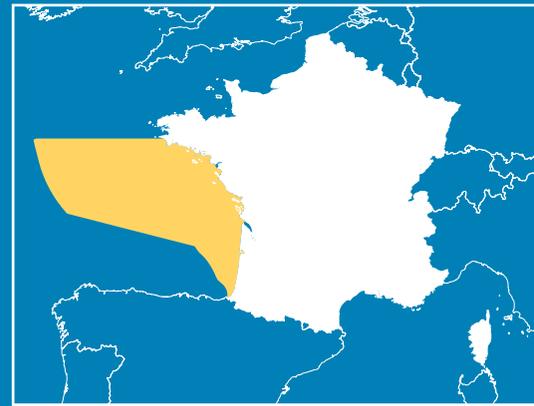


ACTION PLAN FOR THE MARINE ENVIRONMENT

# Programme of measures Bay of Biscay marine subregion



MINISTÈRE  
DE L'ÉCOLOGIE,  
DU DÉVELOPPEMENT DURABLE  
ET DE L'ÉNERGIE

PRÉFECTURE MARITIME  
DE L'ATLANTIQUE

PRÉFECTURE DE LA RÉGION  
PAYS DE LA LOIRE

*Marine Strategy Framework Directive  
Summary intended for the general public - 19 December 2014*



The Agency of Marine Protected Areas and Ifremer  
ensure the scientific and technical coordination of the  
implementation of the MSFD

# Programme of Measures of the action plan for the marine environment in the Bay of Biscay marine subregion

## Summary intended for the general public

This summary aims to inform the public about the projected Programme of Measures (PoM) for the marine environmental action plan in the Bay of Biscay marine subregion, submitted for public appraisal in the frame of the consultation organised from 19 December 2014 to 18 June 2015.

It has two parts:

- Methodology overview
- Challenges and proposals for new measures in the Bay of Biscay marine subregion

*A reminder that a glossary is appended to the consultation documents.*

### **PART ONE: METHODOLOGY OVERVIEW**

#### **I – Regulatory context**

In order to achieve or maintain Good Environmental Status (GES) of the marine environment by 2020 at the latest, Directive 2008/56/EC of the European Parliament and Council of 17 June 2008, called the **Marine Strategy Framework Directive (MSFD)**, leads the Member States of the European Union to take the measures required to reduce the impacts of human activities on this environment.

The Directive aims to maintain or reinstate the proper functioning of marine ecosystems, i.e. to preserve biological diversity, interactions between species and their habitats, dynamic and productive oceans, whilst allowing uses by future generations to be conducted within a sustainable development outlook.

It promotes an integrated approach to marine environmental management by taking existing public policies into account.

The MSFD has a number of features which set it apart from other public policies:

- an integrated, ecosystem-based approach over a vast geographic area, enabling challenges to be taken into account and actions to be conducted on various scales;
- regular review cycles, as comprised in the Water Framework Directive, to use both feedback and developing scientific knowledge and "quickly" readjust any measures which are not sufficiently efficient;
- a **"power to question" making it possible to put forward recommendations for action at the international and EU level.**

**In France**, the MSFD has been transposed into law in the Environment Code (articles L. 219-9 to L. 219-18 and R. 219-2 to R. 219-17). It applies to waters around the French mainland, which are subdivided into four marine subregions: the English Channel – North Sea, Celtic Seas, Bay of Biscay, and Western Mediterranean Sea.

For each marine subregion, the competent authorities must develop and implement an **action plan for the marine environment (PAMM)** comprising five elements which are to be revised every 6 years:

- ***an initial assessment of the environmental status*** of marine waters and the environmental impact of human activities on these waters (approved in 2012);
- ***the determination of good environmental status*** for these waters based on qualitative descriptors (approved in 2012);
- ***the determination of environmental targets and associated indicators*** with a view to achieving good marine environmental status (approved in 2012);
- ***a monitoring programme*** for the ongoing assessment of the status of marine waters and periodic updating of targets (approval in early 2015);
- ***a programme of measures*** and associated operational targets designed to achieve or maintain good environmental status in marine waters (approval in 2015 and implementation in 2016).

The public was consulted about the first three components of marine environment action plans from 16 July to 16 October 2012. They were approved by ministerial orders and notified to the European Commission in December 2012.

The fourth element (monitoring programme) was submitted to public consultation from 22 August to 21 November 2014 and is on its way to being approved.

## **II – Framework for drawing up a Programme of Measures**

### ***Purposes***

The Programme of Measures is the fifth and last element of the PAMM plan. It comprises all of the concrete and operational actions fulfilling one or several environmental objectives in order to achieve or maintain the Good Environmental Status of marine waters by 2020.

**It is drawn up on the basis of the initial assessment and the environmental targets determined in 2012.**

Indeed, several public policies (environment and sectoral) and their tools include measures which are already contributing to protecting the marine environment at various scales (local, regional, marine subregional, national, European and international). The existing measures are presented in the Programme of Measures.

However, the programmes of measures are not intended to exhaustively list all actions allowing the marine environment to be protected. Only those actions considered as most relevant to address the challenges identified during the initial assessment of marine waters and the environmental targets are included.

### ***Structuring***

A Programme of Measures (PoM) is defined as “a set of measures that the Member State is responsible for implementing, put into context with each other and referring to the environmental targets they address. Programmes of measures include existing and new measures”.

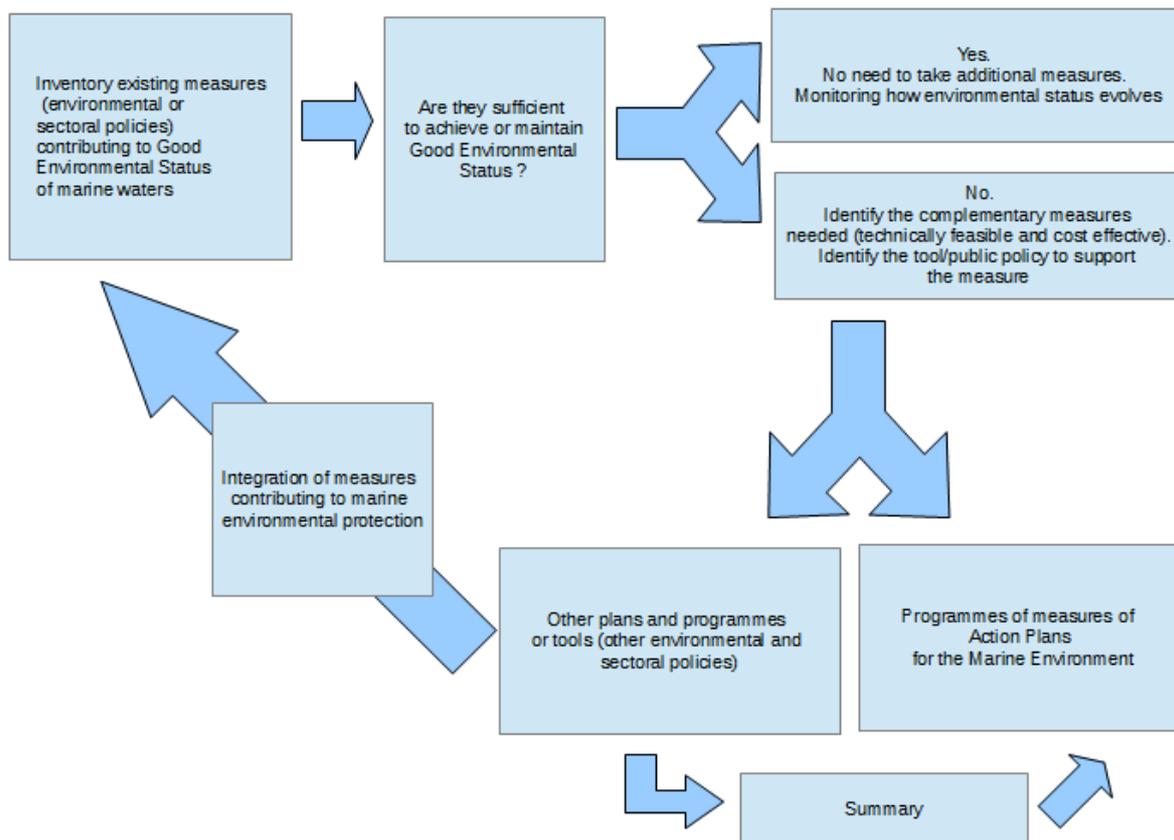
Existing measures are measures that have been adopted under other environmental or sectoral policies and that are entirely or partly relevant for the achievement of the environmental targets set in 2012. For instance, the measures taken in the frame of the "Habitats" Directive, the "Birds" Directive, the Water Framework Directive, the "Floods" Directive and the Urban Waste Water Directive or of some "sectoral" policies (common fisheries policy, maritime transport policy).

New measures are measures which have been identified in the PoM as being necessary to achieve or maintain Good Environmental Status in marine waters in 2020 when existing measures are not sufficient. These can be measures to complement existing ones (to reinforce, optimise or extend geographic scope) or entirely new ones. They can contain recommendations on actions to be conducted on national, EU or international levels.

The linkage between the implementation of the MSFD and the Water Framework Directive (WFD), which aims to achieve or maintain the good status of surface water, groundwater and coastal waters, is a major challenge. These two directives effectively share a common objective to achieve GES of the waters they apply to, which furthermore overlap in part. To address these shared issues, some of the new measures of the MSFD were drawn up in linkage with new measures in the master plans for water planning and management (SDAGEs) and programmes of measures under the WFD. Thus, the new measures described in detail in the WFD implementation documents are not found in the MSFD programmes of measures.

Furthermore, designating and managing marine protected areas are one of the tools which can be mobilised to ensure the protection and preservation of marine biodiversity and its ecosystems. Thus the MSFD explicitly provides for Programmes of Measures to contain spatial protection measures contributing to create a coherent and representative network of marine protected areas addressing ecosystem diversity in a satisfactory manner. This means that the measures proposed are consistent with the national strategy on creating and managing marine protected areas.

The following diagram shows the PoM structuring process:



## ***Main steps of development***

### *National level*

The Programme of Measures is drawn up under the authority of the coordinating prefects (who represent the French State at regional and county levels), the maritime prefect for the Atlantic and the prefect for the Pays de la Loire region, in the frame of a national process led by the Ministry of ecology, sustainable development and energy (Water and biodiversity division), and with the scientific and technical support of the Agency of marine protected areas and Ifremer.

- ***Inventory of existing measures*** implemented in the framework of other environmental and sectoral public policies and analysing how adequate and effective these measures are (1<sup>st</sup> semester of 2013);
- ***Identification of possibilities for new measures*** and associating stakeholders on these potential paths for new measures and then analysing their technical and legal feasibility (2<sup>nd</sup> semester 2013);
- ***Study on the economic, social and environmental impact*** of new measures particularly in terms of their cost-effectiveness (October 2013 – March 2014);
- ***National alignment*** of new measures chosen (April 2014);

- **Associating stakeholders** at marine subregion level in PoM projects (May – July 2014);
- **Environmental assessment** of PoM projects and submission to the environmental authority for approval (July – August 2014);
- **Consultation of authorities, bodies and public** on planned Programmes of Measures, linked with the consultation about SDAGE master plans and Water Framework Directive programmes of measures, and with the consultation of flood risk management plans (from 19 December 2014 on);
- **Consideration of the advice of authorities and bodies and the public and finalisation** of the programmes of measures for **approval by orders** of the maritime prefect of the Atlantic and the prefect of the Pays de la Loire region and for **notification to the European Commission** (late 2015 – early 2016).
- **Implementation** of the Programme of Measures (2016).

#### *European Union and international level*

In keeping with MSFD provisions, cooperation with Member States of the European Union sharing a given marine region or subregion has been established in the framework of drawing up programmes of measures in order to ensure that measures are consistent and comparable.

Cooperation has also been sought in the framework of Regional Sea Conventions: for France, they are the convention for the protection of the North East Atlantic, called the OSPAR Convention and that for the protection of the Mediterranean Sea, called the Barcelona Convention.

## PART TWO: SPECIFIC SUMMARY FOR THE BAY OF BISCAY MARINE SUBREGION

### 1 - The stakes for the Bay of Biscay marine subregion



MSR Bay of Biscay and OSPAR zones (source: CEREMA)

#### **Main characteristics of the MSR**

The Bay of Biscay marine subregion extends over a surface area of 188,590 km<sup>2</sup>, from the estuary of Bidassoa in the south to the 48<sup>th</sup> parallel in the north.

It is made up of 3 large entities:

- **a broad continental shelf** (50 to 200 km), displaying seabeds less than 200 m deep and a gentle slope with sandy sediments, as well as a large mudflat area
- **a steep continental slope** dropping to sea floors whose depth is greater than 3,000 m in 30 to 40 km, dissected by numerous canyons
- **an abyssal plain**, zone where sediments accumulate, reaching 5,000 m in depth to the west.

The subregion comprises 4 main commercial ports and **significant economic activity**: underwater cables and materials, shipbuilding, seafood and marine products, tourism.

**Pressures and impacts on the Bay of Biscay MSR**

The **pressures** exerted on the MSR are mainly the result of human activities such as: fisheries, shipping, aquaculture, extraction of marine aggregates, introduction of non-indigenous species, eutrophication, pollution, waste and litter, etc. They mostly come from land.

These pressures can cause **disturbances** which are:

- **physical:** modifications in turbidity, seabed abrasion and sealing, etc.
- **chemical:** introduction of synthetic compounds, nutrient enrichment, organic matter enrichment, etc.
- **biological:** mortality of species, introduction of non-indigenous species, introduction of pathogens, etc.
- **hydrological:** modifications in temperature regime, salinity regime, etc.

They have various types of consequences: **loss of biological diversity, deterioration of the marine water's ecological and health quality, depletion of natural resources and services rendered to society by the marine environment.**

These impacts can vary in extent or reversibility, depending on the vulnerability and ability to regenerate of the environment and its organisms as well as on the type of pressures, their intensity and their duration. The cumulative impacts can be greater than the sum of isolated impacts. In the current state of knowledge about the marine environment, measuring and quantifying cumulative impacts are particularly delicate tasks.

The pressures and impacts related to human activities are further compounded by those from the effects of climate change and natural hazards.

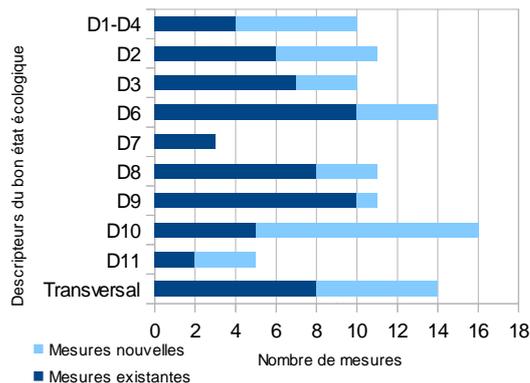
**Challenges for the Bay of Biscay MSR**

- **Maintain biodiversity and good functioning of food webs:** preserve the functions of the marine environment, and especially habitats and rare and threatened species (Descriptors 1 and 4);
- **Avoid the introduction of non-indigenous species (NIS)** and control the development of NIS already present, so they do not adversely alter ecosystems. (Descriptor 2);
- **Exploit fisheries resources in a sustainable manner,** in order to maintain stocks in good health and avoid accidental by-catches of mammals, birds and turtles. (Descriptor 3);
- **Combat eutrophication of marine waters,** which has numerous harmful consequences for ecosystems. (Descriptor 5);
- **Limit physical alterations to sea floors and hydrographic conditions,** so that ecosystems are not disturbed (Descriptors 6 and 7).
- **Limit chronic and accidental water pollution,** so that ecosystems are not disturbed and seafood products comply with health regulations in force (Descriptors 8 and 9);
- **Combat the presence of litter in the marine environment and onshore,** in order to avoid its harmful impact on ecosystems (ingestion by marine life, long-term pollution of sediment, "ghost fishing", etc.) (Descriptor 10);
- **Limit noise pollution at sea** so that marine species are not disturbed (marine mammals). (Descriptor 11);

## II - Type and distribution of measures in the Bay of Biscay PoM project

The projected Bay of Biscay PAMM action plan comprises 105 measures which cover all of the Good Environmental Status descriptors determined by the MSFD. Along with the drawing up of the programme of measures, operational environmental targets are proposed for the Celtic Seas marine subregion in order to guide the actions and definition of measures which could make it possible to achieve or maintain the GES of marine waters. These targets are presented at the end of this summary.

Répartition des mesures du PAMM par descripteur du bon état écologique



D1-D4 : Biodiversity and food webs  
 D2 : Non-indigenous species  
 D3 : Commercially exploited stocks  
 D6 : Sea-floor integrity and benthic ecosystems  
 D7 : Hydrographic conditions  
 D8 : Concentration of contaminants in the environment  
 D9 : Concentration of contaminants in seafood  
 D10 : Marine litter  
 D11 : Introduction of underwater noise energy  
 Cross-cutting : Information – Awareness-raising

Translation of titles from top to bottom:

Breakdown of PAMM measures by GES descriptor

Descriptors of Good Environmental Status

Cross-cutting

New measures

Number of measures

Existing measures

### Case of Descriptor n°5 :

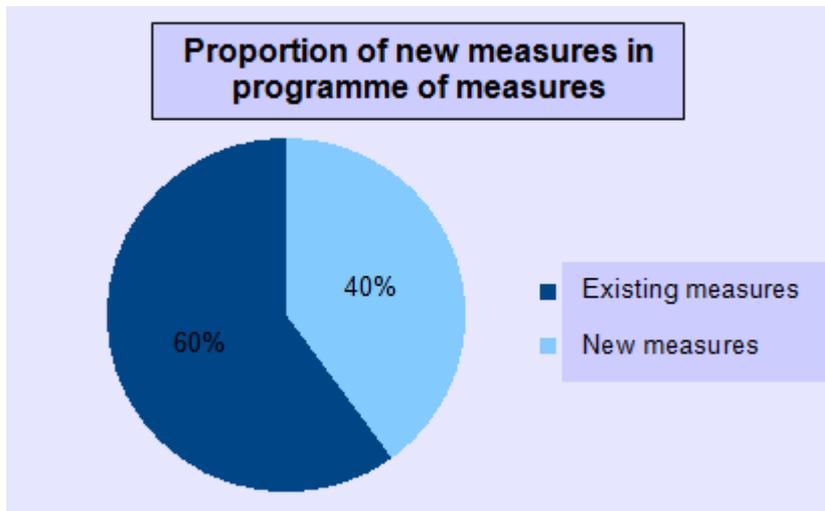
#### "Human-induced eutrophication is minimised"

Numerous guidelines and measures from the Loire-Brittany and Adour-Garonne SDAGE masterplans and their respective programmes of measures make it possible to achieve the following PAMM operational targets :

- Safeguard zones hardly or not impacted by eutrophication
- Significantly reduce excessive nutrient inputs to the marine environment

Therefore, the PAMM PoM does not propose any specific measure related to descriptor 5.

Amongst the 105 measures, 42 new measures supplement the existing ones to meet the operational objectives of the PAMM plan (cf. list in annex).



*A balanced spread between national measures and measures specific to the MSR*

These new measures cover:

- 17 new measures specific to the Bay of Biscay MSR;
- 20 new measures of national scope (which apply to all MSRs);
- 5 national recommendations whose implementation will require that national, EU or even international regulations be modified.

### **III - Proposals for new measures in the Bay of Biscay marine subregion**

#### **Measures to achieve environmental targets related to environmental status**

Good Environmental Status is considered to be achieved when biological diversity is maintained and interactions between species and their habitats are correct, while at the same time enabling uses of the sea by future generations in the perspective of sustainable development. Human activities and induced pressures should be at a level which is compatible with the ecosystem's capacity for ecological resilience. Maintaining biodiversity and safeguarding marine environmental functions (especially habitats and rare endangered species) are core elements of these new measures.

The new measures, aiming in particular to extend and improve the network of marine protected areas (via existing regulatory tools) and to make them more coherent, address the objectives to be achieved in the framework of implementing the national strategy of marine protected areas (adopted on 18 April 2012). In response to a recommendation from the European Commission, it is proposed, for instance, to extend the Natura 2000 network offshore, to provide better coverage of offshore issues and stakes related to marine mammals and birds.

The measures in favour of marine mammals are generally turned towards controlling and reducing acoustic disturbance (promoting fitting of quieter engines on vessels, monitoring acoustic emissions, and so on). The list of marine mammals, birds and plant species to be protected will also be updated and supplemented.

Furthermore, it is proposed that functional fisheries zones be developed to favour the sustainability of exploited fish stocks in the Bay of Biscay. Strengthening the regulation of recreational fisheries is also recommended, with the setting up of compulsory prior declaration of activity.

#### **A few examples of measures proposed to achieve environment targets related to environmental status**

- GdG-MC\_01\_01\_01 (New national measure): "Complement the offshore Natura 2000 network to address the challenges identified for mammals, birds and reefs."
- GdG-MC\_03\_20\_01 (New national measure): "Compulsory prior declaration of activity for practice of recreational marine fisheries and related methods."
- GdG-MC\_03\_20\_02 (New national measure): "Regulate recreational seashore fishing practices in a coherent manner."
- GdG-MC\_11\_54\_01 (New measure): "Promote the fitting of vessels with engine types which make less noise."

#### **Measures to achieve environmental targets related to pressures and impacts**

The new measures proposed relating to pressures and impacts on the environment principally involve safeguarding sea-floor integrity, reducing contaminants and litter in the environment, as well as mitigating the effects induced by the introduction of invasive non-indigenous species.

Maintaining a good level of sea-floor integrity ensures that the structure and functions of the ecosystems are safeguarded and that benthic ecosystems, in particular, are not adversely affected with respect to physical pressures induced by human activities. Therefore, it is notably suggested to set up territory-based guidance schemes and management strategies focusing on dredging operations and marine aggregate extraction. Bottom fisheries techniques which are compatible with the safeguarding of habitats will also be promoted. Furthermore, utilising environmentally-friendly footprint techniques is encouraged for recreational boats in mooring zones.

The modifications engendered by introduced species of invasive nature can lead to the disappearance of native species, the degradation of habitats, or a change in seabed structure. Measures favouring the setting up of a watch and alert system and which promote appropriate fisheries techniques will ensure that non-indigenous species introduced via human activities remain at levels which do not disturb the ecosystem. Research on possibilities to derive economic value from these non-indigenous species will also be emphasised.

As regards the reduction of chemical contaminant inputs to the sea, numerous measures already exist. The proposals for additional measures (setting out hull-cleaning areas in

harbours, improving registration processes for pesticides, etc.) are mainly aimed at pursuing efforts which have been undertaken.

Analysis of existing measures concerning the reduction of litter and waste in the marine environment highlighted the need to target new measures, particularly the necessity of developing special collection operations (by fishermen, waste disposal facilities in harbours, etc.). Recycling of marine litter and waste, and particularly that linked to mariculture activities, is encouraged.

#### **A few examples of measures proposed to achieve the environment targets related to pressures and impacts**

- GdG-MC\_02\_07\_04 (New national measure): "Set up a watch and alert system for non indigenous species (INS)."
- GdG-MC\_06\_35\_01 (New measure): "Improve knowledge, experiment, develop and implement new fisheries techniques to limit the impact on benthic habitats."
- GdG-MC\_06\_30\_04 (New measure): "Draw up a strategy for the extraction and management of marine aggregates on the scale of the Atlantic and English Channel."
- GdG-MC\_10\_51\_11 (New national measure): "'Sentinels of the sea' actions for marine litter."

#### **Measures achieving cross-cutting environmental targets**

In the draft Programme of Measures for the Bay of Biscay, the chapter on "cross-cutting themes" was created to group together the operational targets which are common to all or part of the descriptors. The fields in question are vocational training, on one hand, and education, information and awareness-raising on the other, as well as aid for decision and policy-making (coastal area developments, cumulative effects, etc.).

The "vocational training" strand involves training of instructors and professionals in boating and water sports activities to make the general public aware of the need to protect the marine environment. This would mean emphasising the challenges of marine environmental protection in maritime training certificate requirements. The environmental theme is also more broadly developed in the recreational motorboat licence exam.

Efforts devoted to informing and raising awareness of the general public mainly aim to heighten stakeholders' perceptions and modify their behaviour with respect to protecting the marine environment overall. The specific theme of reducing waste in catchments and on board vessels, like that of reducing underwater noise, can be addressed during sporting events for example.

There are many projects and activities which could affect the marine environment, covering both coastal areas, with development projects (reinforcing seawalls, beach nourishment, tourist developments), and offshore zones, with traditional activities like aquaculture, aggregate mining, cable-laying or emerging activities such as marine renewable energy operations. Therefore, it is a question of taking the cumulative effects of all activities

into account in order to intensify research on their still poorly-known impacts on marine ecosystems. Concurrently, regulatory tools to govern coastal development are promoted. This will enable the most efficient integrated coastal zone management to be envisaged, so that all the activities conducted in the marine environment can be fully taken into account.

#### A few examples of measures proposed to achieve cross-cutting environment targets

- GdG-MC\_MT\_05\_01 (New national measure): "Incorporate or reinforce marine environmental challenges and protection measures in reference systems and examinations for maritime vocational training course, water sports training courses and the exam to pass for a motorboat licence."
- GDG-MC\_MT\_45\_03 (New measure): "Raise the general public's awareness of the concept of the "sea as a receptacle", since all pollution from land will have an impact, whether or not it is direct, on the marine environment. Strengthen programmes for awareness-raising, information and training in this direction. Further grow this awareness and inform users of the sea for waste management on board vessels."
- GdG-MC\_MT\_03\_05 (New measure): "Better take into account the cumulative effects on the scale of the marine subregion in impact assessment files and impact studies, particularly regarding sea-floor integrity."

#### IV Operational environmental targets

The operational targets determined in late 2012 have been supplemented by 55 operational environmental targets:

OO 1	Safeguard and/or protect species and habitats by improving the performance of the network of marine protected areas
OO 2	Safeguard and/or protect species and habitats by maintaining or restoring sea-land connectivities
OO 3	Safeguard and/or protect species and habitats, marine ecosystems and their functions by reducing the impacts of economic activities and recreational uses through taking account of sensitive areas and periods as well as cumulative effects on the scale of the MSR and globally
OO 4	Safeguard and/or protect species by reducing the rate of accidental by-catches
OO 5	Safeguard and/or protect species and habitats by setting tools for decision-making and knowledge
OO 6	Ensure good prey-predator balance to guarantee the lastingness of ecosystem

	services (e.g.: regulation of jellyfish populations by walruses)
OO 7	Alert policy-makers about the appearance of new entrants by relying on a watch and alert unit and a portal for "non-indigenous species" which may be invasive in order to target interventions
OO 8	Exercise control over the vectors of non-indigenous species introduction to limit the risks of introduction
OO 9	Reduce the impact of non-indigenous species presenting risks of invasion for uses
OO 10	Reduce the impact of non-indigenous species presenting risks of invasion by exploiting them economically
OO 11	Raise public awareness and inform or educate policy-makers and users about the issue of "biodiversity and non-indigenous species" to prevent introduction and dissemination, to alert and to apply best practices
OO 12	Improve governance in territories on the issue of "biodiversity and non-indigenous species" to prevent introduction and dissemination, and take it into account within public policies for the sea and coast
OO 13	Implement special regulations and maritime areas to safeguard species
OO 14	Protect species exposed due to their commercial value and thus subjected to corresponding fishing effort
OO 15	Proactive policies of initiatives and informations contributing to the protection of species
OO 16	Set up actions to replenish stocks whose status is poor
OO 17	Protect species subjected to high pressure and which are observed to be in poor condition
OO 18	Set up prospection surveys and scientific fisheries to monitor certain species
OO 19	Set up local measures to reinforce the protection of species covered by an EU stock recovery plan
OO 20	Supervise recreational marine fishery activity on commercial species
OT 21	Safeguard areas which are hardly or not impacted by eutrophication by limiting telluric nutrient inputs, at the source and during transfers, in the catchment areas concerned in the marine subregion

OO 22	Identify areas of proven eutrophication and the catchment basins which contribute most to the origin of the main nutrient inputs from the source to the outflow
OO 23	Continue to reduce the impact of point-source pollution in the marine environment by increasing the treatment of urban and industrial nutrients in waste water in catchments which contribute most for towns or urban areas of 2,000 population equivalents or more and better taking into account discharges in rainy weather in collecting and treating waste water in the catchments which contribute most. In catchment basins covered by an SAGE plan, they could be asked to determine adequate reduction targets and the schedule for achieving them.
OO 24	Increasingly reduce non-point source pollution from agriculture over all vulnerable areas by determining appropriate local actions. In catchment basins covered by an SAGE plan, they could be asked to determine adequate targets and means to reduce fluxes, especially nitrate
OO 25	Increasingly reduce non-point source pollution from agriculture by improved mastery of fertilisation in the catchments of the marine subregion which contribute the most
OO 26	Limit the transfer of non-point source pollution to aquatic environments by adopting appropriate management of soils and farm areas, fostering the retention and reduction of nutrients, natural denitrification and the fixing of phosphorous before nutrients are transferred over all catchments in the marine subregion
OO 27	Reduce inputs of atmospheric nitrogen (Nox) by taking marine environmental stakes into account in plans to combat atmospheric pollution, regional air quality plans and atmosphere protection plans in the regions which contribute the most
OO 28	Favour a territorial approach and put water at the core of territorial planning: develop a territorial policy adapted to coastal environmental stakes and consistent with the outcomes of the Grenelle summit meetings for the sea and reconcile economic uses and restoration of aquatic environments
OO 29	Adapt the conditions of managing activities to the sensitivity of habitats, particularly those of eelgrass meadows, kelp fields, maerl beds, honeycomb worm reefs, corals and boulder fields
OO 30	Extract marine materials under sustainable conditions
OO 31	Maintain the ban on maerl extraction
OO 32	Regulation to avoid, reduce and compensate for the morpho-sedimentary impact

	of coastal developments and construction work
OO 33	Conduct activities at sea under sustainable conditions, manage dredged sediments under sustainable conditions
OO 34	Promote aquaculture practices which safeguard sea-floor integrity
OO 35	Reduce the impact of towed-gear fisheries activity
OO 36	Limit or eliminate some turbid discharges at sea whilst taking natural variability, like seasons and tides, into account
OO 37	Limit the elimination of mudflats or nursery areas
OO 38	Guarantee sufficient amounts of freshwater inputs in the coastal sector
OO 39	Implement measures to combat marine pollution
OO 40	Set up rules to avoid inputs of contaminants at the source
OO 41	Reduce the presence of waste which could cause chemical contamination
OO 42	Implement rules and inspections for some sensitive activities
OO 43	Promote policies for incentives and information about chemical contaminants
OO 44	Adapt the practices of professionals and users to limit and prevent polluting the marine environment, and supervise coastal and maritime activities impacting it
OO 45	Train, raise awareness, inform policy-makers, professional and the public about reducing and managing waste and litter
OO 46	Observe, monitor and utilise a few parameters for the status of marine environmental health, directly related activities and associated best practices and techniques
OO 47	Manage crises in the case of accidental pollution and mobilise appropriate means to limit dissemination and reduce pollution
OO 48	Reduce the production of the main types of litter identified in the marine environment
OO 49	Reduce the input of waste and litter produced by activities on land
OO 50	Improve the management of waste and litter produced by maritime and coastal activities

OO 51	Collect litter at sea and on the coast
OO 52	Learn more about the impacts of underwater noise generated by human activities
OO 53	Regulate the activities of installation and maritime construction work with respect to the sensitivity of the environment to airborne and underwater noise
OO 54	Organise the spatial-temporal maritime area with respect to the sensitivity of the environment to airborne and underwater noise
OO 55	Raise marine and maritime stakeholder awareness and train seafarers about underwater noise

## ANNEX

### List of new measures by GES descriptors

#### ***D1 (biological diversity)***

01\_01\_01. Complement the offshore Natura 2000 network to address the challenges identified for mammals, birds and reefs.

01\_01\_02. Complement the network of marine protected areas by setting up increased protection areas using existing tools (national nature reserves, biotope protection orders, no-take zones in national parks, etc.) in sectors of remarkable biological diversity.

01\_01\_03. Set up (temporary or permanent) protection areas in functional zones for fish.

01\_02\_04. Strengthen the policy of assigning and allocating natural areas in the State-owned maritime domain to the Conservatoire entity for coastal and lake shore protection.

01\_05\_05. Update the list of marine protected species and habitats at national level.

01\_05\_06. In addition to national studies, update regional lists of protected plant species and propose protection status for other species and habitats on the scale of the marine subregion.

#### ***D2 (non-indigenous species)***

02\_08\_01. Recommend defining a protocol to apply prior to the introduction of non-indigenous species, in application of the International Council for Exploration of the Seas (ICES) Code of practice on the introductions and transfers of marine organisms 2005.

02\_12\_02. Recommend bringing EU or even international regulations related to transfers of living marine species into alignment.

02\_09\_03. Broaden the adaptation of fishing techniques to combat non-indigenous species (slipper limpets, sea stars and drills) over the entire MSR.

02\_07\_04. Set up a watch and alert system for non indigenous species (NIS).

02\_10\_05. Study the regulatory, economic and ecological feasibility of deriving valuable utilisations of invasive species in order to regulate their development.

#### ***D3 (exploited species)***

03\_20\_01. Make prior declaration of activity for practice of recreational marine fisheries and related methods compulsory.

03\_20\_02. Regulate recreational seashore fishing practices in a coherent manner.

03\_20\_03. Leave seashore fishing zones fallow along the coast.

***D6 (sea-floor integrity)***

06\_35\_01. Improve knowledge, experiment, develop and implement new fisheries techniques to limit the impact on benthic habitats.

06\_29\_02. Encourage the grouping of moorings by issuing the appropriate deeds (zone for mooring and lightweight equipment) as well as the use of techniques with an environmentally-friendly footprint.

06\_33\_03. Promote the implementation of territory-based guidance schemes for dredging operations and value chains for sediment management which can evolve and are adapted to local requirements.

06\_30\_04. Draw up a strategy for the extraction and management of marine aggregates on the scale of the Atlantic and English Channel.

***D8 (contaminants – environment)***

08\_40\_01. Make the setting off of hull-cleaning areas in harbours compulsory and continue their upgrading to standards in order to eliminate direct discharges to the sea.

08\_40\_02. Produce multiannual dredging master plans in the perspective of appropriate territorial management, with an associated monitoring committee.

08\_40\_03. Make an improvement in the quality of approval processes for plant care products, taking account of their mechanisms of degradation and related impacts on the marine environment.

***D9 (contaminants – seafood)***

09\_46\_01. Systematically examine the ranking of all shellfish-farming waters as "zones with health stakes" in accordance with the 27/04/2012 Order concerning how off-mains sewage installation inspection missions are to be performed.

***D10 (marine litter)***

10\_49\_01. Deal with the specific issue of marine waste and litter in departmental prevention and management plans for non-hazardous waste. .

10\_49\_02. Include an orientation on marine litter in the national waste prevention plan and contribute to its implementation.

10\_49\_03. Implement a programme for prevention and management of floating litter and waste in catchments.

10\_48\_04. Reinforce the limiting of plastic bags in all shops.

10\_48\_05. Prevent the dumping of industrial plastic granules into the environment.

10\_48\_06. Conduct a study on the sources of microparticles.

10\_50\_07. Identify and promote the most relevant systems to limit the transfer of macrowaste during dredge spoil dumping operations.

10\_50\_08. Encourage harbours to provide adequate waste management services, especially by generalising "clean port" or environmental management policies.

10\_50\_09. Recommend that a marine litter strand be generalised in mariculture facility plans.

10\_50\_10. Examine the options for collecting and processing or recycling fishing gear and equipment at the end of its serviceable life and waste from shellfish farming.

10\_51\_11. Enact 'sentinels of the sea' actions for marine litter.

### ***D11 (noise energy level)***

11\_54\_01. Promote the fitting of vessels with low-noise engine types.

11\_52\_02. Set up monitoring of pressures from acoustic emissions created by human activities which may affect the marine environment.

11\_53\_03. Determine recommendations to limit the impacts of acoustic emissions during work at sea and seismic research surveys and operations.

### ***Cross-cutting measures***

MT\_05\_01. Incorporate or reinforce marine environmental challenges and protection measures in reference systems and examinations for maritime vocational training course, water sports training courses and the exam to pass for a motorboat licence.

MT\_05\_02. Set up an overarching strategy to raise awareness about marine environmental challenges and protection in keeping with targets (raising awareness of different groups, supporting the dynamic deployment of PAMM plans, modifying stakeholders' behaviour).

MT\_45\_03. Raise the general public's awareness of the concept of the "sea as a receptacle", since all pollution from land will have an impact, whether or not it is direct, on the marine environment. Strengthen programmes for awareness-raising, information and training in this direction. Further grow this awareness and inform users of the sea for waste management on board vessels.

MT\_55\_04. Raise stakeholders' awareness about underwater noise generated by human activities.

MT\_03\_05. Better take into account the cumulative effects on the scale of the marine subregion in impact assessment files and impact studies, particularly regarding seafloor integrity.

MT\_28\_06. Provide national guidelines to implement individual SCOT plan chapters serving as sea enhancement schemes.

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The programme of measures for the Bay of Biscay subregion is approved  
by order of the Maritime Prefect for the Atlantic and the Prefect for the Pays de la Loire Region

Information on the programme of measures can be obtained  
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