**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 sectors9.3. Elaboration (financial) stimuli system9.4. Diving, traps of sea snail (Rapana venosa)/shellfish 9.5. Setting up of advisory services9.6. 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 plantsKTM 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** | RODescriptor 1Benthic habitatsCrt. 1.4 Habitat distribution1.4.1 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 Mai1140-3: Maintaining the current distribution in the area Eforie Nord-Eforie Sud1170-7 : Maintaining the current distribution in the area 2 Mai – Vama Veche1170-8: 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 30-50m1170-9: Maintaining the current distribution across the rocky circalitoral substrateCrt. 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 condition1.6.1 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 SLThe maximum size of specimens *Donax trunculus* (shell lenght) 45-50mm SLThe maximum size of specimens *Arenicola marina* (whole body length) 250-350mm TL1.6.2 Relative biomass and abundanceCoverage with *Z. noltei* ≥ 50%; Foliar biomass of Z.noltei ≥ 1600 g•m-2Coverage with *Cystoseira barbata* ≥ 50%; the wet biomass of *C. barbata* without epiphytic ≥ 3000 g•m-2Coverage with *Mytilus* inside the habitat ≥ 50%; living biomass of *Mytilus galloprovincialis* ≥ 5000 g•m-2The population density of *Donacilla cornea* ≥ 3300 ind•m-2The population density of *Donax trunculus* ≥ 200 ind•m-2Coverage 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-2Coverage with Mytilus in the habitat ≥ 80%; living biomass of *Mytilus galloprovincialis* ≥ 8000 g•m-2Living biomass *Modiolula phaseolina* in 1 m2 ≥ 16 g•m-2Mammals:Crt. 1.1 Species distribution1.1.1 **Maintaining the distribution and frequency of species by implementing adequate management measures** SeabirdsCrt. 1.1 Species distribution1.1.1 Maintain or increase in sustainable limits (to be determined) the distribution of migratory species Mediterranean shearwater (*Puffinus yelkouan*).Crt. 1.2 Population size1.2.1 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 distribution1.4.1. Preserve the habitats of Mediterranean shearwater (*Puffinus yelkouan*) by decreasing the pressure from human and natural factors.Crt. 1.5 Habitat extent1.5.1. The area of the habitats of the Mediterranean Shearwater (*Puffinus yelkouan*) is maintained or is increasingDescriptor 3Criterion 3.1. Level of pressure of the fishing activityMaintaining 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 stock3.2.1 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 2018.3.2.2Maintaining 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 littoralCriterion 3.3. Population age and size distributionIncreasing 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 4Benthic habitatsCrt. 4.3 Abundance/distribution of key trophic groups/species4.3.1 The abundance of certain groups / species functionally importantThe population density of *Lentidium mediterraneum* ≥ 9000 ind•m-2The population density of *Arenicola marina* ≥ 0,1 ind•m-2; the population density of *Necallianassa truncata* ≥ 1 ind•m-2The population density of *Mytilus galloprovincialis* ≥ 500 ind. m-2;The population density of *Modiolula phaseolina* in 1 m2≥ 200 ind•m-2MammalsCrt. 4.3 Abundance/distribution of key trophic groups/species4.3.1 Reducing the by-catch levels of the toothed whalesSeabirdsCrt. 4.3 Abundance/distribution of key trophic groups/species4.3.1 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 6Crt. 6.1 Physical damage, having regard to substrate characteristics6.1.1 Type, abundance, biomass and extent of relevant biogenic substrateTotal ban any demersal fishery (trawl, honey), including the EEZStopping 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 community6.2.1 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-26.2.2 Multimetric indices for assessment of benthic community condition and functionality, as well as species diversity and richness report opportunistic species / species sensitiveIndex values EEI > 0.6Index values EEI > 0.Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,3Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,3Indices values :M-AMBI ≥ 0,55; AMBI ≤ 3,36.2.3 Proportion of biomass or number of individuals over a certain length or sizeSpecimens median size of *Mytilus galloprovincialis* (shell leght) ≥ 50 mm SLSpecimens median size of *Mytilus galloprovincialis* (shell leght) ≥ 70 mm SL |
| **Descriptors** | D1- BiodiversityD3 – State of commercial fish and shellfish stocksD4 – Food webD6 – 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).
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| **Main drivers** | Fishery |
| **Characteristics** | * Seabirds
* Marine mammals
* Fish
* Benthic habitats
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| **Link to other directive/legislation/policy** | Habitats DirectiveBirds DirectiveCOUNCIL REGULATION (EC) No 1198/2006 of 27 July 2006 on the European Fisheries FundRegulation (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 – 1.000.000Costs for the administration1) 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 stage4) Setting up of advisory services: not possible to assess at this stage5) 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 stageTotal one off costs within MSFD cycle (6 years):Not possible to assess (minimal 14.000 €, probably > € 50.000)Scoring:

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| **Score** | **total cost** |
| 1 | > € 1 million |
| 2 | € 500.000 - 1 million |
| 3 | € 200.000 - 500.000 |
| **4** | **€ 50.000 - 200.000** |
| 5 | < € 50.000 |

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| **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
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| **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 ForestsNational 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** |  |