

The 1st Water Catchment Management Plan for Malta

Malta Resources Authority

Malta Environment & Planning Authority

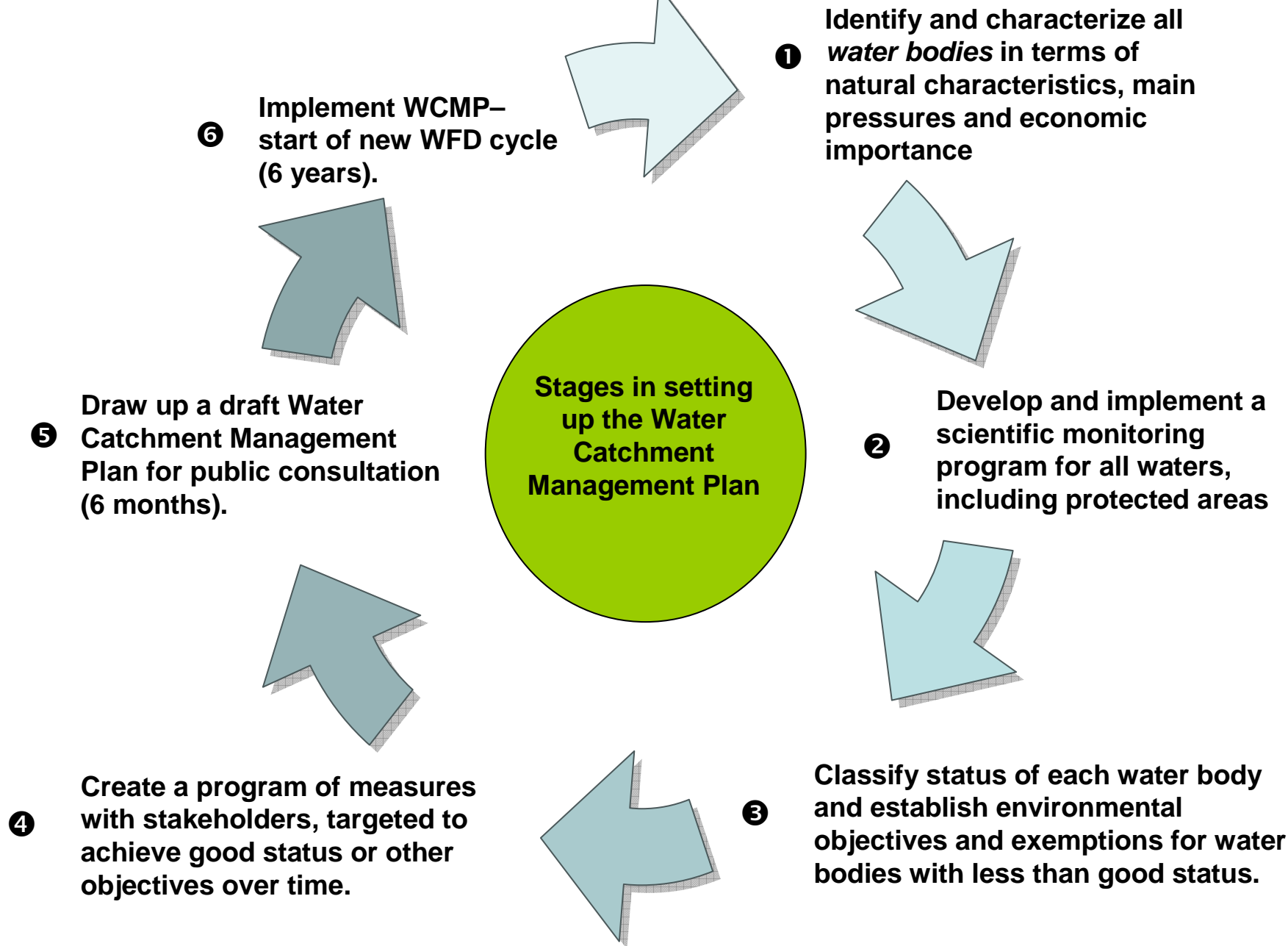
Water Catchment Management Plan

- ❑ The WCMP for Malta is equivalent to the River Basin Management Plan (RBMP) in the larger European countries.
- ❑ The WCMP is a key reporting obligation of the Water Framework Directive (WFD) and is essentially an account of the steps involved in the implementation of the WFD.
- ❑ The Water Catchment Management Plan (WCMP) is a plan which after identifying the status of the waters of a country, specifies measures to improve that status.
- ❑ The 1st WCMP will be implemented over a six year period (2009-2015). Updated plans are required in 2015 and 2021.
- ❑ The WCMP for Malta was developed by MRA and MEPA
 - ❑ MRA – groundwater
 - ❑ MEPA – coastal waters and inland surface waters of ecological value

Key principles of the WFD

- ❑ **The basic management unit is the natural hydrological unit, that is river basins**
- ❑ **Sets a minimum level of protection for all waters**
 - no deterioration
 - good status to be achieved by a set deadline (2015)
 - exemptions from good status allowed where alternatives are technically impossible, disproportionately expensive or will result in worse overall environmental impacts.
 - exemptions include less stringent objectives, extending the deadline to achieve good status and temporary deterioration.
 - More stringent protection levels in protected areas
 - For heavily modified surface water bodies a less stringent status is required (ecological potential)
- ❑ **Streamlining of water legislation and coordination of management objectives for water**
- ❑ **Promotes public participation as key to a transparent and accountable management process**
- ❑ **Take into account the principle of recovery of the costs of water services with due consideration to socio-economic issues**
- ❑ **Developing management action based on scientific analysis.**

Stages in setting up the Water Catchment Management Plan



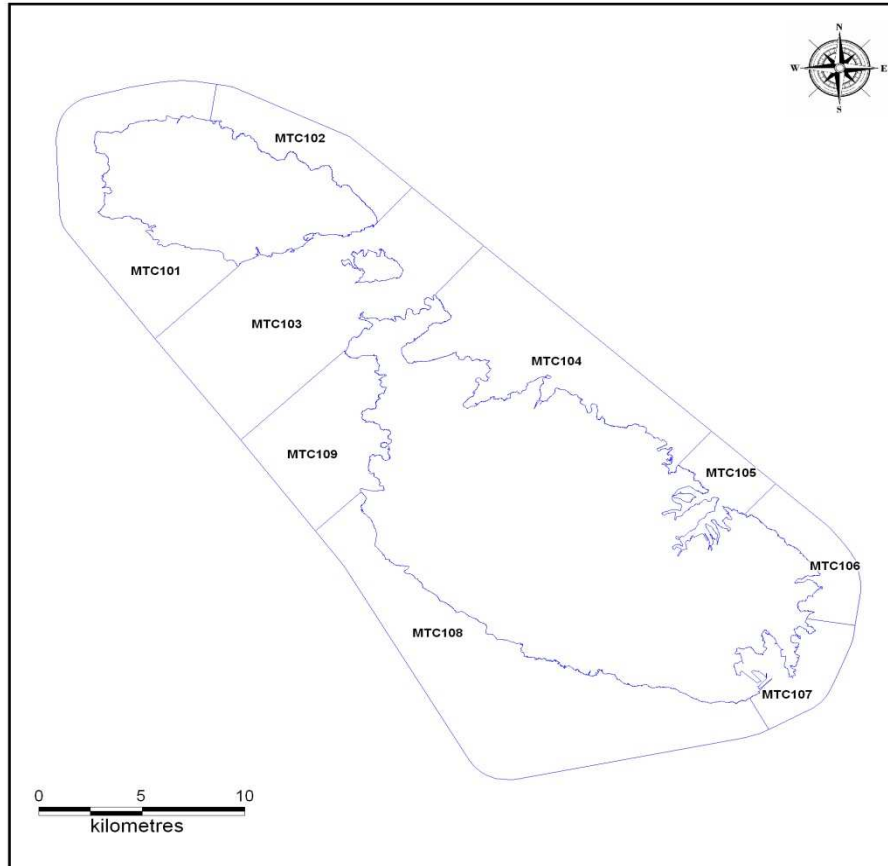
WCMP Consultation process so far

Consultation is required at different stages by the Directive.

Action taken by Malta:

- Characterisation of water bodies (2005): internet
- Identification of significant water management issues (2009): internet & questionnaires
- Formulation of program of measures with stakeholders
 - MRA workshops (2007)
 - MEPA bilateral meetings and workshops (2009)
 - Miscellaneous workshops during Twinning projects (2008-2009)

Surface Waters



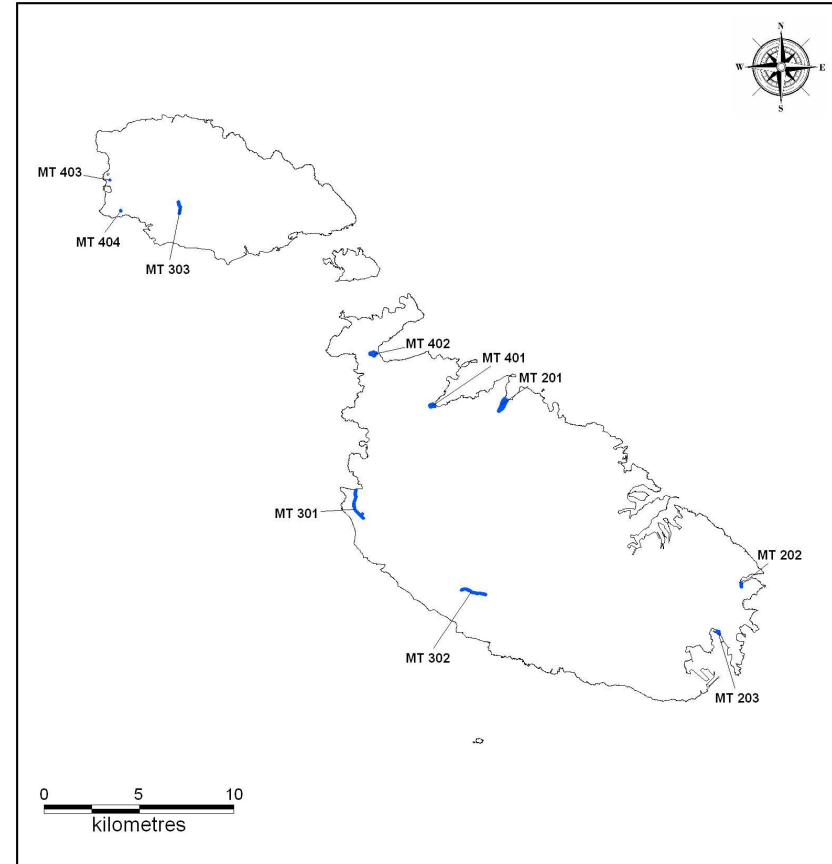
COASTAL WATER BODIES
(as in 2009)

Key

 Coastal Water Bodies

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Inland Surface Waters

Key

Rivers

MT301 - Bahrija Wied Valley System
MT302 - Wied il-Luq
MT303 - Wied tal-Lunzjata

Lakes

MT401 - Is-Simar
MT402 - L-Ghadira
MT403 - Il-Qattara
MT404 - L-Ghadira ta' Sarraflu

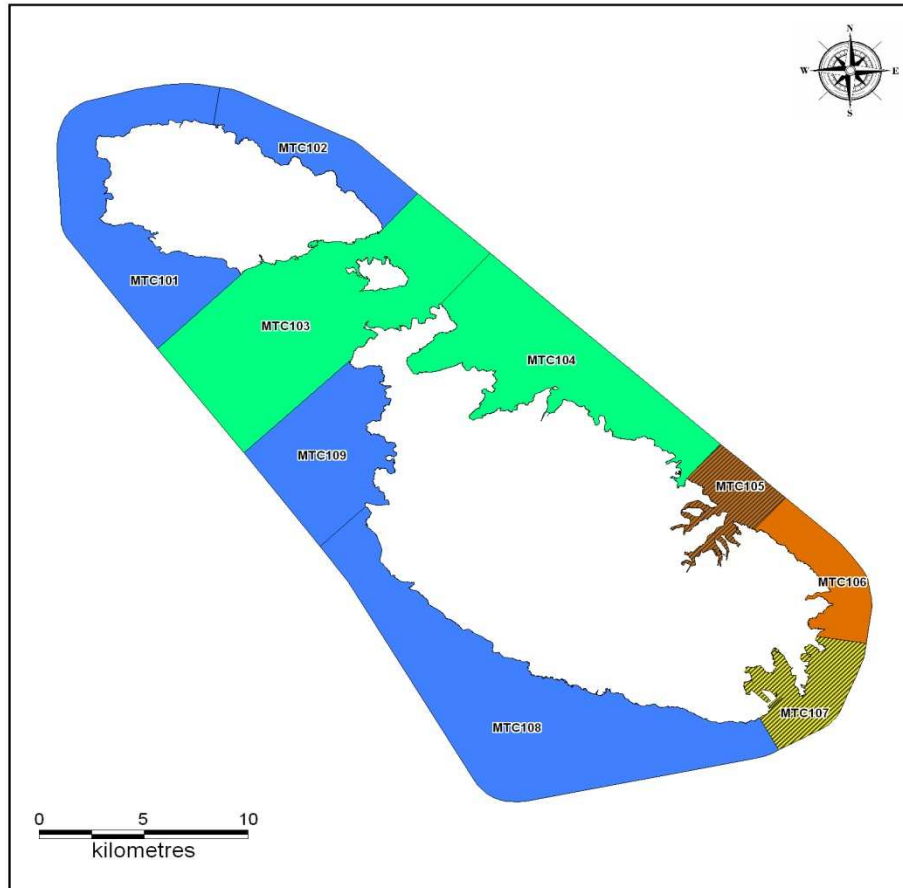
Transitional Waters

MT201 - Is-Salini
MT202 - Il-Magħluq ta' M'Scala
MT203 - Il-Ballut ta' Marsaxlokk

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Status of Coastal Waters



COASTAL WATER BODIES ECOLOGICAL STATUS

Key

Ecological Status Classification

	High
	Good
	Moderate
	Poor
	Bad

Ecological Potential Classification for Heavily Modified Water Bodies

	Good and above
	Moderate
	Poor
	Bad

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MONITORING

No monitoring in accordance with WFD regime was undertaken for the Plan

Coastal monitoring to commence in 2010 through ERDF funds

Inland monitoring network as required by Directive not practically and scientifically possible – subject to ECJ Case

STATUS

Classification based on results of only one biological indicator and qualitative assessment of risks of existing uses

For water bodies with less than good status, exemptions requested in the form of time extensions to 2021

Heavily modified water bodies: exempted from good status but must achieve status of good ecological potential

Program of Measures - Coastal (Basic Measures)

Management Actions/Measure	Status of implementation	Immediate result	Improvement of waters over the years
All municipal wastewater treated discharged to the sea will be treated.	Complete implementation by end of 2010 through South STP Xaghjra	Immediate and visible improvement in coastal water quality	Recovery of biological communities (seabed) and sediment quality will occur over time
Maintain good bathing water quality.	Implemented. Continuous implementation	Maintain current high status in bathing water quality	Through continued maintenance of such quality will sustain Malta's assets for recreation and tourism
IPPC permitting of larger industrial installations	Implemented. Continuous monitoring	Improvements of coastal waters	Chemical quality of coastal waters will continue to improve, leading to reduced risks to human health
Environmental permitting for lesser marine discharges	System for environmental permitting is now in place. Continuous implementation and monitoring	Improvement of coastal waters	Ecological and chemical quality of coastal waters will improve and contribute to rehabilitate ecosystem health

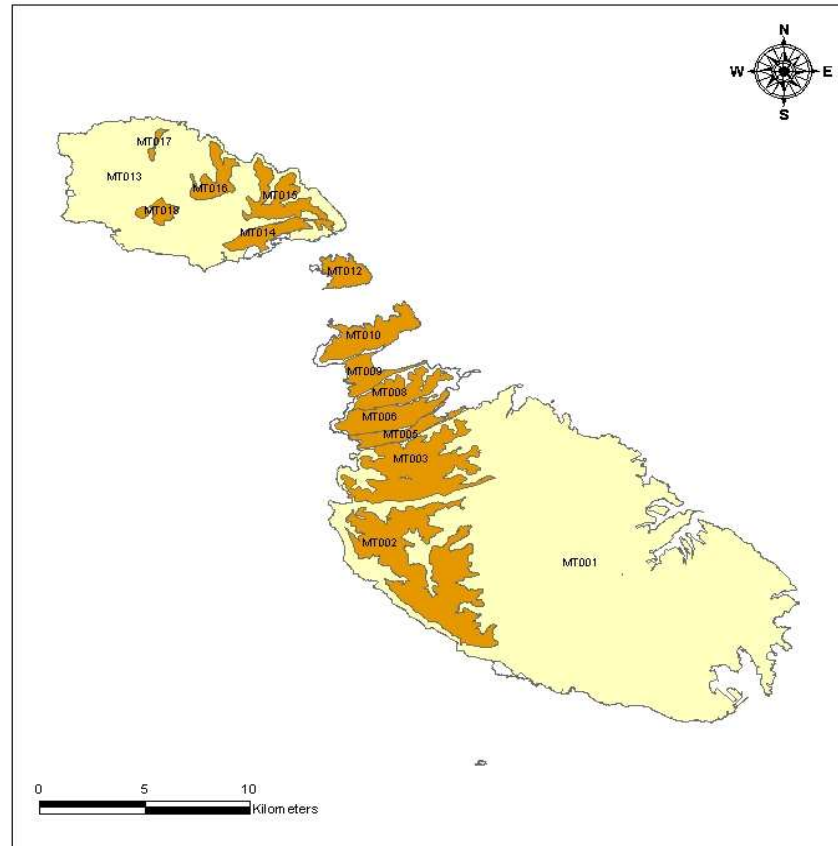
Program of Measures - Coastal (Basic Measures)

Management Actions/Measure	Status of implementation	Immediate result	Improvement of waters over the years
Smaller scale industries are regulated through general binding rules.	System being put in place. Continuous implementation and monitoring	Improvement of coastal waters through reduced contamination	Ecological and chemical quality of coastal waters will improve
Setting up of an inventory of emissions, losses and discharges of priority substances in water.	To be implemented as part of the WCMP programme of measures and EQS Directive	Enhance knowledge of chemical contamination potential of industrial discharges	Provides essential information for a cost-effective regulatory regime for industry. Feeds into the permitting process
Development of tools to estimate emission controls for direct discharges	To be implemented as part of the WCMP programme of measures	Leads to emission levels for marine discharges that are actually achievable and improvement in chemical quality	Provides the essential information for a cost-effective regulatory regime for industry. Feeds into the permitting process
Development and implementation of pollution abatement measures for substances of concern	To be implemented as part of the WCMP programme of measures	Enables a phased approach to implementation of the required regulatory measures using best available technologies	Improvement in water and sediment chemical quality. Promotes ecosystem health.

Program of Measures - Coastal (Supplementary Measures)

Management Actions/Measures	Status of implementation	Immediate result	Improvement of waters over the years
Develop and implement harbour environmental management plans with stakeholders	To be implemented as part of the WCMP programme of measures	Controlling deterioration of water within harbours and promotes stewardship by stakeholders	Improved harbour environment, sustaining Malta's assets for recreation and tourism
Develop and implement technical guidance for water pollution control in marinas	To be implemented as part of the WCMP programme of measures	Controlling deterioration of water within harbours and promotes stewardship by stakeholders	Improved harbour environment, sustaining Malta's assets for recreation and tourism
Develop environmental regulations for recreational boating in coastal waters	To be implemented as part of the WCMP programme of measures	Stop deterioration of seabed communities from anchoring and discharges). Safeguards bathing water quality	Potential rehabilitation of seabed communities
Develop a strategy for sustainable aquaculture development	To be implemented as part of the WCMP programme of measures	Reduce environmental impact of aquaculture practices. Attributes a new image to industry as one that fosters stewardship	Improved water quality; potential rehabilitation of degraded sites in the long-term; potential development and sustainability of the industry

Groundwater



Groundwater Bodies in the Maltese River Basin District

Key

- Lower Coralline Limestone Aquifer
- Upper Coralline Limestone Aquifer

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GWB Code	Name of the groundwater body (GWB)
MT001	Malta Mean sea level
MT002	Rabat-Dingli Perched
MT003	Mgarr-Wardija perched
MT005	Pwales coastal
MT006	Mizieb Mean Sea Level
MT008	Mellieha perched
MT009	Mellieha coastal
MT010	Marfa coastal
MT012	Kemmuna Mean Sea level
MT013	Gozo mean sea level
MT014	Ghansielem perched
MT015	Nadur perched
MT016	Xaghra perched
MT017	Zebbug perched
MT018	Victoria-Kercem perched

Groundwater

Monitoring of status and trends

- Quantity: main aquifers monitored for water level. Program still to be expanded to minor aquifers
- Quality: full monitoring program in place in all water bodies (2009)

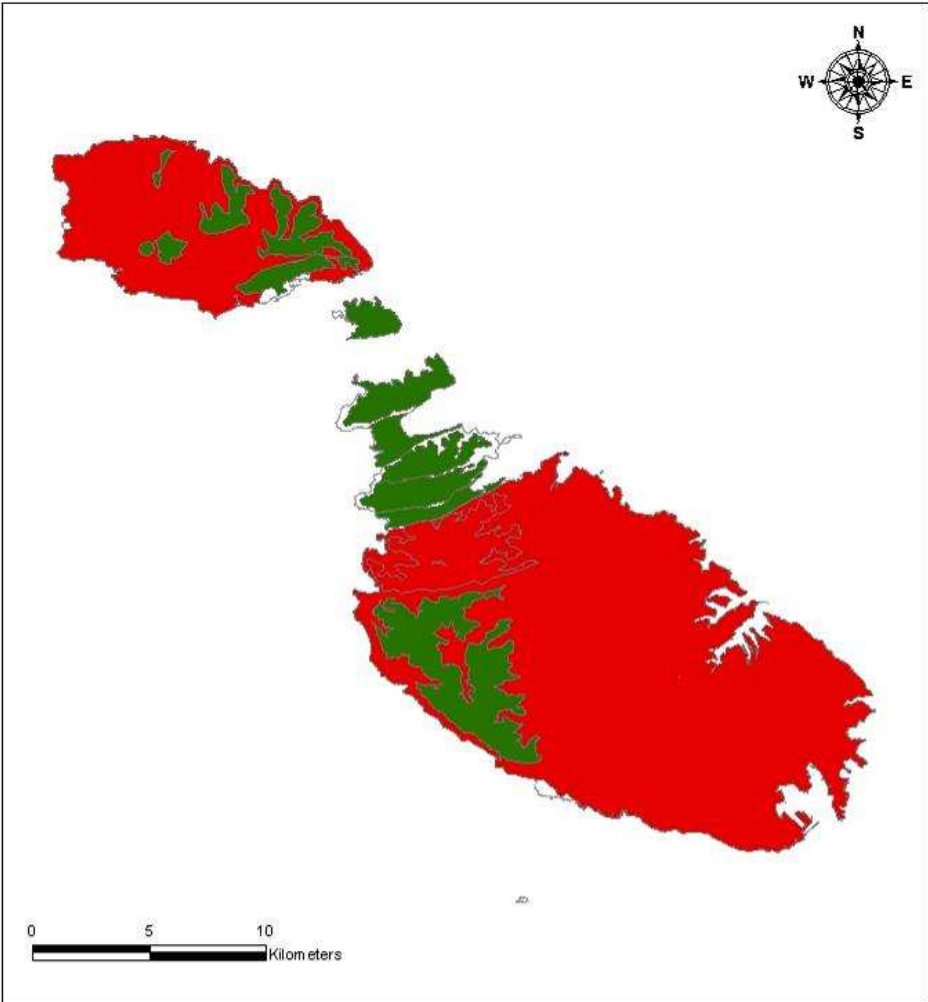
Old monitoring network upgraded with new monitoring points.

Malta has a comprehensive monitoring network in place for the first time.

Results are to be publicly available

Current Status

- Quantity
lack of regulatory framework governing abstraction by the private sector over time
e.g. Drilling regulations, metering of boreholes, (now in place);
other governance instruments being considered (e.g. allocation quotas, fiscal instruments, closure of sources in sensitive areas)
- Quality
Nitrate levels resulting from excessive use of fertilisers in arable agricultural practice.
13 out of 15 ground water bodies have poor status due to nitrate pollution

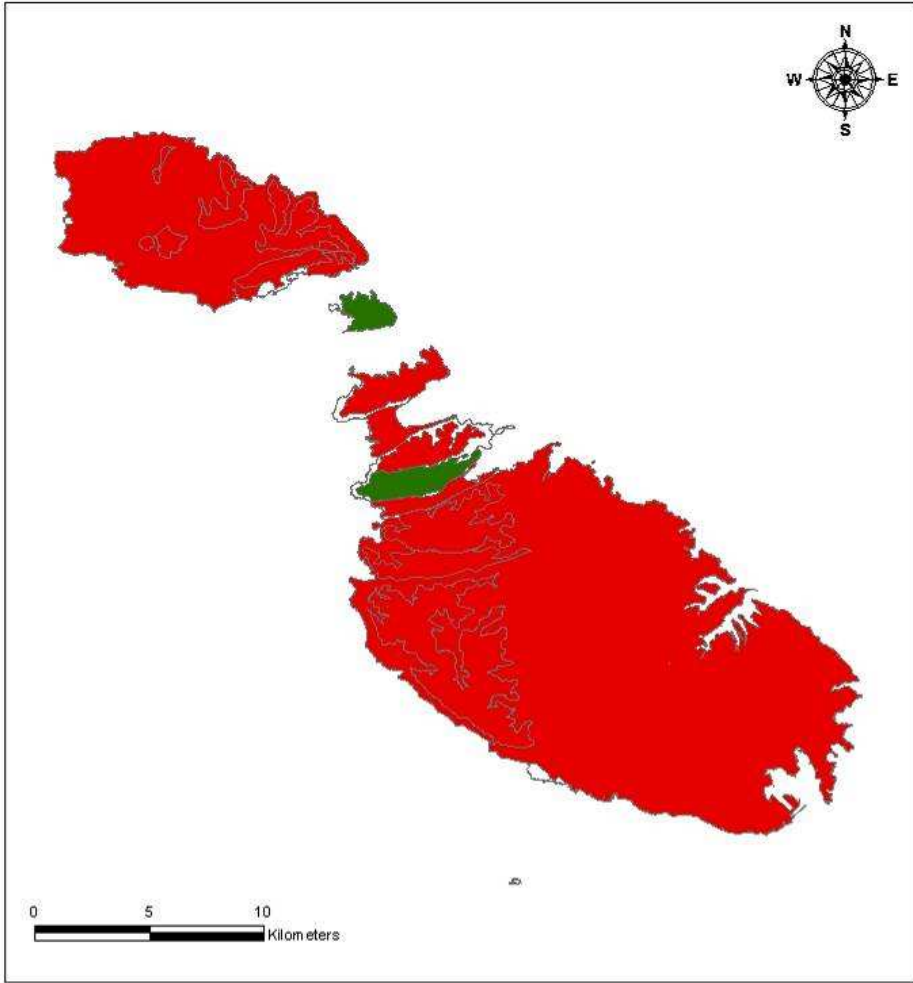


Groundwater Quantitative Status

Key

- Good Status
- Poor Status

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Groundwater Qualitative Status

Key

- Good Status
- Poor Status

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Groundwater: Strategic Approach outlined in the Plan

Qualitative status

Technically not feasible to achieve good status by 2015 due to the slow response time of the aquifers (average age of groundwater in sea level aquifers is 40 years)

Extensions of deadline to 2021 and 2027 (or when natural conditions permit or subject to the natural trend reversal).

Need to implement nitrate reducing measures outlined in the Nitrates Action Programme developed under the Nitrates Directive, by 2015.

Funds are being sought for the development of an additional nitrate monitoring system that would enable early detection on the effectiveness of the Action Programme.

Quantitative status

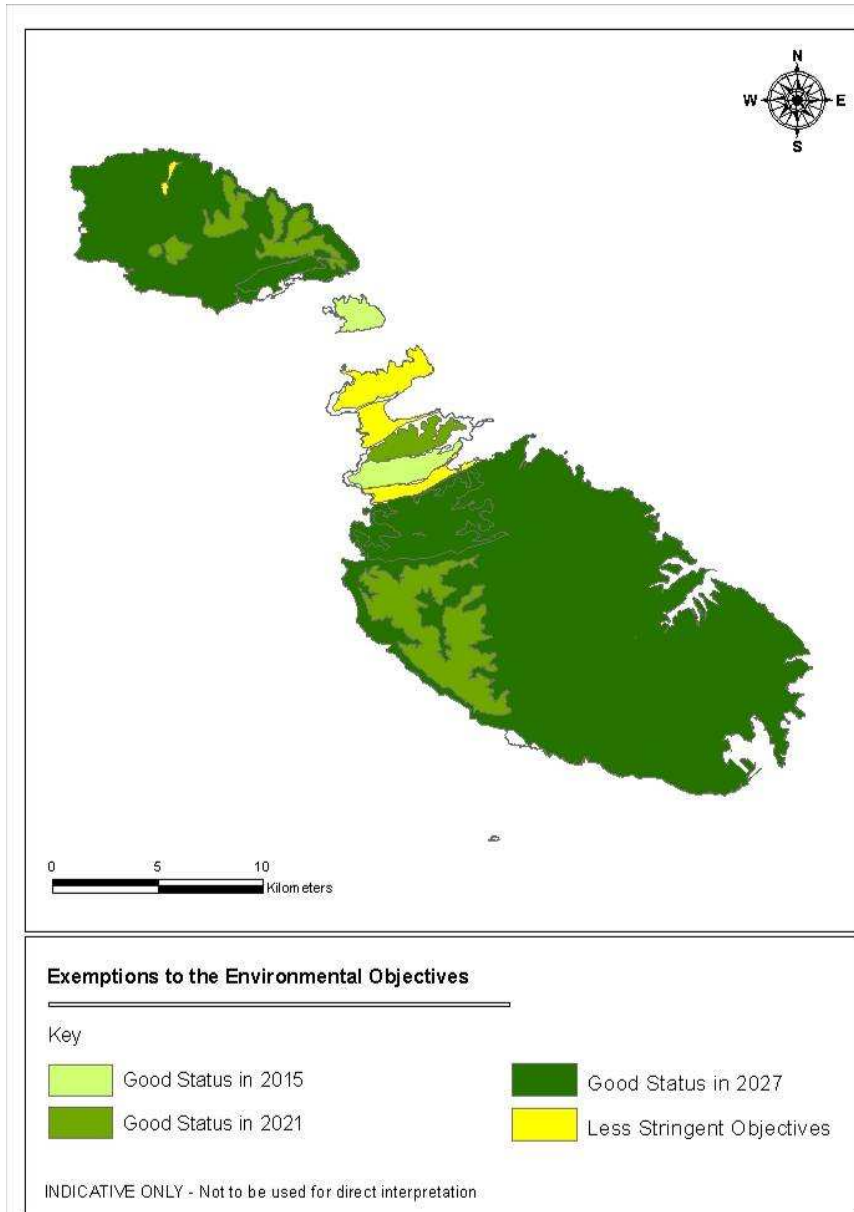
Achievement by 2015 is technically feasible if there is an increase in RO production for public supply (easy option).

However this measure will:

- Increase our dependency on desalination; vulnerability to offshore spillages and environmental disasters
- Increase the cost of potable water production and the operating cost of WSC
- Increase GHG emissions for energy generation

Therefore, to curtail impacts on consumers, extensions to the 2015 deadline are being proposed to be requested to the EU Commission, subject to the implementation of these measures:

- Introducing good groundwater-governance; this is already on course
- Gathering of reliable abstraction data through metering of groundwater sources
- Aggressive promotion of efficiency in water-use, and demand management. (Possible funding under EU-Med programme)
- Undertaking of studies and plans for the utilisation of Treated Effluent which will become available by end 2011; pilots already being studied by MRA/WSC for the re-use of TSE in agriculture and for aquifer recharge



Proposed deadline extension

Good Status by 2015: currently in good status

- Mizieb Mean Sea Level
- Kemmuna Mean Sea Level

Good Status by 2021: medium term response time

- Rabat Dingli Perched
- Mellieha Perched
- Nadur Perched
- Xaghra Perched
- Victoria-Kercem Perched

Good Status by 2027: long term response time

- Malta Mean Sea Level
- Mgarr Wardija Perched
- Gozo Mean Sea Level
- Ghajnsielem Perched

Less Stringent Objectives: significantly affected by human activity precludes good status

- Pwales Coastal
- Mellieha Coastal
- Marfa Coastal
- Zebbug Perched

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Program of Measures - Groundwater

Management Actions/Measures	Status of implementation	Immediate result	Improvement of waters over the years
Action plan to reduce nitrate contamination in groundwater	Commenced implementation	Action plan launched in May 2010	Natural long time span (averaging some 30-40 years in the mean sea level aquifer) for aquifer recharge.
Sustainable development of groundwater	<p>(i) “notification” of groundwater sources in 2008. (2643 new registrations – total registered sources now around 8000.</p> <p>(ii) Section 3 (1)(a)(iii) of the Water Supply and Sewerage Services Regulations LN525/04, brought into force in 2009, for the purpose of regulating transportation of water</p> <p>(iii) In 2010, MRA published the Groundwater Abstraction (Metering) Regulations LN241/2010, requiring all groundwater abstractions in excess of 1m³/day to be metered.</p>	More reliable data on actual abstraction to improve groundwater management	Abstraction reduced to sustainable levels and achievement of regulatory standards

Program of Measures - Groundwater

Management Actions/Measures	Status of implementation	Immediate result	Improvement of waters over the years
Water pricing policies adopted to reflect the economic value of water, discourage waste whilst rewarding efficiency. Social cases continue to benefit from government subsidies.	Continuous implementation.	Curtailing of system demand and improve efficiency	Lower demand will lead to lower levels of abstraction and reduce dependency on desalination.
Demand management aimed at reducing tap-water consumption and improve efficiency of water use	To be implemented as part of the WCMP programme of measures	Better cost-effectiveness of water services, Increased awareness on the economic value of water and improved water-consciousness	Lower demand will lead to lower levels of abstraction and reduce dependency on desalination, hence lower emissions of GHGs
Promoting wastewater reuse and rainwater harvesting as an alternative resource	Two pilot projects on re-use: one at Ghajnsielem, the other at Bulebel. SWMP completed	Alternative water resources expected to be available in the medium term	Reducing pressure on groundwater sources whilst meeting water demand for agriculture, industry and other secondary purposes

The principle of cost recovery

- ❑ The Water Framework Directive requires Member States to ***“take account of the principle of recovery of the costs of water services...in accordance with the polluter-pays principle”*** and ***“Member States may in so doing have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region”***.
- ❑ By 2010 Member States must ***“provide adequate incentives for users to use water resources efficiently”***, and must ensure ***“an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of costs of water services”***.
- ❑ In the Maltese Islands the principle of cost recovery is being taken into account for the provision of water services (potable water) by the WSC.
- ❑ The cost recovery principle is not yet applied for groundwater abstraction by private operators. Installation and O&M costs for borehole meters are recovered through fees chargeable to groundwater users. Volumetric charges will be introduced after the observation period.

Financial impacts

	Investment Cost	Annual Cost
Total <u>estimated</u> National Cost	€ 233 million	€ 22million
<input type="checkbox"/> <u>Approved/ allocated</u> by Government to be spent for implementation of other Directives	€ 224 million	€ 22million

These costs include amongst others:

Sewage treatment plants, rainwater harvesting projects, water supply improvements infrastructure, treatment of animal waste and farm upgrading, construction of anaerobic plants, and measures aimed at improving the regulatory framework

- Additional funds required estimated at € 9 million (investment)

These include outlays, by 2015, to carry out:

- robust information and awareness campaigns to improve water demand management by all sectors;
- measures to increase the knowledge base;
- improving management of harbours.

Public Consultation on draft WCMP

- ❑ Draft WCMP launched on the MEPA website in May 2010

<http://www.mepa.org.mt/topic-waterpc>

- ❑ Comments can be forwarded electronically as follows:
 - to MEPA, using the comment form provided on webpage or by email addressed to water@mepa.org.mt
 - to MRA, by email addressed to enquiry@mra.org.mt
 - Written comments can be sent to:

Malta Resources Authority	Malta Environment and Planning Authority
Millennia, 2nd Floor	Environment Protection Directorate
Aldo Moro Road, MARSÀ	P.O. Box 200, MARSÀ
MRS 9065	MRS, 1000
- ❑ Public consultation process will continue until November, 2010 (6 month period):
 - MEUSAC presentations
 - One-to-one meetings with stakeholders and interest groups, including local councils, NGOs, and others.
 - newspaper articles to inform the general public
 - promotion through other media, including radio and television

Thank you!