Factsheet for new measures under Article 13 of Marine Strategy Framework Directive 2008/56/EO

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.

Measure characteristics	**Management area:** - ***Black Sea***	**Code:** ***BLKBG*** **№ of measure: 10**
Measure title	**Development of common multi-annual management plans for targeted fish stocks**	
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". There is a requirement each year an annual plan for turbot to be developed. Such plan has been developed for 2013. For 2014 and 2015, there was not developed a separate plan, but it was included in the general plan for fisheries, which also prepares each year (national plan). This measure will contribute to achieving MSY and long-term sustainable management of fish stocks. Such initiative has been initiated already but there is no agreement yet. Initiators: National agencies for fishery and aquacultures of the both EU countries.	
EU measure category	*Categorisation of the measure in accordance with the "PoM Recommendations":* **2a**	
Key Types of Measures	*KTMs as defined in the „PoM Recommendations". Measures can be categorised in one or multiple KTMs.* **KTM 35 Measures to reduce biological disturbances in the marine environment from the extraction of species, including incidental non-target catches** **<u>Other relevant KTM under Directive WFD 2000/60/EC:</u>** KTM 20 Measures to prevent or control the adverse impacts of fishing and	

	other exploitation/removal of animal and plants
Environmental targets	*Categorisation of the measures in accordance with the nationally defined operational environmental objectives.* **D 1, 4, 6 – Seabed habitats** 1.2.1 Maintain the abundance and biomass of the typical zoobenthos and phytobenthos species by preventing the deterioration of marine environment resulting from sealing, nutrient enrichment , smothering, abrasion and **extraction of living** or non-living **resources** according to the threshold values specified in the Bulgarian Art. 10 MSFD Report. 1.4.1 The decline of the range of the MSFD predominant habitat types, relevant habitats under Habitats directive and associated national biotopes listed in the Bulgarian MSFD Art. 10 report should approximate zero by 2020 by implementation of appropriate management measures on sealing by man-made structures, nutrients input, associated eutrophication and bottom hypoxia, smothering by dumping, **and seabed abrasion by dredging and extraction of marine living** and (if applicable) non-living **resources**. 1.5.1 The area of the MSFD predominant habitat types is stable or increasing and not smaller than the baseline values (Favourable Reference Area for Habitats Directive habitats), listed in the Bulgarian MSFD Article 10 Report. Indicators. 1.6.1. Maintain the condition of the typical communities of Mytilus galloprovincialis and Mytilaster lineatus within the threshold values at an unaffected region (Aladja banka): Mytilus galloprovincialis (average wet weight ≥ 20000 g/sq. m; average body length ≥ 26.5 mm); Mytilaster lineatus (average wet weight ≥ 3000 g/sq. m; average body length ≥ 9.0 mm). 1.6.1. Maintain the condition of the typical communities of Phyllophora crispa in line with the conditions in relatively unaffected reference area - the Kiten reef. Threshold values: horizontal area cover ≥ 3800 sq. cm/sq. m; average dry biomass ≥ 70 g/sq. m; average wet biomass ≥ 180 g/sq. m (Source: Table I.2.12 of the Bulgarian MSFD Art. 10 report). 1.6.3 Maintain the physico-chemical conditions of the MSFD predominant habitat types, relevant habitats under Habitats directive and associated national biotopes listed in the Bulgarian MSFD Art. 10 report in the coastal waters within the threshold values in Ordinance No. N-4 of 14/09/2012 on the characterization of surface waters Annex № 6 from Article12 (4) (according to the requirements of the Water Framework Directive). **6.1.1 Targets**: The area of the mediolittoral rocks and sediments, affected by human-induced change in hydrographical conditions, sealing, smothering and abrasion stays below the following threshold values (Table I.2.3 in Bulgarian MSFD Article 9 Report): Sivriburun-Kaliakra Assessment Area < 10%; Kaliakra-Galata Assessment Area - maintain the present state; Galata-Emine Assessment Area < 10 %; Emine-Sozopol Assessment Area - maintain the present state; Sozopol-Rezovo Assessment Area - maintain the present state.

	6.1.1 Target: In the MSFD predominant habitat types, relevant habitats under Habitats directive and associated national biotopes listed in the Bulgarian MSFD Art. 10 report, the pressure from abrasion from active fishing gear should decrease by 2020 below the following threshold values: Within Natura 2000 protected areas: 0% of the habitat area affected; Outside Natura 2000 protected areas: <= 20% of the habitat area. (details on defined targets can find here: http://cdr.eionet.europa.eu/bg/eu/msfd_mp/msfd4text/envvibp8w/BLKBG_D0146_SeabedHabitats.pdf). **D3 – State of commercial fish and shellfish stocks** **Pressure targets** **3.1.1 Fishing Mortality (F) by reduced fishing effort are listed below referring to the concerned species:** • Reducing fishing effort to F<= FMSY =0.4 (whiting) • Reducing in fishing effort to 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. Catch/biomass ratio index – maintain the threshold value of catch/biomass ratio less than:** • Catch-biomass ratio <= 0.082 (sprat) • Catch-biomass ratio <= 0.033 (turbot) **State targets** **3.2.1. Spawning stock biomass of sprat** - 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 for this indicator is increasing of the SSB at regional level; The indicator needs additional development and will be operational at regional level toward 2018 (Population size (spawning stock biomass - SSB) of sprat (thousand tons)). **3.2.1. Spawning stock biomass (SSB**) - increasing the SSB at regional level at the level of Black Sea region for whiting (Merlangius merlangus euxinus), turbot (Psetta maxima), horse mackerel (Trachurus mediterraneus ponticus), anchovy (Engraulis encrasicolus), dogfish (Squalus acanthias), red mullet (Mullus barbatus ponticus) (thousand tons). **3.2.2. Biomass indexes** - maintain increasing trend of the biomass values above the reference level of 55 thousand tons (sprat) in front of Bulgarian Black Sea coast. Basic reference state was for 2007-2011.The indicator needs additional development and will be operational at national level toward 2014 (Species abundance (biomass) of sprat (Sprattus sprattus)

	(CPUE, kg/h)). **3.2.2. Biomass indexes** - increasing trend of the values of the biomass indices at national level. Levels of the index should not be lower than reference level of 1700 tons (turbot) (Species abundance (biomass) of turbot (Psetta maxima) (CPUE, kg/h)). **3.2.2 Biomass indices are listed below referring to the concerned species (Species abundance (biomass) of Sprat (Sprattus sprattus) and turbot (CPUE, kg/h))**: Maintaining the sprat stock at values of approximately 60000 tonnes at the Bulgarian littoral; Recovery of the turbot stock to value of 1500-2000 tonnes at the Bulgarian littoral. **3.3.1.Proportion of fish (sprat) larger than the mean size of first sexual maturation** – The trend to sustain of the proportion at reference level of 68% (sprat).Basic condition for calculations of the limit reference points the contemporary state of the populations have been used. The indicator needs of additional development and will be operational toward 2014 (Size of individuals of sprat (Sprattus sprattus), cm) **3.3.1. Proportion of fish (turbot) larger than the mean size of first sexual maturation** - The proportion of fish with length higher than the mean at sexual maturation (42 cm), and to be over the reference value of 74% (Size of individuals of turbot (Psetta maxima), cm) **3.3.1. Mean length of fish (turbot)** in the catch should not be under the reference level of 56 cm (± 10 %) (Size of individuals of turbot (Scophthalmus/Psetta maxima), cm). **3.3.3. 95% from the observed length structure of the species (sprat)** in the research surveys– the indicator needs of additional development and will be fully operational at national level toward 2018. The main lack of data and knowledge is the inability to calculate this indicator before 2012, due to the differences of the length structure and methodological issues. The lack of the genetic effects on the population due to overexploitation are also obstacles (Size of individuals of sprat (Sprattus sprattus), cm). **3.3.3**. 95 % percentile from the observed length structure of the species (turbot) in the research surveys – 95 % percentile from length structure of the population to show stable trend with mean reference value of 62 cm for turbot (Size of individuals of turbot (Psetta maxima) (cm).
Descriptors	*Categorisation of the measures to the descriptors in lined with Annex 1 MSFD. The descriptors are identified by their short form:* **D3 – State of commercial fish and shellfish stocks**
Main pressures	*Using the analysis carried out in 2012 as a basis, categorisation of the measures in accordance with the pressures defined in Annex 3 MSFD, Table 2:* **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)
Main drivers	*The sectors/activities targeted by the measure* Activities extracting living resources (fisheries including recreational, maerl, seaweed)
Characteristics	*Using the analysis carried out in 2012 as a basis, categorisation of the measures in accordance with the characteristics defined in the "PoM Recommendations":* - Fish and shellfish
Link to other directive/legislation /policy	*Aligning objectives with other legal commitments* Regulation (EU) No 1380/2013 of the European Parliament and the Council of 11 December 2013 on the Common Fisheries Policy. Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy Council Regulation (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund
Necessity for transnational regulation	*Information as regarding the necessity for regulations at EU, regional and international level to achieve MSFD environmental objectives.* • No
Mode of implementation	*Stating the implementation process in line with the „PoM Recommendations"; multiple options possible:* • Legislative • Technical • Political driven
Implementation zones	*i.e. the spatial impact of the measure: MS land/FW, WFD TW, WFD CW, Territorial waters, EEZ, CS (beyond EEZ), Beyond MS waters* Coastal waters (WFD CW), Territorial waters and Exclusive Economic Zone (EEZ) of Republic of Bulgaria
Contribution of the measure to achieving the target	*– using technical information* This measure will contribute to achieving Maximum Sustainable Yield (MSY) and long-term sustainable management of fish stocks.

	In a long - term period, the measure is expected to have a beneficial effect by restoring biodiversity in the marine waters of the Republic of Bulgaria and Romania, especially of gradual increasing stocks of commercial fish species and a restoration of the national pelagic and seabed habitats. The measure will have direct contribution for achieving of environmental targets under Descriptror 3 and Descriptros 1,4,6 non – commercial fish and seabed habitats). The measure is expected to have **high (strong) contribution** for achieving these environmental targets.
Transboundary impact	*Information on the impact of the measures on transboundary neighbours* The measure is expected to have a beneficial effect, which would affect the marine waters of other neighbors by gradually increasing stocks of Black sea migratory commercial fish species. The implementation of the measure is not expected to have negative effects on the marine environment.
Costs	**First rough assessment: low (<200.000 €)** **Costs for the administration** Bilateral working group between Bulgaria and Romania for development of common multi-annual management plan for targeted fish stocks an regular meetings for discussions and / or actualizations of these plans. **Operational costs** Additional staff for control and trainings; costs for control vessels (fuel, maintenance, repairs) **Total one off costs within MSFD cycle (6 years): probably < 200.000 €**
Effectiveness	*Effectiveness of the measure in reaching targets (either qualitative description, or according to indicators: indicators for environmental targets and for GES, proposal for statistical indicators in support of Art. 18 interim reports* The measure is directly linked to the achievement of defined environmental targets for GES under Descriptors 1 (Biodiversity), 2 (Non-indigenious species), 3 (State of commercial fish and shellfish stocks), 4 (Food web) and 6 (Sea - floor integrity). The implementation of this measure will contribute to decreasing of commercial fishing pressure on Black sea fish stocks, conservation / gradual restoration of seabed habitats affected by trawling in medium and long term period. The measure is expected to have **high (strong) effectiveness** for achieving of these targets.
Indicator(s) to measure effectiveness	*Should be based on existing indicators.* 1. Number of conducted meetings (at national and bilateral level) to discuss

	the development of multiannual management plans for targeted groups of fish species. 2. Number of prepared multiannual management plans. 3. Number of approved proposals at national level (orders, decisions or others). 4. Number of signed bilateral agreements for the implementation of multiannual management plans for targeted groups of fish species.
Socio-economic assessment	**Cost Effectiveness Assessment: *Cost effective*** **Cost Benefit Assessment: *high*** The measure has expected high efficiency to achieve the targets of MSFD Descriptors 1 (Biodiversity) and 3 (Commercial fish species). At the same time, public expenditure for the implementation of the measure are not high. A quantitative assessment of cost effectiveness of this measure cannot be made yet, because the information on the benefits (in quantitative form) is not available. Additional socio-economic benefits of this measure are: - An improvement of abundance (number) of economically important marine species, positively affected related sectors (fisheries sector, recreational fisheries for fish and shellfish, etc.); - improvement of the provided ecosystem services.
Coordination level	*Selection of the governance level that will coordinate the implementation of the measures, i.e. Local, Sub-national, National, Bilateral, Sub-regional, Regional, EU level, International* at local level at national level at bilateral level with Romania
Technical feasibility	*Options:* • Frequently applied; extensive experience / evidence of good practice
Body responsible for the measure implementation	Ministry of Agriculture and Food, National Agency for Fisheries and Aquaculture (NAFA), scientific institutes, universities, specialized in field of the marine biology and ecology, NGOs
Financing opportunities	*Including EU-cofinancing* Public funds; EU funds (National Programme for Maritime Affairs and Fisheries (2014-2020) under European Maritime and Fisheries Fund (EMFF)

Temporal coverage	**Starting: 2017**
Difficulties in implementation	*Provide information on the potential challenges that could likely faced in implementation.*