**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:****16** |
| **Measure title** | Setting up of a common action plan for early detection and mitigation and impact assessment of non-indigenous species. |
| **Short, precise description of the measure** | This measure is developed as a common coordinated measure between Bulgaria and 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 aim of the measure is early detection of new non-native species and reduce their impact on the native components of the ecosystem.The territorial scope of the measure: coastal, territorial waters and EEZ of the Republic of Bulgaria and Romania.The following legislative international and European documents as the International Convention for the Control and Management of Ship Ballast Water and Sediments and Regulation 1143/2014 of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species (already entry in force from 1 January 2015) require inspection of ballast water of ships visiting Bulgarian ports. The measure includes inspection of documents concerning the management of ship’s ballast water and sediments and sampling for suspected violations. The measure will follow internationally agreed "three-stage hierarchical approach" in CBD and Regulation № 1143 / 2014: prevention, early warning and rapid response / removal, as well as long-term managementThe measure requires the following **actions (**at national leve)l for its effective implementation and enforcement: 1. Provision of vessel equipment for ballast water treatment to destroy pathogens, cysts of non-indigenous invasive species. 2. Increasing control capacity (increasing the number of inspectors); 3. Increasing technical capacity of the supervisory authorities (available sufficient number of roadworthy condition vessels for carrying out regular and sudden inspections and proper sampling equipment, incl. for indicative sampling and analysis). 4. Equiping and accreditation of specialised laboratory(ies) for ballast water. 5. Increasing administrative/technical capacity of persons performing sampling and analysis of ship’s ballast water (increasing the number of inspectors an of the laboratory staff). |
| **EU measure category** | **2a** |
| **Key Types of Measures** | KTM 14 - Research, improvement of knowledge base reducing uncertaintyKTM 18 - Measures to prevent or control the adverse impacts of invasive alien species and introduced diseasesKTM 34 - Measures to reduce the introduction and spread of non-indigenous species in the marine environment and for their control |
| **Environmental targets** | ROD22.1.1 Average density of gastropod *Rapana venosa* is ≤ 3 ind./m2 on sedimentary substrate and ≤ 5 ind./m2 on hard substrate.Average density of  *Mya arenaria* is ≤ 7 ind./m2Average density of *Anadara kagoshimensis* is ≤ 20 ind./m2*Mnemiopsis leidyi* biomass is ≤ 4 g./m3 or 120 g./m2 (Vinogradov et al. 2005)Distribution of *Rapana venosa* is maintained up to 20 m isobath on hard substrate and up to 30m on sedimentary substrate.Distribution of *Mya arenaria* is maintained up to 30 m isobath on sedimentary substrate.Distribution of *Anadara kagoshimensis* is maintained up to 30 isobath in sandy zones.2.2.1Non-native species is 4% of the total number of species on the Romanian seaside.Reducing new introductions of non-indigenous species to 0.≤ 5 ind./m2 of *Rapana venosa* at 500 ind./m2 of *Mytillus galloprovincialis*≤ 7 ind./m2 of *Mya arenaria* la 9000 ind./m2 of *Lentidium mediterraneum* on fine sands with *Lentidium mediterraneum**2.2.2*Rapana venosa - Biopollution index ≤ 2 ; ADR – C; IMPACT ON COMMUNITY – C1; IMPACT ON HABITATS – H1; IMPACT ON ECOSYSTEMS –E0Mya arenaria - Biopollution index ≤ 1; ADR – C; IMPACT ON COMMUNITY – C1; IMPACT ON HABITATS – H0; IMPACT ON ECOSYSTEMS – E0*Anadara kagoshimensis -* Biopollution index ≤ 1; ADR – C; IMPACT ON COMMUNITY – C1; IMPACT ON HABITATS – H0; IMPACT ON ECOSYSTEMS – E0*Mnemiopsis leidyi -* Biopollution index ≤ 2 ;ADR – C; IMPACT ON COMMUNITY C1– C2; IMPACT ON HABITATS – H1-H2; IMPACT ON ECOSYSTEMS E1– E2BulgariaDescriptor 2 – Non – indigenous species Target on criterion 2.1, indicator 2.1.1: Maintaining low biomass of the invasive species *M. leidyi* according to the threshold values in the Bulgarian report on Art. 10, decreasing of the species blooms and their spatial extent.Target on Criterion 2.2, indicator 2.2.1: Communities dominated by indigenous species. No newly introduced species. The GES indicators defined according to Art. 10 of the MSFD need additional development in the period up until 2018. The limited knowledge of the impact of non-indigenous species on the environment, targets and thresholds need confirmation.Romania has not defined yet environmental targets in terms of NIS |
| **Descriptors** | D2 – Non-native species |
| **Main pressures** | H / Biological disturbance/Introduction of non-indigenous species and translocation  |
| **Main drivers** | Shipping; aquaculture; fishery; tourism; port operations; submarine cable and pipeline operations; marine research; biological control |
| **Characteristics** | * Fish
* Benthic habitats
* Pelagic habitats
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| **Link to other directive/legislation/policy** | International Convention for the Control and Management of Ship Ballast Water and Sediments (IMO), 2004Regulation (EC) No 708/2007 concerning use of alien and locally absent species in aquaculture Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species Guidelines by International Maritime Organization (IMO) for the control and management of ships' biofouling to minimise the transfer of invasive aquatic species (Resolution MEPC.207(62)) |
| **Necessity for transnational regulation** | yes Link with Convention for the Protection of the Black Sea Against Pollution and its Protocols - possible need for change |
| **Instrument for implementation/** **Mode of implementation** | * Legal
* Technical
* Policy
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| **Spatial reference/implementation** | Territorial waters/EEZ + Beyond MS waters |
| **Contribution of the measure to achieving the target**  | **Negative side effects:** The implementation of the measure is not expected to have negative effects on the marine environment. Probably the implementation of the measure will not contribute to achievement of GES by 2020.At this stage it is early to make any prognosis. The monitoring programme of Descriptor 2 – Non- indigenous species will start in 2016 and there is a neеd of at least 2 years for collecting data. |
| **Transboundary impact** | The implementation of the measure is not expected to have negative transboundary effects  |
| **Costs** | **First rough assessment:** medium € 50.000 – 1.000.0001) Additional staff for control (incl. laboratory attendants[[1]](#footnote-1)): 8 FTE’s x 12.000 € per year[[2]](#footnote-2) = 96.000 €2) Training of control staff: 2000 €3) Operational costs for control and analysis[[3]](#footnote-3): not possible to assess at this stageTotal one off costs within MSFD cycle (6 years): not possible to assess (minimum 98.000 € , but probably < 200.000 €)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** | 1. Reduce the number of cases of registered new non-indigenous species / invasive species in the Black Sea ecosystem over the next six years;  2. Reduce the number of registered cases of negative impact caused by introduced non- indigenous / invasive species on native species or non- indigenous species already introduced in the Black Sea ecosystem over the next six years; 3. Number of inspected vessels per year;4. Number of samples from ship’s ballast water per year; 5. Number of samples from ship’s ballast water found to be in non-compliance with the legal requirements per year; 6. Number fines imposed to ships per year |
| **Socio-economic assessment** | **Other type of effect:** The measure will have effect on the shipbuilding business inc. ship owners by the need to use more investment in equipment ships with special systems for ballast water treatment to destroy pathogens, cysts of non-native invasive species and others. **Benefits:**1. It is expected to reduce the cases of irregular change of ballast waters of ships sailing in the territorial waters 2. Limiting the introduction, spread and negative impact of invasive non-indigenous species on the Black Sea ecosystem;3. Improving the state of the marine environment **Cost Effectiveness Assessment:** Cost effective**Cost Benefit Assessment:** Medium  |
| **Coordination** | BilateralRegional  |
| **Technical feasibility** | * *New development*
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| **Body responsible for the measure implementation** | **Bulgaria:** Ministry of Transport, Information Technology and Communications and Executive Agency "Maritime Administration" (Directorates in Varna and Burgas), Ministry of Agriculture and Food, National Agency for Fisheries and Aquaculture (NAFA), state and private laboratories for analysis of microbial content in ballast waters, port operators, shipbuilders**Romania:** Ministry of Environment, Waters and Forests, Ministry of TransportNIRD “Grigore Antipa |
| **Financing opportunities** | European Maritime and Fisheries Fund (EMFF)National funding Bulgaria:* National Programme for Maritime Affairs and Fisheries (2014-2020)
* Operational Programme (OP) "Environment" 2014-2020;
* Operational Programme "Transport" (OP) 2014-2020
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| **Planning of implementation/temporal coverage** | **2018** |
| **Difficulties in implementation** | Yes – Romania has not implemented BWM Convention; lack of knowledge related to the pathways/vectors of NIS introduction, spread, etc. |
| ***Supporting information for SEA*** |
| **Additional values for protection (outside MSFD)** |  |
| **Reasonable alternatives** |  |

1. Extra control staff (inspectors) of Maritime administration: minimum 2 persons in Varna and 2 persons in Burgas. Extra f qualified staff in laboratories for the samples analysis: minimum 2 persons in Varna and 2 persons Burgas [↑](#footnote-ref-1)
2. Applying the daily rate of 60€/h, multiplied by 200 working days per year [↑](#footnote-ref-2)
3. Мaintenance costs for vessel inspection (fuel and repairs), maintenance of the analytical laboratory equipment (purchase of reagents, laboratory equipment, repair of old equipment) and for laboratory(ies) accreditation. [↑](#footnote-ref-3)