**Factsheet for new measures**

*This measure fact sheet is the result of coordination between the UBA project Implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria – Development of Programmes of Measures under Article 13', carried out by Fresh Thoughts/Intersus, and the EC project (DG Environment) 'Technical and administrative support for the joint implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria and Romania – Phase 2', carried out by ARCADIS-Belgium.*

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| **Measure characteristics** | **Management area:**   * ***Black Sea***   ***Any other codes*** | **Code:**  ***MSFD reporting code***  **No. of measure:**  **9** |
| **Measure title** | Promotion and stimulation (including financial) of environmental friendly fishing and collection of shellfish | |
| **Short, precise description of the measure** | This measure is developed as common coordinated measure with Romania in the scope of EC project (DG Environment) “Technical and administrative support for the joint implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria and Romania – Phase 2”.  The measureaims to promote and stimulate the environmental friendly techniques for fishery and shellfish collection.  The measure requires following actions:  9.1. Public awareness  9.2. Define stimuli system (incl. discussion document with fisheries/processing/export sectors  9.3. Elaboration (financial) stimuli system  9.4. Diving, traps of sea snail (Rapana venosa)/shellfish  9.5. Setting up of advisory services  9.6. Awareness building (educational campaign) of and advisory services for local professional Fishery Groups regarding effective use of environmental friendly fishing techniques and equipments | |
| **EU measure category** | **2b** | |
| **Key Types of Measures** | KTM 20 Measures to prevent or control the adverse impacts of fishing and other exploitation/removal of animal and plants  KTM 27 Measures to reduce physical damage in marine waters  KTM 35 Measures to reduce biological disturbances in the marine environment from the extraction of species, including incidental non-target catches | |
| **Environmental targets** | RO  Descriptor 1  Benthic habitats  Crt. 1.4 Habitat distribution  1.4.1 Area distribution of benthic habitats  1110-1: Maintaining existence of the three grasslands of *Zostera noltei* in Mangalia zone  1110-8: Maintaining the current distribution in the area Costinești -2 Mai  Sands with *Donax trunculus*: Maintaining the current distribution in the area Navodari - 2 Mai  1140-3: Maintaining the current distribution in the area Eforie Nord-Eforie Sud  1170-7 : Maintaining the current distribution in the area 2 Mai – Vama Veche  1170-8: Maintaining the current distribution in the area Cap Aurora – Vama Veche  1170-10: Maintaining the current distribution in the point Agigea, Costinești și Vama Veche  1170-2 *Mytilus galloprovincialis* biogenic reefs: Maintaining current distribution throughout Self Romania between 30-50m  1170-9: Maintaining the current distribution across the rocky circalitoral substrate  Crt. 1.5 Habitat extent  1.5.1 Benthic habitat surface  1110-1: The area occupied by habitat ≥ 2,43 ha  1140-3: The area occupied by habitat ≥ 2,06 ha  1170-7: The area occupied by habitat ≥ 1.8 ha  1170-8: The area occupied by habitat ≥ 46 ha  1170-10: The area occupied by habitat ≥ 1 ha  Crt. 1.6 Habitat condition  1.6.1 Species state  Leaf height of *Z. noltei* in june ≥ 70 cm; annual rhizomes extending of *Z. noltei* in growing areas ≥ 70 cm  Height equities of *Cystoseira barbata* in cold season ≥ 100 cm; frequency of juveniles of *C. barbata* in 1 m2 ≥ 50%  The median size of specimens by *Mytilus galloprovincialis* (shell length) ≥ 50 mm SL  Juveniles frequency of *Pholas dactylus* in 1m2 ≥ 50%; the maximum size of specimens *P. dactylus* (shell length) = 70mm SL  The maximum size of specimens *Donacilla cornea* (shell lenght) ≥ 22-24 mm SL  The maximum size of specimens *Donax trunculus* (shell lenght) 45-50mm SL  The maximum size of specimens *Arenicola marina* (whole body length) 250-350mm TL  1.6.2 Relative biomass and abundance  Coverage with *Z. noltei* ≥ 50%; Foliar biomass of Z.noltei ≥ 1600 g•m-2  Coverage with *Cystoseira barbata* ≥ 50%; the wet biomass of *C. barbata* without epiphytic ≥ 3000 g•m-2  Coverage with *Mytilus* inside the habitat ≥ 50%; living biomass of *Mytilus galloprovincialis* ≥ 5000 g•m-2  The population density of *Donacilla cornea* ≥ 3300 ind•m-2  The population density of *Donax trunculus* ≥ 200 ind•m-2  Coverage with *Corallina officinalis* inside the fields ≥ 50%  The population density of *Lentidium mediterraneum* ≥ 9000 ind•m-2; living biomass of Lentidium mediterraneum ≥ 100 g•m-2  Coverage with Mytilus in the habitat ≥ 80%; living biomass of *Mytilus galloprovincialis* ≥ 8000 g•m-2  Living biomass *Modiolula phaseolina* in 1 m2 ≥ 16 g•m-2  Mammals:  Crt. 1.1 Species distribution  1.1.1 **Maintaining the distribution and frequency of species by implementing adequate management measures**  Seabirds  Crt. 1.1 Species distribution  1.1.1 Maintain or increase in sustainable limits (to be determined) the distribution of migratory species Mediterranean shearwater (*Puffinus yelkouan*).  Crt. 1.2 Population size  1.2.1 The population abundance/size (number of migratory individuals) of Mediterranean shearwater (*Puffinus yelkouan*) remains within 95% of the natural abundance of migratory species in Romania and increases in the long term.  Crt. 1.4 Habitat distribution  1.4.1. Preserve the habitats of Mediterranean shearwater (*Puffinus yelkouan*) by decreasing the pressure from human and natural factors.  Crt. 1.5 Habitat extent  1.5.1. The area of the habitats of the Mediterranean Shearwater (*Puffinus yelkouan*) is maintained or is increasing  Descriptor 3  Criterion 3.1. Level of pressure of the fishing activity  Maintaining the fishing mortality F ≤ FMSY = 0.64 (sprat);  Stable trend toward decreasing values of the fishing mortality at regional level in the range FMSY=Range (F0.1-FMAX) with levels between F= 0.07 and F= 0.15 - limit reference points (turbot);  A stable trend of decreasing fishing mortality at regional level, FMSY not exceed the limit reference value of 0.54 (FMSY = F ≤ 0.54, recommended limiting point) when the value of the coefficient of natural mortality M 1-3 = 0.81 and level of service from E ≤ 0.4 (anchovy);  3.1.1  Reducing fishing effort to F≤ FMSY =0.4 (whiting)  Drastic reduction in fishing effort, F ≤ FMSY = 0.15 (turbot)  Reducing fishing effort in the wintering areas (horse mackerel)  Reducing fishing effort to F≤ FMSY =0.54 (anchovy)  Reducing fishing effort to F≤ FMSY =0.18 (dogfish)  Reducing fishing effort to F≤ FMSY =0.46 (red mullet)  3.1.2  Maintaining the threshold value of catch/biomass ratio <= 0.082 (sprat)  Maintaining the threshold value of catch/biomass ratio <= 0.033 (turbot)  Criterion 3.2. Reproductive capacity of the stock  3.2.1  Increasing the SSB for the relevant fish species at regional level (whiting (*Merlangius merlangus euxinus*), turbot (*Psetta maxima*), horse mackerel (*Trachurus mediterraneus ponticus*), anchovy (*Engraulis encrasicolus*), dogfish (*Squalus acanthias*), and red mullet (*Mullus barbatus ponticus*).  \* STECF EWG 13-12 (Sampson et al., 2013) does not offer reference points as regards SSB for the sprat stock but according to the results from the regional assessment SSB varied between 200 000 and 500 000 tons. The proposed trend according to this indicator is increasing of the SSB at regional level.  The indicator needs additional development and will be operational at regional level toward 2018.  3.2.2  Maintaining the sprat stock at values of ~ 60,000 tones at the Romanian littoral  Recovery of the turbot stock to value of 1500-2000 tones at the Romanian littoral  Criterion 3.3. Population age and size distribution  Increasing the percentage of specimens older than 1.5 – 2 years (sprat)  Increasing the percentage of specimens older than 5 – 6 years (turbot)  Increasing the percentage of specimens older than 3 – 4 years (whiting)  Increasing the percentage of specimens older than 3 – 4 years (horse mackerel)  Increasing the percentage of specimens older than 2 years (anchovy)  Increasing the percentage of specimens larger than 120 cm (dogfish)  Increasing the percentage of specimens older than 3 years (red mullet)  Descriptor 4  Benthic habitats  Crt. 4.3 Abundance/distribution of key trophic groups/species  4.3.1 The abundance of certain groups / species functionally important  The population density of *Lentidium mediterraneum* ≥ 9000 ind•m-2  The population density of *Arenicola marina* ≥ 0,1 ind•m-2; the population density of *Necallianassa truncata* ≥ 1 ind•m-2  The population density of *Mytilus galloprovincialis* ≥ 500 ind. m-2;  The population density of *Modiolula phaseolina* in 1 m2≥ 200 ind•m-2  Mammals  Crt. 4.3 Abundance/distribution of key trophic groups/species  4.3.1 Reducing the by-catch levels of the toothed whales  Seabirds  Crt. 4.3 Abundance/distribution of key trophic groups/species  4.3.1 The population abundance/size (number of migratory individuals) of Mediterranean shearwater (Puffinus yelkouan) remains within 95% of the natural abundance of migratory species in Romania and increases in the long term.  Descriptor 6  Crt. 6.1 Physical damage, having regard to substrate characteristics  6.1.1 Type, abundance, biomass and extent of relevant biogenic substrate  Total ban any demersal fishery (trawl, honey), including the EEZ  Stopping any hydraulic or coastal protection works of nature to destroy *Zostera noltei* grasslands or indirectly affect them; total ban on any kind of human activity in *Zostera noltei* meadows, except for scientific research and interventions for saving lives.  Stopping any hydraulic or coastal protection works of nature to destroy belts *Cystoseira barbata* or indirectly affect on them; total ban on any type of human activities *Cystoseira barbata* belts except scientific research and interventions to save lives.  Crt. 6.2 Condition of benthic community  6.2.1 Presence of particularly sensitive species and / or tolerant  Coverage with *Z. noltei* ≥ 50%; decapod frequency *Palaemon adspersus* in 1 m2 = 100%; decapod frequency *Carcinus aestuarii* in transects of 50 m2 ≥ 30%  Coverage with *C.barbata* inside the belt ≥ 50%; frequency of *Colaconema thuretii* in1m2 ≥ 80%; gastropod frequency *Gibbula divaricata* in 1 m2 ≥ 30%; gastropod frequency Tricolia pullus in 1 m2 ≥ 1%  Frequency of *Lithothamnion, Phyllophora* or *Coccotylus* in transect of 50 m2 ≥ 10% ; decapod frequency *Liocarcinus* navigator in transect of 400 m2 ≥ 70%  Polychaets frequency *Ophelia bicornis* in samples ≥ 1%; frequency of *Gastrosaccus sanctus* in samples ≥ 50%  Decapod frequency of *Eriphia verrucosa* in transects of 100 m2 ; densities of *Halichondria panicea* in the habitat ≥ 1 colonie m-2  6.2.2 Multimetric indices for assessment of benthic community condition and functionality, as well as species diversity and richness report opportunistic species / species sensitive  Index values EEI > 0.6  Index values EEI > 0.  Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,3  Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,3  Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,3  6.2.3 Proportion of biomass or number of individuals over a certain length or size  Specimens median size of *Mytilus galloprovincialis* (shell leght) ≥ 50 mm SL  Specimens median size of *Mytilus galloprovincialis* (shell leght) ≥ 70 mm SL | |
| **Descriptors** | D1- Biodiversity  D3 – State of commercial fish and shellfish stocks  D4 – Food web  D6 – Seabed | |
| **Main pressures** | Biological disturbances  — selective extraction of species, including incidental non-target catches (e.g. by commercial and recreational fishing).  Physical damage   * abrasion (e.g. impact on the seabed of commercial fishing, boating, anchoring), * selective extraction (e.g. exploration and exploitation of living and non-living resources on seabed and subsoil). | |
| **Main drivers** | Fishery | |
| **Characteristics** | * Seabirds * Marine mammals * Fish * Benthic habitats | |
| **Link to other directive/legislation/policy** | Habitats Directive  Birds Directive  COUNCIL REGULATION (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund  Regulation (EU) No 1380/2013 of the European Parliament and the Council of 11 December 2013 on the Common Fisheries Policy | |
| **Necessity for transnational regulation** | No | |
| **Instrument for implementation/** **Mode of implementation** | * Technical * Policy * Economic | |
| **Spatial reference/implementation zones** | Territorial waters/EEZ + Beyond MS Marine Waters | |
| **Contribution of the measure to achieving the target** | The measure is expected to have a high contribution to the achieving the targets. | |
| **Transboundary impact** | The implementation of the measure is not expected to have negative effects on the marine environment of neighbouring countries. | |
| **Costs** | **First rough assessment:** medium € 50.000 – 1.000.000  Costs for the administration  1) Public awareness : 2000 €  2) Define stimuli system (incl. discussion document with fisheries/processing/export sectors: 12.000 €  3) Elaboration (financial) stimuli system: not possible to assess at this stage  4) Setting up of advisory services: not possible to assess at this stage  5) Awareness building (educational campaign) of and advisory services for local professional Fishery Groups regarding effective use of environmental friendly fishing techniques and equipment: not possible to assess at this stage  Total one off costs within MSFD cycle (6 years):  Not possible to assess (minimal 14.000 €, probably > € 50.000)  Scoring:   |  |  | | --- | --- | | **Score** | **total cost** | | 1 | > € 1 million | | 2 | € 500.000 - 1 million | | 3 | € 200.000 - 500.000 | | **4** | **€ 50.000 - 200.000** | | 5 | < € 50.000 | | |
| **Effectiveness** | Strong | |
| **Indicator(s) to measure effectiveness** | *No of financial stimulations/year* | |
| **Socio-economic assessment** | **Negative side effects:**  The implementation of the measure is not expected to have negative effects on the marine environment.  **Cost Effectiveness Assessment:** Cost effective  **Cost Benefit Assessment:** medium | |
| **Coordination** | Bilateral | |
| **Technical feasibility** | * New development | |
| **Body responsible for the measure implementation** | **Bulgaria:** Ministry of Agriculture and Food, National Agency for Fisheries and Aquaculture (NAFA), Fisheries local action groups (FLAGs)  **Romania:** Ministry of Environment, Waters and Forests  National Agency for Fishery and Aquaculture, NIRD “Grigore Antipa” | |
| **Financing opportunities** | Public funds; EU funds (Horizon 2020 program, EFF) | |
| **Planning of implementation/temporal coverage** | **2017** | |
| **Difficulties in implementation** | Yes - fishermen fear on increasing investment (costs) and loss of jobs | |
| ***Supporting information for SEA*** | | |
| **Additional values for protection (outside MSFD)** |  | |
| **Reasonable alternatives** |  | |