



CONFERENCE ON SUB-REGIONAL COOPERATION IN MARINE LITTER MANAGEMENT IN ADRIATIC-IONIAN MACRO-REGION (Split, 25th of March, 2015)

INTRODUCTION

The **Conference on Sub-regional cooperation in Marine Litter management in Adriatic-Ionian Macro-Region** was carried out on March 25th, 9:00 – 17:00, at the Hotel President, Starčevićeva 1, in Split, Croatia.

The Conference was organized in a framework of DEFISHGEAR – a strategic IPA Adriatic project whose overall objective is to improve Marine Litter (ML) management in the Adriatic-Ionian sub-region. The project is implemented by 16 partners coming from all seven countries in the Adriatic-Ionian Macro-region. In particular, the project is developing and testing models for 1) ML monitoring; 2) Derelict Fishing Gear Management and 3) Fishing for Litter practice. All three models will be piloted in each of the countries. As such, the Project presents an excellent opportunity for all the countries in the Region to establish ML management systems which are both beneficial for their marine environments and listed as mandatory requirements within the ML-relevant policy frameworks (1/ EU Marine Strategy Framework Directive (MSFD) and 2/ Regional Plan on Marine Litter Management in the Mediterranean - MAP LBS Protocol).

More information about the project, project partners, objectives and activities you can found on www.defishgear.net.

The Conference's focus was sub-regional cooperation in preparation of the *MSFD Program of measures / Revision of LSB NAPs with integrated ML measures / considerations*; discussion and elaboration of the measure dealing with identification of ML hot spots in Adriatic-Ionian sub-region, as well as discussion and identification of proven ML management models with potential for cross-border transfer/replication; main barriers to more effective tackling of ML issue; underexploited opportunities for highly effective measures; ideas for follow-up sub-regional projects dealing with these barriers and opportunities.

Hereby we enclose the Conclusions from the Conference on Sub-regional cooperation in Marine Litter management in Adriatic-Ionian Macro-Region.



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CONCLUSIONS

1. Conclusions regarding the CURRENT SITUATION with marine litter and marine litter management in the Adriatic macro-region

Although there is no systematic and comprehensive monitoring of Marine Litter (ML) in the Adriatic macro-region, which would allow sound, objective data-based assessment of the ML issue, perception of those closest, most interested, most impacted by ML (experts from academia, environmental NGOs, local authorities dealing with the ML, fishermen and tourism operators – see e.g. attached presentations 7, 8, 9, 10, 11, 12) is that Marine litter is a significant and growing problem in the Adriatic macro-region.

Such perception of the ML issue among the key stakeholders is good foundation for their more active engagement in solving of the problem through various “social innovation”-like approaches. This is especially important as the shift towards more environmentally aware and responsible behavior is the key element of any conceivable long-term effective and affordable solution.

Existing ML monitoring data on EU level suggests that majority of ML originates from land-based activities in the context of the inadequate waste management system (estimated 80% of ML, out of which over 80% is plastic waste, primarily plastic bags, bottles and caps, primarily from household activities and tourism sector – see e.g. attached presentations 5, 10, 12). Although not the dominant one, fisheries sector in the region has also been singled out as an important source of ML (in line with the general estimates for the world of 10% of ML coming from fisheries activities – see attached presentation 7 and 12).

Existing ML monitoring also suggests that – contrary to the very widespread perception of Marine Litter being caused by “someone else”, “somewhere else overseas” – ML is mostly (e.g. over 80% in case of some monitored sites in the region) domestic environmental problem caused by poor waste management practices within the wider monitored area. This said, it is also true that there are specific cases and occasions in which trans-boundary component of ML can be quite significant, which confirms ML as trans-boundary, regional issue.



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There is growing number of ML related initiatives in the region, mostly ML clean-up actions in touristic areas and awareness raising clean-up and monitoring campaigns organized by green NGOs (see attached presentations 7, 8). However, a comprehensive ML monitoring and management framework – such as specified by the EU MSFD and Barcelona Convention's *Regional Plan on Marine Litter Management in the Mediterranean* (see attached presentation 5 and 6) – is yet to be established, even in the countries with the most advanced environmental management practices and systems in the region, especially in foreseen areas of ML monitoring, prevention and systematic integration of ML consideration in all relevant sectoral policies and practices (for more details see attached presentations 7 and 8).

There is no sufficient regional cooperation in addressing of ML issue although: it is required by both EU MSFD and Barcelona Convention's *Regional Plan on Marine Litter Management in the Mediterranean*; it is required by the very nature of the issue (due to sometimes significant cross-border impacts); it could significantly contribute to efficiency and effectiveness of the national initiatives (by know-how and experience exchange, coordination of efforts, etc.).

Estimated costs of end-of-pipe solutions (ML clean-ups) and / or costs of no-mitigation-action scenario (calculated as costs for impacted sectors of tourism, fisheries, etc.) are in billions of € for Mediterranean (see. e.g. attached presentation 5a). Sufficient and timely investment in prevention measures is much more affordable and more cost-efficient scenario.

All countries in the region are obliged by ML relevant international policy frameworks – EU MSFD and Barcelona Convention's *Regional Plan on Marine Litter Management in the Mediterranean* – to make significant progress in their ML management practices and national frameworks in the next couple of years. The former requires establishment and implementation of monitoring program by 2014 and development and entry into operations of programme of measures by 2015 and 2016 respectively. The later requires design of monitoring program as well as implementation of list of measures by 2017.



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2. Preliminary identified priority marine litter management measures for the Adriatic macro-region

EU Marine Strategy Framework Directive – i.e. associated more specific ML-related resources and recommendations, and Barcelona Convention's *Regional Plan on Marine Litter Management in the Mediterranean* specify comprehensive set of ML management measures.

Taken into account the specific regional ML-related challenges and opportunities identified by conference participants in their presentations and implemented surveys among key stakeholders (national and local authorities and environmental NGOs in the region), as well as measures' cost-effectiveness and level of existing experience in the region, preliminary set of priority ML measures for the countries in the region were identified, including:

- 1) ML Monitoring, with focus on identification of hot spots and critical trends;
- 2) Full integration of ML consideration into the Waste management priorities;
- 3) Integration of ML related measures and practices into fisheries sectors;
- 4) Integration of ML related measures and practices into tourism sector;
- 5) More systematic ML related awareness raising and education efforts (including the participation in International and National Coastal Cleanup Campaigns);
- 6) Establishment of regional cooperation in ML monitoring and management.

Some further elaboration and argumentation for their selection as the highest priority measures that were emphasized at the conference are provided in **ANNEX 1 TO THIS DOCUMENT**.

Within the next phase of the project, the above introduced set of preliminary identified priority marine litter management measures for the Adriatic macro-region will be further amended, elaborated and formulated in format of policy recommendations, drawing from both experience of the project's pilot activities and all other accumulated body of relevant knowledge and experience (both from the Adriatic and other EU regions).



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**3. Conclusions related to the DEFISHGEAR project POTENTIAL FOR
CONTRIBUTION to marine litter management in the region and RELATED
FUTURE ACTIVITIES leading to maximization of the project impacts**

DEFISHGEAR project is at the very forefront in research and piloting of ML management practices, especially with its focus on: formulation and piloting of ML monitoring practice – which is at the moment, the absolute priority; and integration of the ML management practices within the fisheries sector – which has also been recognized as high priority area for action (for details see attached presentations 1, 2, 3, 4).

Foreseen project outputs cover all key dimensions of effective ML management practice, including: protocols development; capacity build-up and pilot actions; comprehensive monitoring effort harmonized and coordinated over the region; generation of a new knowledge; establishment of regional ML related database as foundation for the first sound data-based assessment of the ML issue and its environmental and socio-economic impacts in the Adriatic macro-region; awareness raising about the ML issue; strengthening of the regional capacities and cooperation in ML management; establishment of regional expert and institutional networks; and formulation of strategic guidance for management of ML in the Adriatic macro-region.

The timing of the project fits well with the timeframe of the two major ML-related frameworks – EU's MSFD and Barcelona Convention's ML Regional plan. As already emphasized, the former requires establishment and implementation of monitoring program by 2014 and development and entry into operations of programme of measures by 2015 and 2016 respectively. The later requires design of monitoring program as well as implementation of list of measures by 2017 (for details see attached presentation 5 and 6).

The fact that the project partners and associates include arguably the majority of the institutions with the most extensive experience and expertise in the ML issues in the countries in the region makes the project excellent starting point for development of regional network of cooperation on ML issues. The conference itself – by assembling representatives of the leading NGOs dealing with the ML in the region, as well as some other important stakeholders not previously engaged in the project activities – made a significant step in this direction.



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Even more effort should be invested in effective engagement of the competent authorities of the countries in the region, as well as of the other key stakeholders, towards the end of the project, as this is absolutely critical for the sustainability of the project results, i.e. for effective transfer of the project experiences and developed models into the ML related activities of the countries in the region.

ANNEX 1: Arguments for selection of proposed measures as the highest priority measures and some preliminary elaboration emphasized in discussions at the Conference

Priority measure 1: Initiation of ML Monitoring programme, with focus on identification of hot spots and critical trends

European Commission's Assessment and Guidance of the first phase of implementation of MSFD (February, 2014) emphasized that sound determination of GES baselines and targets was not possible for ML-related GES descriptor 10, as ML issue has got due attention only recently and consequently available data is scarce, spotty in time and spatial coverage. It points out harmonized monitoring programme which will allow gathering of reliable data on various aspects of ML issue as the highest priority. The monitoring programme should be "*coordinated, consistent, coherent and comparable within marine regions, which can only take place through improved regional cooperation on monitoring*".

Survey of the national authorities has shown that they also recognize ML monitoring as the highest priority ML related activity. The survey also identified significant potential for know-how transfer within the region, as level of existing experience and capacity varies significantly among the countries and among different segments of ML monitoring (beach ML, floating ML, ML on seafloor, micro-plastics, ingested ML). Such exchange is in the best interest of all parties, as only effective ML monitoring is the one which is *coordinated, consistent, coherent and comparable within the region*.



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Survey of environmental NGOs in the region suggests their both strong interest and significant capacity for participation in ML monitoring, especially so if supported in this effort (financially and by capacity building and training).

DEFISHGEAR project in its monitoring related activities is fully in line with EC and MAP guidelines and capitalizes on all existing capacity and experience in the region and wider. The project initiated pilot monitoring activities are arguably the most extensive regional ML monitoring effort in Mediterranean and probably even in EU context. Sustainability and further development (i.e. natural evolution and fine tuning of the monitoring protocols and practices, based on experience currently being acquired through the project pilot activities) is the first priority for ML management in the region.

The top priority of the monitoring activities is identification of the ML hot spots: both major ML sources and ML accumulation areas on beaches, on sea floor and in water column. In order to be effective and efficient in fulfilling this task, the monitoring program should be, especially during its early phases, investigative and adaptive, in a sense that it continuously takes into account knowledge acquired through its previous phases and adapts accordingly.

Priority measure 2: Full integration of ML consideration into the Waste management priorities.

It is estimated that 80% of ML is from land sources, due to ineffective Waste Management System (WMS). Improving of WMS is already top priority of environmental sector in all countries in the region. Full integration of ML consideration into the Waste management priorities includes primarily

- 1) inclusion of ML in the waste management legislation and policies / waste management plans;
- 2) a status of higher priority for WMS improvement measures with the greatest impact for ML.

The latter includes:

- closing and rehabilitation of illegal and inadequate dumpsites in the coastal area (i.e. on location that makes them significant source of ML due to run-off, river flooding, wind erosion);
- identification and management of other significant sources of ML (e.g. existing monitoring results indicates that in some location hazardous medical waste somehow finds its way all the way to the sea);



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- improvement of waste infrastructure and signage promoting and asking for environmentally responsible behavior;
- the removal of ML from identified hot spots and its adequate disposal.

Implemented surveys among the local authorities and NGOs suggest that there is a lot of space for improvement regarding the waste infrastructure on beaches. It is relatively inexpensive, high leverage measure that contributes to both prevention and awareness rising. It should be implemented in a way which effectively prevents ML generation, while not degrading the landscape values of the site and keeping operational cost as low as possible (i.e. instead of many small overloaded bins, smaller number of larger containers, with signage reminding and asking visitors for cooperation in preservation of the environment they are visiting; installment of containers that allow distant monitoring of dynamic of the litter disposal).

Priority measure 3: Integration of ML related measures and practices into fisheries sectors

Fisheries sector is arguably the second most important sector of the economy – after the tourism – with regards to ties with the ML. It is directly negatively impacted by ML through degraded fish stocks (primarily by “ghost fishing” and degradation of habitats), wasted fishing time on cleaning ML caught in the fishing gear, snagged nets on ML on the seafloor, navigation hazard and damaged vessel parts (fouled propellers and blocked intake pipes). Recent study estimated the total cost of ML impacts on Scottish fisheries at 5% of its total revenue, or in average £15.000 - £17.000 annually, per vessel (Mouat et al, 2010). Fisheries sector is also a significant source of ML, including Abandoned, Lost or Discarded Fishing Gear (ALDFG), made of synthetic materials that can last decades before degrading in micro plastics, expandable polystyrene (EPS) boxes, ropes, buoys, garbage from vessels, etc. Macfadyen et al (2009) estimated that only ALDFG – which is especially harmful – makes up around 10% of all marine litter. Finally, fisheries is also a sector which can contribute to the removal of ML, as fishing activity unintentionally also collects ML from marine environment. It is estimated (OSPAR, 2007) that if mainstreamed within the sector, so called Fishing for Litter (FfL) practices can realistically, in very cost-effective way, significantly contribute to the solution of ML issue, by removing around 10% of annually generated ML, which is comparable with the percentage removed from the beaches (if these are regularly cleaned), as the estimates are that around 70% of ML ends on the sea floor, 15% floats and 15% ends washed up on the beaches.



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Implemented surveys (see attached presentation 7) and existing ML monitoring results in the region (see attached presentation 12) suggests that the above general claims holds also in the Adriatic region.

There are three main measures through which fisheries sector can contribute to mitigation of an ML issue:

- 1) selective collection of fishing gears (primarily nets, traps and pots, long lines, ropes, ...);
- 2) Introduction of Fishing for Litter practice within the sector;
- 3) Removal of Abandoned, Lost, Discarded Fishing Gear (ALDFG) from the sea.

The activities are recognized and recommended as high leverage measures both within the MSFD and MAP regional plan frameworks.

There is financing available for their implementation, as EU Regulation No 508/2014 on the European Maritime and Fisheries Fund (EMFF) stipulates that “the EMFF may support ... collection of waste by fishermen from the sea, such as the removal of lost fishing gear and marine litter”.

Required additional infrastructure (containers in fishing ports dedicated for selective collection of fishing gear and ML collected through FfL practice) is inexpensive: couple of thousands of € per fishing port. Introduction of listed practices would create insignificant additional pressure on the existing WMS – on order of ‰. This also means that it would not present significant additional cost to existing WMS if implemented as intended, as No-Special-Fee system.

ALDFG removal activities should focus primarily on the spots which has both high concentration of ALDFG and high value as habitats for stock regeneration and for marine biodiversity in general (e.g. reefs and ridges, but also shipwrecks which function as artificial reefs).

DEFISHGEAR project, within which the Integration of ML related practices into fisheries sector is one of the main activities (ongoing activities presents the most extensive exercises of that kind in the Mediterranean and one of the most extensive in EU context), will generate significant experience and know how, that can be used as solid starting point for further mainstreaming of the practices within the sector in the region. Ongoing pilot activities have already demonstrated both feasibility and interest for participation in ML related activities, among all key stakeholders (including fishermen, relevant authorities, waste recycling industry).



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Priority measure 4: Integration of ML related measures and practices into tourism sector

Tourism sector is the major source of ML among all sectors of coastal economy. It is estimated that around 50% of ML in Mediterranean comes from the tourism activities. Significance of tourism activities as source of ML is also confirmed in the implemented surveys (see attached presentation 7).

Survey of ML combating practices on the local level (see attached presentation 7) has shown that tourism sector is already the most active partner to the local authorities in addressing ML issue (through prevention measures, as well as regular clean-up and clean-up campaigns). This suggests willingness of the sector to participate.

The sector has also strong incentive to actively participate in ML combating activities, as it is also sector that can suffer the largest financial losses due to degradation of touristic resources by ML. Even 10% decrease in annual revenues – which is quite conceivable scenario in case of sufficiently ML-degraded attractiveness of the destination and consequent decreased number of visitors and/or value of offered touristic services – presents significant amount in absolute terms. The threat is especially significant in areas in which tourism is the major source of annual income, which is case in many areas and communities in the region.

What is arguably needed is more guidance and established system / framework within which sector can more effectively and efficiently, on regular basis contribute to addressing ML issue. This includes tourism sector acting as regular supporter / sponsor of Adopt a Beach practices, ML clean-up campaigns, ML monitoring activities, awareness raising activities (e.g. annual Waste Art exhibition in the destination, distribution of brochures to the visitors, upgraded signage for visitors reminding them of environmentally responsible behavior, cleaning of especially valuable sites in the area (e.g. nesting habitats)).

Priority measure 5: More systematic ML related awareness raising and education efforts

ML is – similar to all other waste related environmental challenges – ultimately consequence of environmentally unaware and irresponsible behavior of various actors. Consequently, altering current behavior patterns into more responsible and environment friendly one is one of the main objectives in prevention of ML.



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Implemented surveys among the local authorities and environmental NGOs in the region (see attached presentation 7) has shown that there is significant experience, capacity and willingness among the NGOs in the region to participate in awareness raising activities, but also that their activity is currently hampered by lack of secured regular and sufficient financing. Consequently, secured financing would result with more of these important activities.

Financing of these activities has to be seen not as additional cost, but as an excellent saving opportunity, as they are relatively inexpensive prevention activities contributing to less spending on clean-up activities.

Awareness raising effect can be magnified by coordination of local campaigns and participation in National and International Coastal Clean-up Campaigns.

It is worth noticing that awareness raising activities focused on ML issue, by addressing one very visible environmental issue, contributes to general environmental awareness raising.

Priority measure 6: Establishment of regional cooperation in ML monitoring and management.

Regional cooperation has been stipulated by MSFD: Article 6 for general considerations; Article 11.2 more specifically related to the monitoring.

In its assessment, European Commission's emphasized lack of regional cooperation as one of the main weaknesses in the first phase of the MSFD implementation process (2008-2014), and strongly recommended additional actions to improve this aspect in the next phase, especially in the ongoing activities dealing with preparation of the national Programmes of measures (that are due by the end of 2015). This is also recommendation of the Barcelona Convention's *Regional Plan on Marine Litter Management in the Mediterranean*.

Established formalized regional cooperation increase chances for successful application for the financing of follow-up projects, which is important both for sustainability of the individual project results, as significant lasting results in general cannot be achieved within the time frame of the typical project, and because once established functional cross-border / regional teams present valuable good-will which, if not preserved, gradually dissipates and has to be built from scratch again.