine environment, also taking into consideration current measures pursuant to international maritime policies and agreements.</p>	<p>Maritime sectors</p>	<p>Level of knowledge on the extent to which maritime sectors contribute to contamination of the marine environment</p>
<p>Significant acute pollution events resulting from shipping and related operations, and land-based activities are, in so far as possible, prevented, with</p>	<p>Setting up a system for collecting, recording and reporting information on significant pollution incidents in line with the requirements of</p>	<p>Pollution incidents resulting from shipping and related operations and other land-based activities</p>	<p>Information on reporting system</p>

<p>any pollution incidents effectively controlled and assessed to avoid significant pollution effects.</p>	<p>the MSFD, with a view to better understand significance and trends, and to inform any necessary response (strategic as well as incident-related)</p>		
<p>Significant acute pollution events resulting from hydrocarbon exploration and exploitation are, in so far as possible, prevented, with any pollution incidents effectively controlled and assessed with a view to avoid significant pollution effects.</p>		<p>Pollution incidents resulting from hydrocarbon exploration and exploitation.</p>	