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COMMISSION STAFF WORKING DOCUMENT

Member State : Malta

Accompanying the document

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the Implementation of the Water Framework Directive (2000/60/EC)

River Basin Management Plans

{COM(2012) 670 final}

1. GENERAL INFORMATION

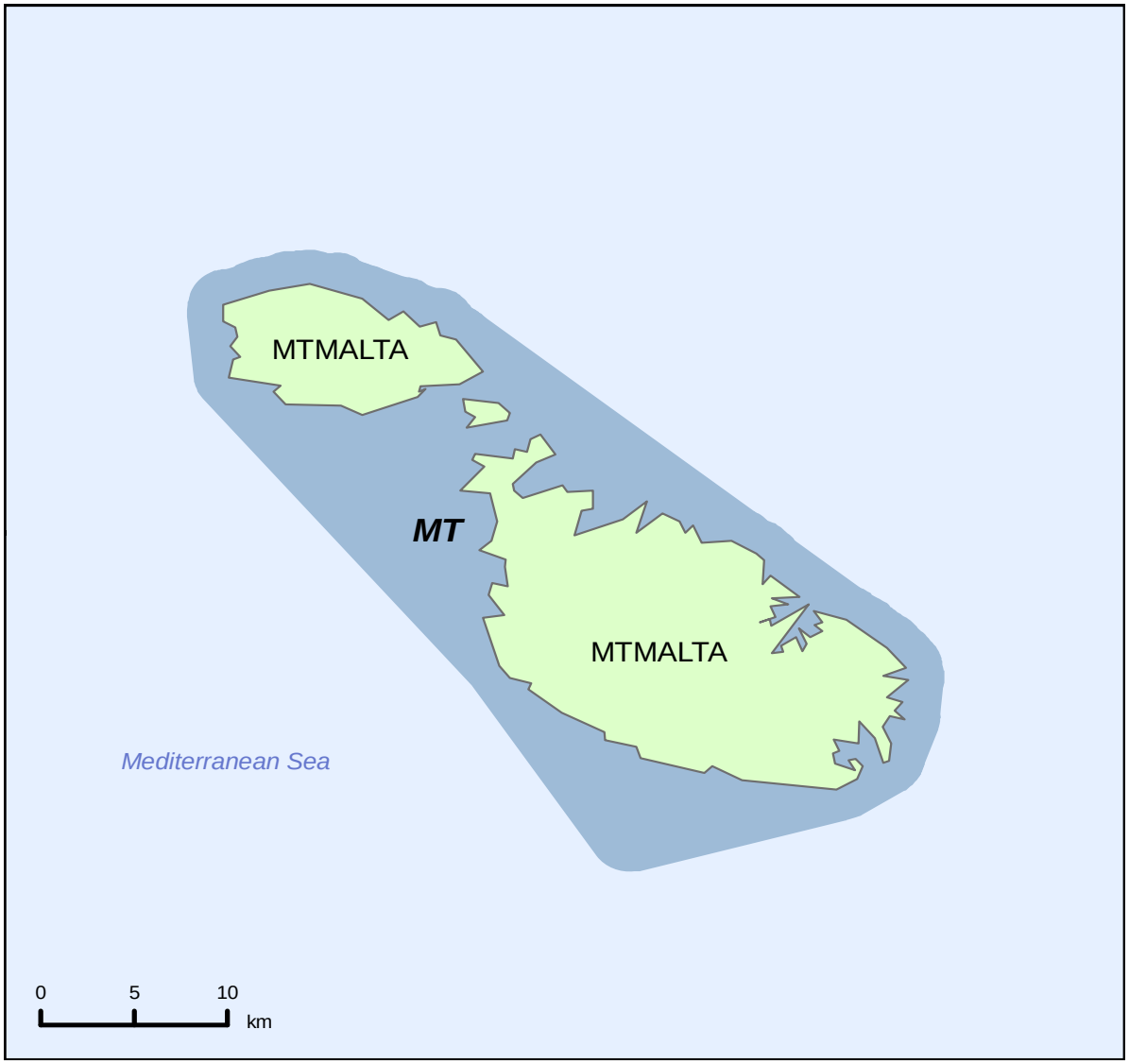

Figure 1.1: *Map of River Basin District*

International River Basin Districts (within EU)
International River Basin Districts (outside EU)
National River Basin Districts (within EU)
Countries (outside EU)
Coastal Waters

Source: *WISE, Eurostat (country borders)*

Malta has a population of 0.4 million and a total surface area greater than 316 km^2. Malta is a group of seven islands in the Mediterranean Sea. Only the three largest islands - Malta, Gozo and Comino - are inhabited. The terrain is low and rocky with coastal cliffs.

Malta has identified one river basin district[1]. It is 316 km^2 and covers the country's territory[2].

The Malta RBD does not share catchments with other Member States or with other countries.

2. STATUS OF RIVER BASIN MANAGEMENT PLAN REPORTING AND COMPLIANCE

2.1 Adoption of the RBMPs

In Malta the RBMP is adopted by the Malta Resources Authority and the Malta Environment and Planning Authority.

The Maltese RBMP was adopted in March 2011.

2.2 Key strengths and weaknesses

A strength of Malta's RBMP is that the document is well-structured, the pressures and impacts are clearly identified and described. Public participation was carried out extensively including the active involvement of the relevant stakeholders.

The measures to be undertaken are described in the RBMP in sufficient level of detail and the costs of the PoM are clearly stated and calculated. The measures included in the PoM were assessed as to their usefulness in tackling climate change ('climate checked') based on a transparent methodology.

A range of weaknesses exist, however. The weakness of monitoring and the status assessment and the justification for the exemptions are particularly worrying.

- Inland surface waters were excluded from the RBMP; no inland surface waters were designated.
- There are no data available to determine the status of the water bodies required by the WFD as the monitoring programme for coastal waters (i.e. the only designated surface water category) was not yet operational when preparing the first RBMP. Therefore GES is established only according to a draft methodology and assessment methods for BQEs and other QEs are described generally or not at all.
- Private groundwater abstractions as a major pressure on GW bodies and GW tables are not monitored adequately.
- "Technical feasibility" is used as a reason to apply exemptions; however, the definition of technical feasibility is insufficient.
- The problem of water scarcity or over-abstraction is not considered a concern in the RBMP, although 4 groundwater bodies (26%) are in poor quantitative status

[1] This MS Annex reflects the information reported by the MS to WISE which may have been updated since the adoption of the RBMP. For this reason there may be some discrepancies between the information reported in the RBMP and WISE.

[2] European Commission - http://europa.eu/about-eu/countries/member-countries/malta/index_en.htm

and water abstraction for agriculture is deemed to be a significant pressure in 5 groundwater bodies.

3. GOVERNANCE

3.1 RBMP Timelines

The date of publication of RBMP is March 2011: this is behind the due dates set, inter alia, in Article 14 of the WFD.

3.2 Administrative arrangements - river basin districts and competent authorities

There are two competent authorities in Malta, the Maltese Resource Authority (MRA) that is responsible for inland waters including groundwater and the Maltese Environment and Planning Authority (MEPA) that is responsible for coastal waters and protected areas. The co-ordination mechanisms that were in place during the preparation of the river basin management plan (RBMP) between the two main competent authorities are unclear as well as any co-ordination with other Ministerial departments.

After the adoption of the RBMP an Interministerial Water Committee was established for co-ordination of the implementation of the plan, but the composition of this Committee was not reported.

3.3 RBMPs - Structure, completeness, legal status

There is a national approach in Malta in RBM planning.

There is one sub-plan attached to the main document dealing with climate change.

Strategic Environmental Assessment (SEA) was carried out in a separate document (Environmental report). It is not clear whether it had any influence on the RBMP.

The Ministry of the Environment adopts the RBMPs with a Decision. As regards the legal status of the RBMP, it is a planning document and does not have the status of a law. It is adopted by government authorities (the executive) and not the parliament (the legislature). Nevertheless, it originates from a legal obligation and is instrumental to the fulfilment of EU requirements. It is reasonable to state that water policy should be consistent with the RBMP and it could therefore be seen to have some form of legal value that gives it a higher status than that of other acts of the competent authority such as guidelines and decisions. However, the legal effect of the RBMP is not regulated although the RBMP itself states that it has 'legal value'. It leaves it up to a co-ordinated and integrated approach being adopted in practice by the competent authorities. The relationship between the RBMP (environmental objectives) and other individual decisions is as a rule not regulated. There are no legal provisions that would ensure that timelines for the revision of permits are aligned with the revision of the WCMP. The fact that the relevant authorities and stakeholders involved in the implementation of WCMP and decisions in other sectors such as industrial installations are the same could ensure that these are in line with the environmental objectives in practice. This however is not a sufficient guarantee.

3.4 Consultation of the public, engagement of interested parties

Public participation was carried out extensively including the active involvement of the relevant stakeholders.

The public was consulted via internet, media and an international trade fair. The draft RBMP was available through the internet and also sector specific workshops and ad-hoc meetings were held.

The following sectors were involved in the procedure: agriculture, ports/navigation, water suppliers, NGOs, fisheries/aquaculture, local authorities, transport and tourism.

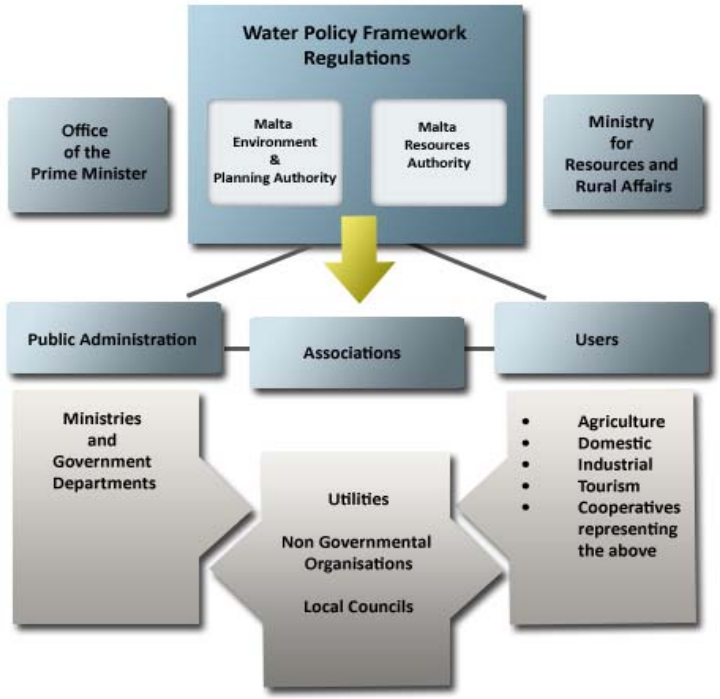

Figure 3.4.1: *Sectors involved in public consultation*

After the consultation, changes were made regarding some specific measures and the competent authorities committed themselves to take action in the next cycle. As mentioned above, an Interministerial Committee was set up to oversee the implementation of the plan up to 2015.

3.5 Legal issues

In the case Commission vs. Malta (Case C-351/09) the Court ruled against Malta on 22.12.2010 because of a bad application of monitoring networks. Malta did not identify inland surface waters, did not establish a network of monitoring for them and failed to submit a summary report to the Commission. In this ruling, the Court found that even if the Maltese inland surface water bodies are small, there is a need to ensure monitoring.

4. CHARACTERISATION OF RIVER BASIN DISTRICTS

4.1 Water categories in the RBD

Inland surface waters were excluded from the RBMP, no inland surface waters were designated. The designation of water bodies contains coastal waters and groundwater.

4.2 Typology of surface waters

RBD	Rivers	Lakes	Transitional	Coastal
MTMalta	0	0	0	4

Table 4.2.1: *Surface water body types at RBD level*
Source: *WISE*

4.3 Delineation of surface water bodies, typology of surface waters and reference conditions

Coastal waters are the only designated surface water bodies. The typology of coastal waters has not been checked against biological data. Exposure and depth were used as factors for the typology.

Reference conditions have only been identified for *Posidonia*, not for any other quality element. It is not clear why the reference sites for *Posidonia* are not used for other biological quality elements.

Malta has not reported surface water body types except for 4 coastal water body types.

RBD	Rivers	Lakes	Transitional	Coastal		Groundwater	
	Number	*Number*	*Number*	*Number*	*Average Area (sq km)*	*Number*	*Average Area (sq km)*
MTMalta	0	0	0	9	44	15	24

Table 4.3.1: *Surface water bodies, groundwater bodies and their dimensions*
Source: *WISE*

4.4 Identification of significant pressures and impacts

The plan does not include concrete thresholds or criteria to define significant point sources other than using the UWWTD, IPPC, E-PRTR and expert judgement.

For diffuse sources, only expert judgement has been used.

RBD	No Pressures		Point Source		Diffuse Source		Water Abstraction		Water flow regulations and morphological alterations		River Management		Transitional And Coastal Water Management		Other Morphological Management		Other Pressures	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
MT Malta	3	33.33	5	55.56	6	66.67	0	0	0	0	0	0	3	33.33	0	0	4	44.44

Table 4.4.1: *Number and percentage of surface water bodies affected by significant pressures*
Source: *WISE*

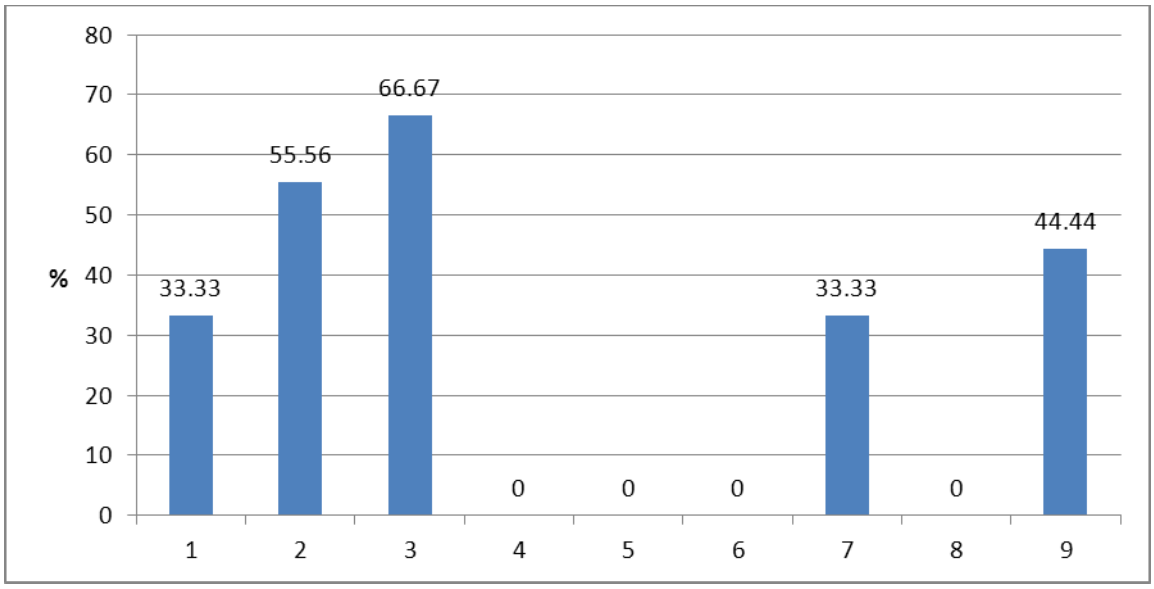

Figure 4.4.1: *Graph of percentage of surface water bodies affected by significant pressures*
1 = No pressures
2 = Point source
3 = Diffuse source
4 = Water abstraction
5 = Water flow regulations and morphological alterations
6 = River management
7 = Transitional and coastal water management
8 = Other morphological alterations
9 = Other pressures
Source: *WISE*

There is no information provided on economic sectors that create pressures.

4.5 Protected areas

In Malta, 29 protected areas have been designated, according to information provided to WISE. 7 of those protected areas are associated with groundwater bodies.

RBD	Number of PAs										
	Article 7 Abstraction for drinking water	Bathing	Birds	European Other	Fish	Habitats	Local	National	Nitrates	Shellfish	UWWT
MTMalta	7	-	3	-	-	9	-	1	1	-	8

Table 4.5.1: *Number of protected areas of all types in each RBD and for the whole country, for surface and groundwater*[3]
Source: *WISE*

[3] This information corresponds to the reporting of protected areas under the WFD. More/other information may have been reported under the obligations of other Directives.

5. MONITORING

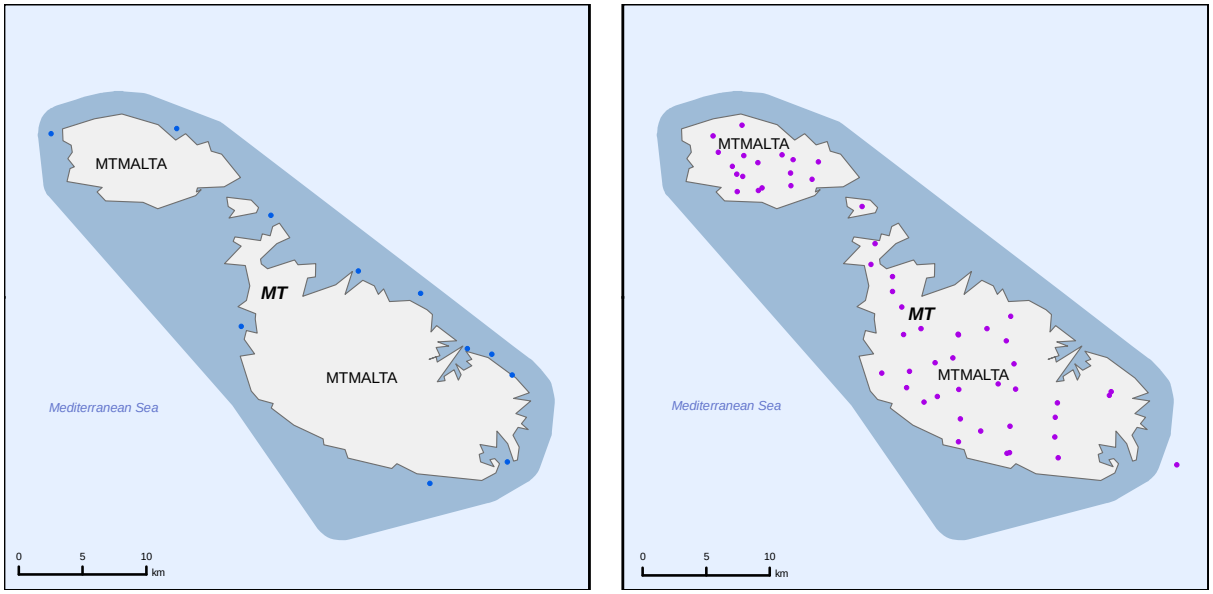

Figure 5.1: *Maps of surface water (left) and groundwater (right) monitoring stations*

- *River monitoring stations*
- *Lake monitoring stations*
- *Transitional water monitoring stations*
- *Coastal water monitoring stations*
- *Unclassified surface water monitoring stations*
- *Groundwater monitoring stations*
- *River Basin Districts*
- *Countries outside EU*

Source: *WISE, Eurostat (country borders)*

No monitoring sites were reported for surface waters as there were no water bodies delineated except for coastal waters where 5 surveillance and 6 operational monitoring sites were reported. 54 monitoring sites were reported for groundwater. Malta has not established monitoring of rivers, lakes and transitional waters in the first RBMP cycle.

RBD	Groundwater		
	Surv	Op	Quant
MTMalta	34	34	21
Total by type of site	*34*	*34*	*21*
Total number of monitoring sites[4]	*54*		

Table 5.1: *Number of monitoring sites by water category.*
Surv = Surveillance, Op = Operational, Quant = Quantitative
Source: *WISE*

[4] The total number of monitoring sites may differ from the sum of monitoring sites by type because some sites are used for more than one purpose.

5.1 Monitoring of surface waters

Malta has not established monitoring of rivers, lakes and transitional waters in the first RBMP cycle, these activities started only after the 2010 Court ruling.

The monitoring programme for coastal waters (i.e. the only designated surface water category) was not yet operational when preparing the first RBMP.

In coastal waters it appears that since then phytoplankton, seagrass (Posidonia) and benthic invertebrates are monitored, but only *Posidonia* is used for the assessment of status. Others are planned to be monitored from 2011 onwards.

5.2 Monitoring of groundwater

Malta has established surveillance and operational monitoring of groundwater and there is also a specific monitoring programme for drinking water protected areas.

The link on how the parameters selected respond to different pressures is unclear.

No explanation is provided on how the groundwater chemical monitoring programmes are designed to detect trends.

Private groundwater abstraction as a major pressure on groundwater bodies is not monitored adequately.

5.3 Monitoring of protected areas

Malta has established a specific monitoring programme for drinking water protected areas. In WISE only 2 monitoring stations for bathing water and one for habitats were reported.

RBD	Surface waters									Ground-water drinking water
	Surface drinking water abstraction	Quality of drinking water	Bathing water	Birds sites	Fish	Habitats sites	Nitrates	Shellfish	UWWT	
MTMalta	0	0	2	0	0	1	0	0	0	15

Table 5.3.1: *Number of monitoring stations in protected areas*[5].
Source: *WISE*

[5] Number of sites calculated from data reported at site level. If no data reported at site level, then table supplemented with data reported at programme level.

6. OVERVIEW OF STATUS (ECOLOGICAL, CHEMICAL, GROUNDWATER)

5 surface water bodies in Malta have been assessed as being at good or better ecological status. 1 surface water body is in poor status regarding ecological status.

RBD	Total No. SWBs	High		Good		Moderate		Poor		Bad		Unknown	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
MTMalta	7	4	57.1	1	14.3	1	14.3	1	14.3	0	0	0	0

***Table 6.1**: Ecological status of natural surface water bodies*
***Source:** WISE*

RBD	Total No. SWBs	High		Good		Moderate		Poor		Bad		Unknown	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
MTMalta	2	0	0	0	0	1	50	1	50	0	0	0	0

***Table 6.2:** Ecological potential of artificial and heavily modified water bodies*
***Source:** WISE*

For all the 9 surface water bodies the chemical status is unknown according to the information reported to WISE.

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
MTMalta	7	0	0	0	0	7	100

***Table 6.3:** Chemical status of natural surface water bodies*
***Source:** WISE*

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
MTMalta	2	0	0	0	0	2	100

***Table 6.4:** Chemical status of artificial and heavily modified water bodies*
***Source:** WISE*

Only 2 groundwater bodies have good chemical status while 13 of them (87%) are in poor status.

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
MTMalta	15	2	13.3	13	86.7	0	0

***Table 6.5:** Chemical status of groundwater bodies*
***Source:** WISE*

73% of the GWBs are assessed at good quantitative status, but 4 GWBs are in poor status.

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
MTMalta	15	11	73.3	4	26.7	0	0

Table 6.6: *Quantitative status of groundwater bodies*
Source: *WISE*

There is no information about the increase of good status of SWBs between 2009 and 2015 because surface water bodies were not delineated.

2 groundwater bodies were assessed as being of good status in 2009. One more GWB is expected to reach good status by 2015, but 12 of them (80%) will still be in poor status (see the table below)

RBD	Total	Global status (ecological and chemical)					Good ecological status 2021		Good chemical status 2021		Good ecological status 2027		Good chemical status 2027		Global exemptions 2009 (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 - 2015									Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	No.	%	No.	%	%	%	%	%
MTMalta	9	0	0	0	0	0	9	100	9	100	9	100	9	100	22	11	0	0

Table 6.7: *Surface water bodies: overview of status in 2009 and expected status in 2015, 2021 and 2027*[6]
Water bodies with good status in 2009 fall into the following category:
1. Ecological status is high or good and the chemical status is good, exemptions are not considered
Water bodies expected to achieve good status in 2015 fall into the following categories:
1. Ecological status is high or good and the chemical status is good, exemptions are not considered
2. Chemical status is good, and the ecological status is moderate or below but no ecological exemptions
3. Ecological status is high or good, and the chemical status is failing to achieve good but there are no chemical exemptions
4. Ecological status is moderate or below, and chemical status is failing to achieve good but there are no ecological nor chemical exemptions
Note: Water bodies with unknown/unclassified/not applicable in either ecological or chemical status are not considered
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

RBD	Total	Ecological status					Good ecological status 2021		Good ecological status 2027		Ecological exemptions (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	7	5	71.4	6	85.7	14.3	7	100	7	100	14.3	0	0	0

Table 6.8: *Natural surface water bodies: ecological status in 2009 and expected status in 2015, 2021 and 2027*[7]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

[6] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.
[7] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total	Chemical status					Good chemical status 2021		Good chemical status 2027		Chemical exemptions (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	2	0	0	0	0	0					0	0	0	0

Table 6.9: *Natural surface water bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027*[8]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

RBD	Total	GW chemical status					Good chemical status 2021		Good chemical status 2027		GW chemical exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	15	2	13.3	3	20.0	6.7	7	46.7	11	73.3	60	27	0	0

Table 6.10: *Groundwater bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027*[9]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

RBD	Total	Groundwater quantitative status					Good quantitative status 2021		Good quantitative status 2027		GW quantitative exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	15	11	73.3	13	86.7	13.3					13	7	0	0

Table 6.11: *Groundwater bodies: quantitative status in 2009 and expected status in 2015, 2021 and 2027*[10]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

[8] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.
[9] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.
[10] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total HMWB and AWB	Ecological potential					Good ecological potential 2021		Good ecological potential 2027		Ecological exemptions (% of all HMWB/AWB)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	2	0	0	0	0	0	2	100	2	100	50	50	0	0

Table 6.12: *Heavily modified and artificial water bodies: ecological potential in 2009 and expected ecological potential in 2015, 2021 and 2027*[11]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

RBD	Total HMWB and AWB	Chemical status					Good chemical status 2021		Good chemical status 2027		Chemical exemptions (% of all HMWB/AWB)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
MTMalta	2	0	0	0	0	0					0	0	0	0

Table 6.13: *Heavily modified and artificial water bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027*[12]
Source: *WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)*

[11] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.
[12] Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

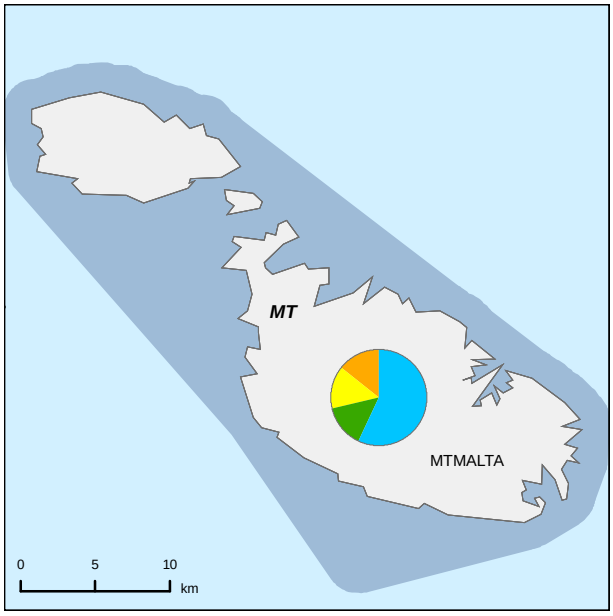

Figure 6.1: *Map of ecological status of natural surface water bodies 2009*

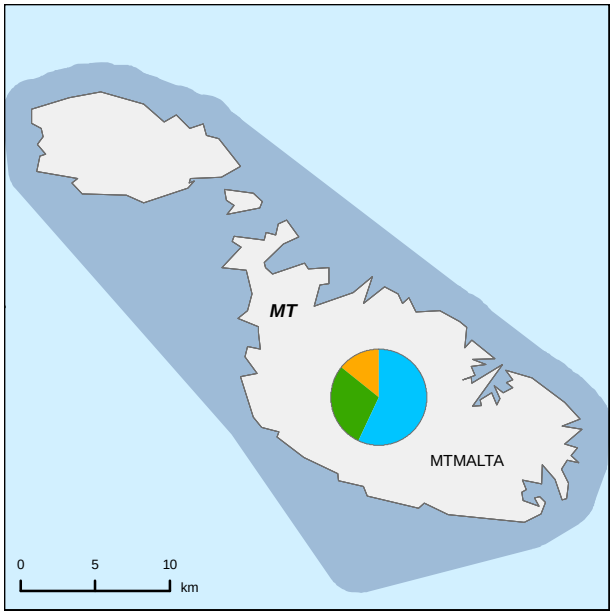

Figure 6.2: *Map of ecological status of natural surface water bodies 2015*

High
Good
Moderate
Poor
Bad
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 1.4.2(i).
Source: *WISE, Eurostat (country borders)*

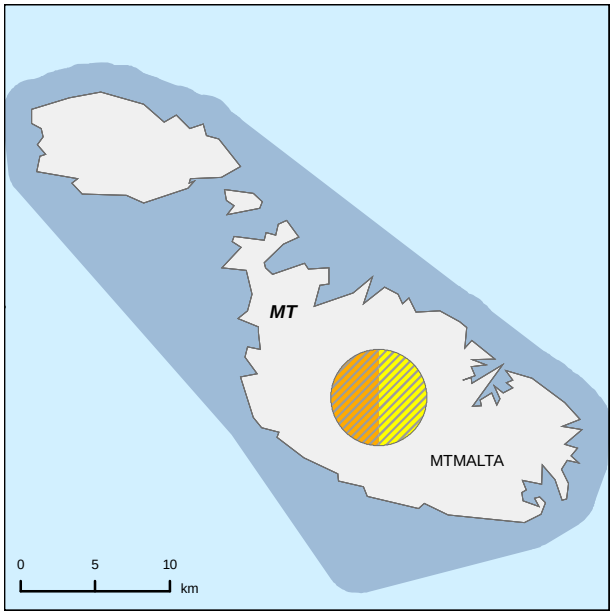

Figure 6.3: *Map of ecological potential of artificial and heavily modified water bodies 2009*

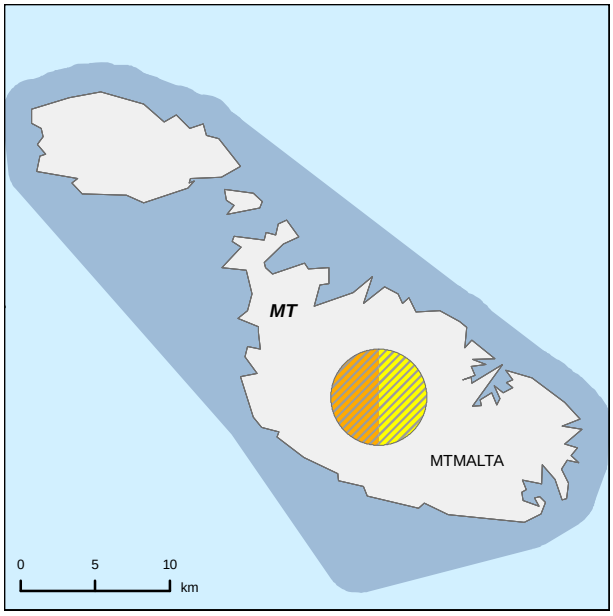

Figure 6.4: *Map of ecological potential of artificial and heavily modified water bodies 2015*

Good or better
Moderate
Poor
Bad
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 1.4.2(ii).
Source: *WISE, Eurostat (country borders)*

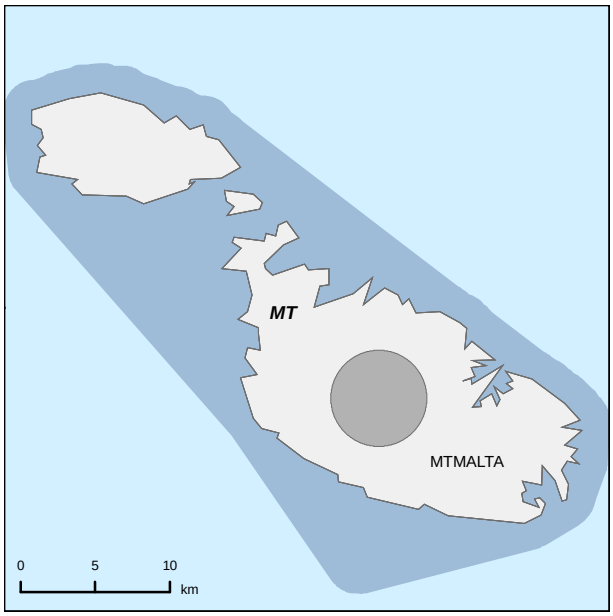

Figure 6.5: *Map of chemical status of natural surface water bodies 2009*

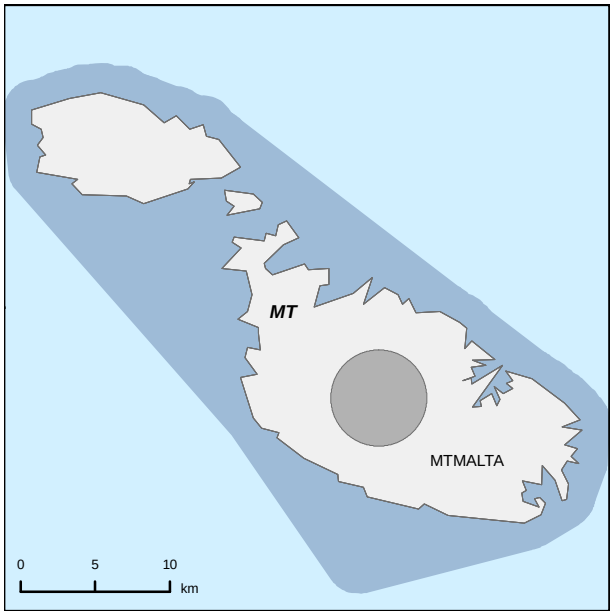

Figure 6.6: *Map of chemical status of natural surface water bodies 2015*

Good
Failing to achieve good
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 1.4.3.
Source: *WISE, Eurostat (country borders)*

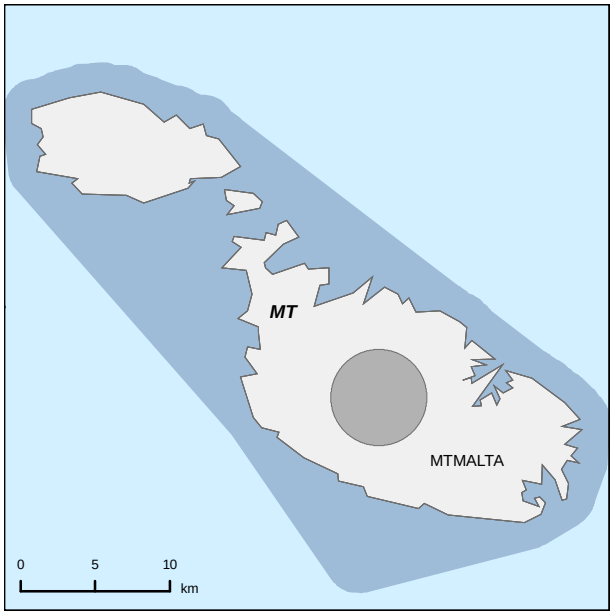

Figure 6.7: *Map of chemical status of artificial and heavily modified water bodies 2009*

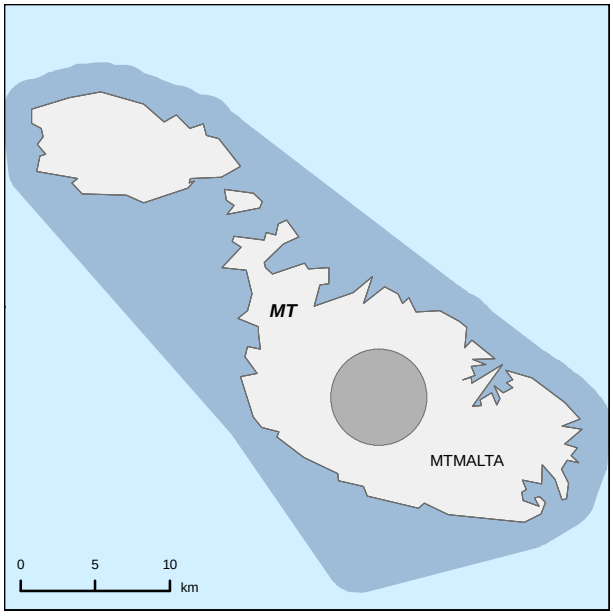

Figure 6.8: *Map of chemical status of artificial and heavily modified water bodies 2015*

Good
Failing to achieve good
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 1.4.3.
Source: *WISE, Eurostat (country borders)*

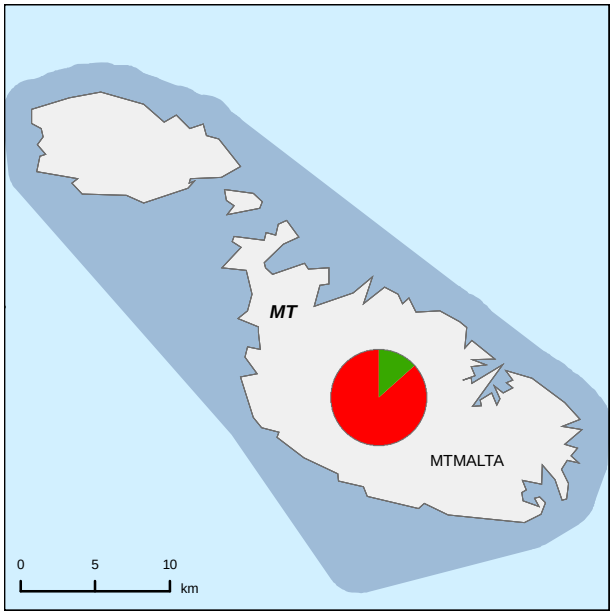

Figure 6.9: *Map of chemical status of groundwater bodies 2009*

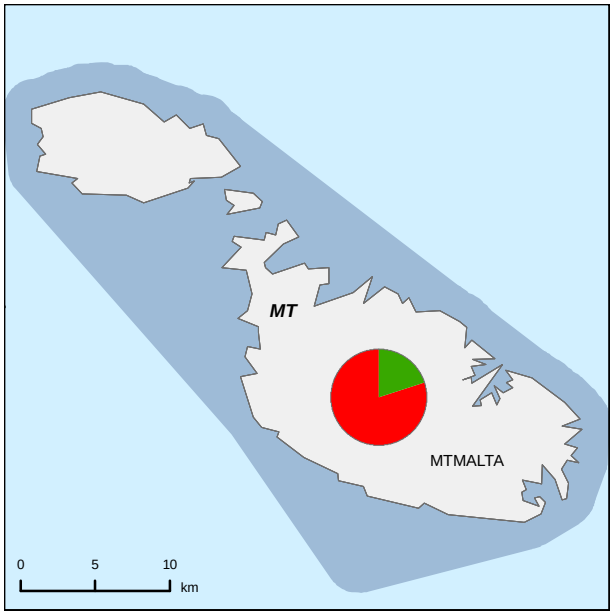

Figure 6.10: *Map of chemical status of groundwater bodies 2015*

Good
Poor
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 2.4.5.
Source: *WISE, Eurostat (country borders)*

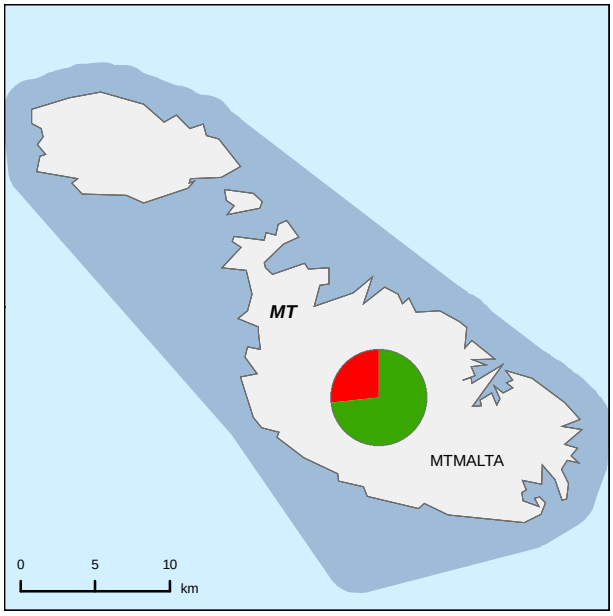

Figure 6.11: *Map of quantitative status of groundwater bodies 2009*

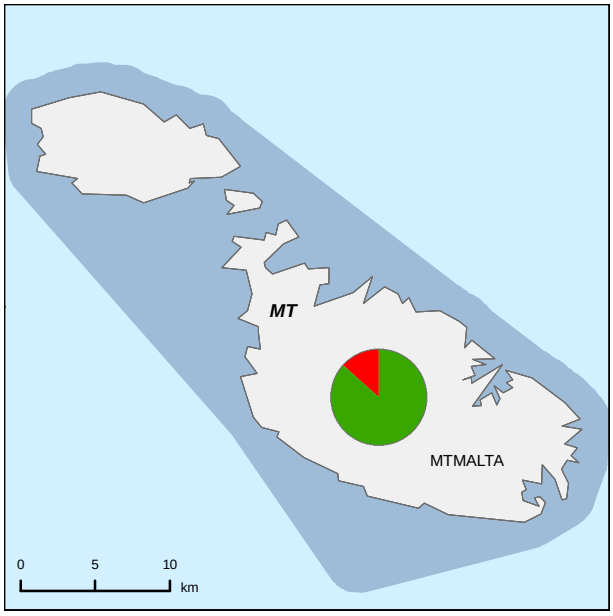

Figure 6.12: *Map of quantitative status of groundwater bodies 2015*

Good
Poor
Unknown
River Basin Districts
Countries outside EU

Note: Standard colours based on WFD Annex V, Article 2.2.4.
Source: *WISE, Eurostat (country borders)*

7. ASSESSMENT OF ECOLOGICAL STATUS OF SURFACE WATERS

7.1 Ecological status assessment methods, their application and ecological status results

There are no data available to determine the status of the water bodies required by the WFD as the monitoring programme for coastal waters (i.e. the only designated surface water category) was not yet operational when preparing the first RBMP. Therefore, good ecological status is established only according to a draft methodology based on the angiosperm *Posidonia* and assessment methods for BQEs and other QEs are described generally or not at all. This is a weak assessment of the ecological status.

The supporting physico-chemical parameters are not monitored. There are no river basin specific pollutants identified, although some of the significant pressures are likely to produce risks due to pollution by chemicals (e.g. pesticides in agriculture, industrial discharges, anti-fouling practices).

There was no information found on confidence, precision or uncertainty of the results.

RBD	Rivers							Lakes							Transitional							Coastal					
	Phytoplankton	Macrophytes	Phytobenthos	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macrophytes	Phytobenthos	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macroalgae	Angiosperms	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macroalgae	Angiosperms	Benthic invertebrates	Physico-Chemical	Hydromorphological
MTMalta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						

Table 7.1.1: *Availability of biological assessment methods*

Assessment methods fully developed for all BQEs

Assessment methods partially developed or under development for all or some BQEs

Assessment methods not developed for BQEs, no information provided on the assessment methods, unclear information provided

\- *Water category not relevant*

Source: *RBMPs*

7.2 River basin specific pollutants

There was no information found in the RBMP about river basin specific pollutants.

8. DESIGNATION OF HEAVILY MODIFIED WATER BODIES (HMWB) AND ASSESSMENT OF GOOD ECOLOGICAL POTENTIAL

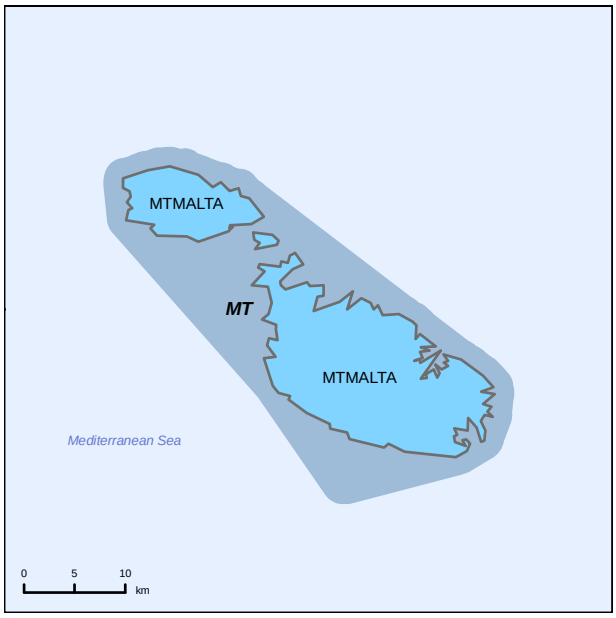

Figure 8.1: *Map of percentage of Heavily Modified and Artificial water bodies by River Basin District*

0 – 5 %
5 – 20 %
20 – 40 %
40 – 60%
60 – 100 %
No data reported
River Basin Districts
Countries outside EU

Source: *WISE, Eurostat (country borders)*

8.1 Designation of HMWBs

Two heavily modified water bodies have been designated in Malta. These are two coastal water bodies that have been designated as HMWB due to impacts from harbours. This designation appears to be based on a screening of pressures and expert judgement.

8.2 Methodology for setting good ecological potential (GEP)

Good ecological potential has not been defined due to the delay in the implementation of the monitoring programmes.

9. ASSESSMENT OF CHEMICAL STATUS OF SURFACE WATERS

The assessment of chemical status is not based on monitoring data, but on expert judgement.

The assessment of chemical status only covers coastal waters, in particular two water bodies, and it judges the dilution may be sufficient to disperse most contaminants of concern in the water column to reach concentrations below the required EQS. There appears to be no further justification behind this statement.

The plan classifies these two water bodies as poor chemical status on the basis of the precautionary principle, whereas WISE report indicates unknown status.

In any case there is no quantitative information reported at all and no indication of potential substances causing problems.

It is also unclear whether there has been any assessment of inland surface waters.

10. ASSESSMENT OF GROUNDWATER STATUS

Information on groundwater bodies (GWBs) at risk is provided: 13 GWBs are at risk because of Nitrates, 5 GWBs for seawater intrusion and 6 GWBs because of groundwater abstraction.

The plan seems to contain contradictory information about the relevance of the link between groundwater and surface waters. On the one hand it is stated that there are no surface waters associated to groundwater, but on the other hand groundwater abstraction is identified as a significant driver behind the altered surface water flows. Probably this last statement is linked to Natura 2000 areas that have not been designated as water bodies. There are indeed two groundwater dependent ecosystems identified in the plan, although there is no indication that the status of these were considered in the classification of (chemical and quantitative) status of related groundwater bodies, as required by the WFD.

10.1 Groundwater quantitative status

There is contradictory information in the RBMP and in WISE about the number of GWBs in poor quantitative status (2 or 4).

The only criterion considered for determining groundwater quantitative status is that the available resource is not exceeded by the long-term abstraction.

With regard to the balance between recharge and abstraction of groundwater, there are simple figures for inflow and outflow provided for every groundwater body.

There is no indication that groundwater dependent ecosystems were considered in the quantitative status assessment.

Private groundwater abstraction as a major pressure on groundwater bodies is not monitored adequately.

10.2 Groundwater chemical status

The establishment of threshold values (TVs) clearly consider the criteria required by GWD: the risks of not meeting WFD objectives and the pollutants listed in Annex II GWD.

Environmental quality objectives used for TV establishment are usage criteria (drinking water and irrigation quality standards) as well as saline intrusions.

Natural background levels of pollutants were considered for sodium, chloride and fluoride.

There are no TV exceedances reported in the 2 GWBs that are in good chemical status.

Trend analysis was carried out regarding nitrate concentration only in two groundwater bodies due to the lack of availability of chemical data in other water bodies. The RBMP states that full analysis of trends in all water groundwater bodies is expected for the second RBMP cycle.

10.3 Protected areas

From the 7 protected areas that are reported in WISE to be linked to GWB, 6 are failing to achieve good status by 2015.

RBD	Good	Failing to achieve good	Unknown
MTMalta	1	6	0

Table 10.3.1: *Status of groundwater drinking water protected areas*
Source: *WISE*

11. ENVIRONMENTAL OBJECTIVES AND EXEMPTIONS

An overview of the information for coastal water bodies is provided below. 3 exemptions have been identified.

RBD	Total no. of SWBs	Percent of SWBs at good status				SWB exemptions			
		Now	2015	2021	2027	Art. 4.4	Art. 4.5	Art. 4.6	Art. 4.7
MTMalta	9	6	6	9	9	2	1	-	-

Table 11.1: *Objectives and exemptions for surface water bodies*
Source: *WISE*

For groundwater bodies Malta's RBD, 11 exemptions have been identified.

RBD	Total no. of GWBs	Percent of GWBs at good status				GWB exemptions			
		Now	2015	2021	2027	Art. 4.4	Art. 4.5	Art. 4.6	Art. 4.7
MTMalta	15	2	2	7	11	9	2	-	-

Table 11.2: *Objectives and exemptions for groundwater bodies*
Source: *WISE*

11.1 Additional objectives in protected areas

Protected Areas have been identified for drinking water and nature/habitats, but no additional objectives have been set. There is no assessment on whether the WFD objective of good status would be sufficient to achieve the objectives under the legislation that triggered the designation of these areas.

Bathing waters have not been identified as WFD protected areas. The reasons behind this are unclear.

11.2 Exemptions according to Article 4(4) and 4(5)

There is no clear indication of the drivers or impacts causing the application of exemptions Article 4.4 (extension of the deadline for meeting good status) and 4.5 (lower objective).

In total, 3 exemptions have been reported for 9 coastal water bodies in Malta. Exemptions are under Articles 4.4 and 4.5.

No exemptions under Articles 4.6 and 4.7 were reported.

11 exemptions for 15 GWBs were reported.

Under Article 4.4, technical infeasibility is the reason for 2 coastal water exemptions. Under Article 4.5, natural conditions cause the exemption.

The justification of exemptions due to technical feasibility refers to two aspects:

a) the delay in the implementation of monitoring programs that are required to define ecological potential, and
b) the management measures to improve status will be implemented primarily through the issuing of environmental permits for all industrial installations that will require significant investments from industry and whose full implementation will extend beyond 2015.

There is no proper justification of these two reasons.

The justification of exemptions due to natural conditions is related to the relatively long response times of the GW bodies in Malta. This is stated in the plans without further justification.

Article 4.7 for new modifications is not applied. It is unclear if there are indeed no projects foreseen that would likely affect the status of water bodies.

RBD	Global[13]					
	Technical feasibility		Disproportionate costs		Natural conditions	
	Article 4(4)	Article 4(5)	Article 4(4)	Article 4(5)	Article 4(4)	Article 4(5)
MTMalta	2	-	-	-	-	1

Table 11.2.1: *Numbers of Article 4(4) and 4(5) exemptions*
Source: *WISE*

12. PROGRAMMES OF MEASURES

According to Annex VII of the WFD, the RBMPs should contain a summary of the programmes of measures (PoM), including the ways in which Member States expect to achieve the objectives of WFD Article 4. The programmes should have been established by 2009, but are required to become operational only by December 2012. The assessment in this section is based on the PoM as summarised by the Member State in its RBMP, and the compliance of this with the requirements of Article 11 and Annex VII of the WFD.

It therefore does not include a comprehensive assessment of compliance with the requirements of Article 11(3)[14] on basic measures. It focuses in particular on key sets of

[13] Exemptions are combined for ecological and chemical status.

[14] These are the minimum requirements to be complied with and include the measures required under other Community legislation as well as measures to achieve the requirements of other WFD Articles and to ensure appropriate controls on different activities affecting water management.

measures. Member States will report to the Commission by December 2012 on the full implementation of their PoMs, including on the progress on the implementation of basic measures as required by Article 11(3). The Commission will assess what Member States report and will publish its assessment in accordance with WFD Article 18.

12.1 Programme of measures – general

The measures to be undertaken are described in the RBMP in sufficient level of detail. However, the programme of measures in Malta seems not to be based on the assessment of status, which is largely missing or weak.

The costs of the PoM are clearly stated and calculated. There is no assessment of cost-effectiveness of measures though.

According to the plan the cost of measures will be mostly born by the public national budget. It is stated that the participation of industrial and tourism sectors is very low, measures are projected to cost about 0.009% and 0.05% of the gross value added of the industrial and tourist sectors respectively. This is in strong contradiction with the statements that are used to extend the deadline for the achievement of objectives (see point b in section 11 above). The agriculture sector is not even mentioned as contributor for sharing the costs of measures. The reason behind this approach is unclear.

Most of the supplementary measures are voluntary and there is no justification or explanation on why the Maltese authorities believe the measures will be taken up by the different sectors and be effective in reaching the objectives.

12.2 Measures related to agriculture

Self-abstraction from groundwater is considered as the major pressure from agriculture. Point source pollution is not considered as significant. No pressures are reported on hydromorphology either.

Measures applied in the RBMP include those for reducing pesticide and fertiliser input and those addressing water saving including water pricing. Erosion due to agriculture is not identified as an issue.

A very accurate zoning of the agricultural measures can be found in WISE.

Malta put in place a very advanced discussion with the farmers when elaborating the RBMP and the Programme of Measures.

It is not clear how these measures will be funded, in particular there is no link made with the Rural Development programmes and especially with the WFD specific funding mechanism under Article 38 of the Rural Development Regulation.

Measures	**MTMalta**
Technical measures	
Reduction/modification of fertiliser application	✓
Reduction/modification of pesticide application	✓
Change to low-input farming (e.g. organic farming practices)	
Hydromorphological measures leading to changes in farming practices	
Measures against soil erosion	
Multi-objective measures (e.g. crop rotation, creation of enhanced buffer zones/wetlands or floodplain management)	✓

Measures	MTMalta
Technical measures for water saving	
Economic instruments	
Compensation for land cover	
Co-operative agreements	
Water pricing specifications for irrigators	✓
Nutrient trading	
Fertiliser taxation	
Non-technical measures	
Additions regarding the implementation and enforcement of existing EU legislation	✓
Institutional changes	
Codes of agricultural practice	
Farm advice and training	✓
Raising awareness of farmers	✓
Measures to increase knowledge for improved decision-making	✓
Certification schemes	
Zoning (e.g. designating land use based on GIS maps)	
Specific action plans/programmes	✓
Land use planning	
Technical standards	
Specific projects related to agriculture	
Environmental permitting and licensing	

Table 12.2.1: *Types of WFD measures addressing agricultural pressures, as described in the PoM*
Source: *RBMPs*

12.3 Measures related to hydromorphology

Hydromorphological pressures are identified in the RBMP Malta, and consist of:

- dredging and hydromorphological alterations in two harbours (heavily modified water bodies)
- hydromorphological changes or physical modifications of surface water environments brought about by urban development.

However, there is only one measure which explicitly targets hydromorphological pressures: "Develop and implement planning and environmental guidance on major coastal engineering works". This is applied to the 2 coastal HMWB (harbours). The guidance, though, seems to be more oriented towards new developments than to improve the existing situation by taking some mitigation or restoration measures.

In addition, altered flow regimes are seen as a significant impact due to groundwater extraction and urban development, and there are two measures listed to better understand the problem and cope with it ("Carry out a pilot project to promote integrated valley management" and "Establish ecological flows within sub-catchments supporting Natura 2000 sites"); however, there are no guidelines/regulations on the definition of an ecologically based flow regime.

12.4 Measures related to groundwater

Measures to prevent inputs of hazardous substances were not reported, because no pressures deriving from hazardous substances are reported.

Measures to limit inputs of non-hazardous substances tackle nitrate pollution from agricultural pressures.

Quantitative measures have been included in the plans as supplementary measures (no basic quantitative measures were reported, however some of the supplementary measures can be considered as basic measure). They cover regulation of private water supply operators, metering of private groundwater abstraction sources, reduction of losses in the municipal distribution system, increasing the capacity of rainwater runoff storage facilities, pilot projects on water demand management and supply augmentation measures and modelling of the mean sea level aquifer systems.

Groundwater dependent terrestrial ecosystems were not considered although two of them were identified.

12.5 Measures related to chemical pollution

There is no assessment of chemical status and no EQS set for river basin specific pollutants, therefore there is little information to base the measures on.

This, despite the fact that the pressures analysis identifies a number of significant pollution sources such as industrial discharges, agriculture, anti-fouling practices and some specific pollutants such as PAHs and heavy metals. Still, the plan contains some generic measures that could help reducing chemical pollution.

12.6 Measures related to Article 9 (water pricing policies)

The most important water uses identified in respect to Article 9 in Malta are agriculture, households and industry.

There is a narrow approach to water services. Water supply and waste water treatment in general and self abstraction for retail to third parties are identified as water services. The identification of water services is not precise and it is not clear whether water supply and waste water treatment cover all sectors or not. Other water services are not included e.g. impoundment, storage, self-abstraction and irrigation.

Despite the following statement 'Potable water tariffs are sufficiently disaggregated to ensure adequate contribution to the recovery of costs from the domestic, agricultural and industrial/commercial sectors', it is not clear how an adequate contribution by the different water users to the recovery of the costs of water services is ensured. Contribution to cost recovery is calculated for water distribution (80%), but it is not disaggregated into different water users separately, at least for households, industry and agriculture.

Incentive pricing is in place including metering and volumetric pricing. It is not clear whether incentive pricing is set up for agriculture.

Self-abstraction was not charged until 2010, but it was planned to be charged from 2011. There is no confirmation whether it took place or not.

The RBMP refers to the polluter pays principle in general. However it seems that environmental and resource costs have not been included in the cost recovery calculation.

The RBMP mentions that that there are no cross-subsidies. Government subsidies are taken into account while contribution to cost recovery is calculated.

A wide range of financial costs are included in cost recovery calculation: M&O costs, depreciation, and opportunity costs of capital. Subsidies are considered within the calculation.

Flexibility provision is applied concerning social water tariffs.

There is no information in the RBMP on the application of Article 9(4) of the WFD.

12.7 Additional measures in protected areas

Although one of the objectives of the RBMP and of the programme of measures is to support the objectives of other relevant Directives in protected areas (Birds, Habitats, Shellfish, Fresh Water Fish or Bathing Water Directives), they do not include any specific measures to reach the more stringent objectives of those Directives.

13. CLIMATE CHANGE ADAPTATION, WATER SCARCITY AND DROUGHTS AND FLOOD RISK MANAGEMENT

13.1 Water Scarcity and Droughts

The problem of water scarcity or over-abstraction is not considered as significant in the RBMP, although 4 groundwater bodies (26%) are in poor quantitative status and water abstraction from agriculture is deemed to be a significant pressure in 5 groundwater bodies.

Although water scarcity is not considered a concern, there are measures in the PoM that can be related to tackling water scarcity although these are not specified as such.

Agriculture is a significant pressure for several water bodies but no measures were found that could be related to improvement of the efficiency of agricultural water uses.

The sources and uncertainty of data are clearly mentioned in the RBMP, but there are no future estimates in the plan of demand and availability.

Droughts are also not seen as significant problems for the time being, however it is stated that they will become relevant in the future.

13.2 Flood Risk Management

Risk of floods is not mentioned in Malta RBMP.

13.3 Adaptation to Climate Change

Altogether Malta is a good example of the consideration of climate change in the 1st reporting cycle.

A short chapter and a technical background document deal with adaptation to climate change covering most of the relevant topics (though. water scarcity, for example, is not mentioned).

The measures included in the PoM were assessed as to their usefulness in tackling climate change ('climate checked') based on a transparent methodology, a very detailed system of criteria and classification of each measure (win-win, low regret, flexible or regret possible). As a result of the climate check no new measures have been added, but some have been modified.

Box 1: Methodology of climate check in Malta

First a screening of the measures was conducted, guided by the following principles:

1. Measures should be resilient to a wide range of future predicted climate scenarios

2. The outcome of measures should be beneficial regardless of the eventual nature of climate variability and change to avoid irreversible decisions and investments that may not be cost effective under changing climatic conditions.

Afterwards, each measure was assessed against a second set of criteria:

1. Does the measure address climate change impacts?

2. Does the measure address the predicted changes in pressures due to climate change?

3. Is the measure likely able to cope with a range of future conditions including changes in temperature, precipitation, sea level rise and storm surges?

4. Is the measure flexible in a way that it can be changed in the future?

For each criterion the potential outcomes (positive, negative, neutral and uncertain) were assessed. This made an overall classification of each measure as either being win-win, low regret, flexible or regret possible.

No new measures have been added, but some should be modified due to the recommendations of the Climate Check. For example with regard to the measure 'Maintenance and management of valleys', the recommendation is as follows: 'It is recommended that any infrastructure related to this measure takes climatic changes into account, particularly the predicted increase in heavy rainfall spells and potential changes in water flow.' The extent to which such recommendations will be implemented cannot be concluded from the documents at this stage, however.

Decreased groundwater recharge is also mentioned in the context of adaptation to climate change.

A national strategy for climate change adaptation was not developed, this gap is mentioned in the RBMP.

14. RECOMMENDATIONS

Following the steps of river basin planning as set out in the WFD should ensure that water management is based on a better understanding of the main risks and pressures in a river basin and as a result, interventions are cost effective and ensure the long term sustainable supply of water for people, business and nature.

To deliver successful water management requires linking these different steps. Information on **pressures** and risks should feed into the development of **monitoring programmes**, information from the monitoring programmes and the **economic analysis** should lead to the identification of **cost effective programmes of measures** and justifications for exemptions. **Transparency** on this whole process within a clear governance structure will encourage **public participation** in both the development and delivery of necessary measures to deliver sustainable water management.

To complete the 1st river basin management cycle, and in preparing for the second cycle of the WFD, it is recommended that:

- Inland surface waters should be designated.

- A good monitoring network should be established in order to carry out an appropriate status assessment of surface waters.
- Private groundwater abstraction as a major pressure on groundwater bodies should be adequately monitored.
- Where there are currently high uncertainties in the characterisation of the RBDs, identification of pressures, and in the assessment of status, these need to be addressed in the current cycle, to ensure that adequate measures can be put in place before the next cycle.
- Methodologies and assessment methods for BQEs and other QEs should be established for good ecological status.
- River basin specific pollutants will need to be identified, with clear information on how pollutants were selected, how and where they were monitored, where there are exceedances and how such exceedances have been taken into account in the assessment of ecological status. It is important that there is an ambitious approach to combatting chemical pollution and that adequate measures are put in place.
- All the substances listed in the EQSD will need to be monitored in all surface water body categories to allow full assessment of chemical status in relation to the EQS listed in the EQSD. Mercury, hexachlorobenzene and hexachlorobutadiene should be monitored in biota for comparison with the biota standards in the EQSD, unless water EQS providing an equivalent level of protection are derived. The reporting of chemical status in WISE and the RBMP should be consistent. Trend monitoring in sediment or biota for several substances as specified in EQSD Article 3(3) will also need to be reflected in the next RBMP.
- While the WFD does provide for exemptions, there are specific criteria that must be fulfilled for their use to be justified. The application of exemptions needs to be more transparent and the reasons for the exemptions should be clearly justified in the plans.
- It is unclear whether there are new physical modifications planned in RBMPs. If this is the case, the use of exemptions under Article 4(7) should be based on a thorough assessment of all the steps as requested by the WFD, in particular an assessment of whether the project is of overriding public interest and whether the benefits to society outweigh the environmental degradation, and the absence of alternatives that would be a better environmental option. Furthermore, these projects may only be carried out when all possible measures are taken to mitigate the adverse impact on the status of the water. All conditions for the application of Article 4(7) in individual projects must be included and justified in the RBMPs as early in the project planning as possible.
- Meaningful information regarding the scope, the timing and the funding of the measures should be included in the PoM so the approach to achieve the objectives is clear and the ambition in the PoM is transparent. All the relevant information on basic and supplementary measures should be included in the summary of the PoM to ensure transparency on the planned actions for the achievement of the environmental objectives set out in the WFD.
- The problem of water scarcity and over-abstraction that are significant pressures and cause poor quantitative status should be tackled with appropriate measures.
- Agriculture is indicated as exerting a significant pressure on the water resources in Malta. This should be translated into a clear strategy that defines the basic/mandatory

measures that all farmers should adhere to and the additional supplementary measures that can be financed. This should be developed with the farmers' community to ensure technical feasibility and acceptance. There needs to be a very clear baseline so that any farmer knows the rules this can be adequately advised and enforced and so that the authorities in charge of the CAP funds can adequately set up Rural Development programmes and cross compliance water requirements.

- The cost-recovery should address a broad range of water services, including impoundments, abstraction, storage, treatment and distribution of surface waters, and collection, treatment and discharge of waste water, also when they are "self-services", for instance self-abstraction for agriculture. The cost recovery should be transparently presented for all relevant user sectors, and environment and resource costs should be included in the costs recovered. Information should also be provided on the incentive function of water pricing for all water services, with the aim of ensuring an efficient use of water. Information on how the polluter pays principle has been taken into account should be provided in the RBMPs.