

Workshop on tackling marine litter in Israel

Report from national workshop, 18/12/2018



Date: 18/02/2018

ENI SEIS II South activity: InCountry Support

Author: Thomais Vlachogianni (MIO-ECSDE)



European Environment Agency



CONTENTS

1 -	INTRODUCTION	2
2 -	OBJECTIVES OF THE WORKSHOP	2
3 -	RESULTS OF THE EVENT	2
4 -	WORKSHOP APPROACH AND PARTICIPANTS PROFILE	3
5 -	OVERVIEW OF THE ISSUES DISCUSSED	4
6 -	CONCLUSIONS AND RECOMMENDATIONS.....	10
	ANNEX I. AGENDA OF THE WORKSHOP	11
	ANNEX II. LIST OF PARTICIPANTS	12
	ANNEX III. LIST OF RESOURCES SHARED	16



European Environment Agency



1 - INTRODUCTION

On the 18th of December 2018, within the framework of the ENI SEIS South Support Mechanism project, a workshop was organized in Tel Aviv (Ramat Efal) by the Ministry of Environmental Protection of Israel focusing on the issue of marine litter. The ENI SEIS South Support Mechanism project aims to contribute to the reduction of the marine pollution in the Mediterranean by developing a Shared Environmental Information System (SEIS) supporting the regular production, collection and sharing of quality assessed environmental data, indicators and information.

2 - OBJECTIVES OF THE WORKSHOP

The overarching goal of the workshop was to acquaint a core set of professionals with marine litter monitoring and management. The workshop participants were briefly introduced to the theme of marine litter, its sources and impacts, as well as the main legislative framework to combat marine litter, namely the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean. The participants gained an overview of the 'best' available techniques and methodologies for monitoring marine litter in the coastal and marine environment. In addition, they were introduced to several best practice marine litter measures and they had the opportunity to obtain an overview of the marine litter measures implemented at national level.

Throughout the workshop emphasis was given to the practical implementation of the three marine litter indicators adopted within the Barcelona Convention Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP – Decision IG.22/7).

- Common Indicator 22: Trends in the amount of litter washed ashore and/or deposited on coastlines (EO10);
- Common Indicator 23: Trends in the amount of litter in the water column including micro plastics and on the seafloor (EO10)
- Candidate Indicator 24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles (EO10).

3 - RESULTS OF THE EVENT

The outcomes of the workshop were:

- Enhanced understanding of key issues (technical, environmental, economic, health, cultural and social) related to marine litter;
- Deepened knowledge on the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean and the three marine litter indicators adopted within the Barcelona Convention Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP – Decision IG.22/7);
- Improved knowledge and understanding of appropriate marine litter monitoring schemes and methodologies;
- Strengthened capacities to monitor marine litter in a harmonized way and also enhanced skills to process the marine litter datasets and identify the marine litter sources.



European Environment Agency



- Improved knowledge and understanding of the challenges involved in identifying and implementing marine litter measures;
- Strengthened implementation of the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean.

4 - WORKSHOP APPROACH AND PARTICIPANTS PROFILE

The workshop comprised of a balanced mix of presentations and moderated discussion to foster an engaging learning experience. It was participatory and interactive. At the end of the workshop the participants were provided with the workshop presentations and other marine litter related resources so as to enhance their competences on how to design and carry out marine litter monitoring or implement marine litter measures.

The workshop brought together the following stakeholders:

- Members of staff of the Ministry of Environmental Protection of Israel, Marine and Waste Divisions, The office of the Chief Scientist and other relevant agencies involved in designing the marine litter monitoring programme of Israel as well as in the design and implementation of marine litter measures to be included in the Israeli marine litter action plan;
- Representatives of local authorities in charge of keeping the beaches clean and/or managing waste and/or involved in designing/implementing the waste management plan of the municipality;
- NGOs carrying out marine litter surveys or interested in performing marine litter monitoring;
- Research institutes and academia working or interested in working on the issue of marine litter monitoring;
- Representatives of any related marine litter monitoring related projects.



Image 1. Photograph taken during the workshop.



5 - OVERVIEW OF THE ISSUES DISCUSSED

In the opening of the workshop Dr. Orna Matzner, Senior Manager (science and research)/ Chief Scientist Office and Mr. Fred Arzoine, Deputy Director, Marine Environment Protection Division of the Israeli Ministry of Environmental Protection, provided an overview of the aims and objectives of the workshop as well as of the ENI SEIS South Support Mechanism project. They highlighted that the ENI SEIS South Support Mechanism project aims to ensure coherence and harmonization of environmental reporting at regional level in order to formulate a regionally State of the Environment Report in support of more efficient policy-making. The Horizon 2020 Initiative for a cleaner Mediterranean was also briefly presented. Dr. Matzner underlined that marine litter has been highlighted as an emerging priority within the UfM Ministerial declaration on Environment and Climate Change, adopted by the 43 countries in 2014, and continues to be a top priority in the Mediterranean agenda with respect to both depollution and pollution prevention aspects.

The first session of the workshop (09.15-13.00) focused on experiences and lessons learned related to the management of marine litter.

Mr. Fred Arzoine provided an overview of the main actions and results obtained by the Clean Coast Program implemented by the Ministry of Environmental Protection in collaboration with other partners. The project aims at solving the problem of litter on Israel's beaches. The program includes several lines of action aiming to raise public awareness on the importance of beach cleanliness, namely:

- Routine cleanup activities by local authorities;
- Enforcement against polluters of the coasts;
- Educational activities in the country's schools and youth movements;
- Information and publicity activities;
- Inspectors of the Nature and Parks Authority and of the Ministry of Environmental Protection are responsible for supervising the cleanups;
- Enforcement activities against local authorities which fail to clean their coastlines.

Representatives from the local authorities of Ashdod, Herzliya and Hof Hacarmel presented their success stories as well as the challenges encountered in keeping the beaches litter free. The representative from the local authority of Ashdod stressed that one of the main challenges they face is connected with the large amount of cigarette butts on the beaches and gave an overview of the actions they have undertaken to address it. Hof Hacarmel presented their success stories as well as the challenges encountered in keeping the beaches litter free. The representative from the local authorities of Herzliya focused on the single-use plastic cups and corresponding solutions.

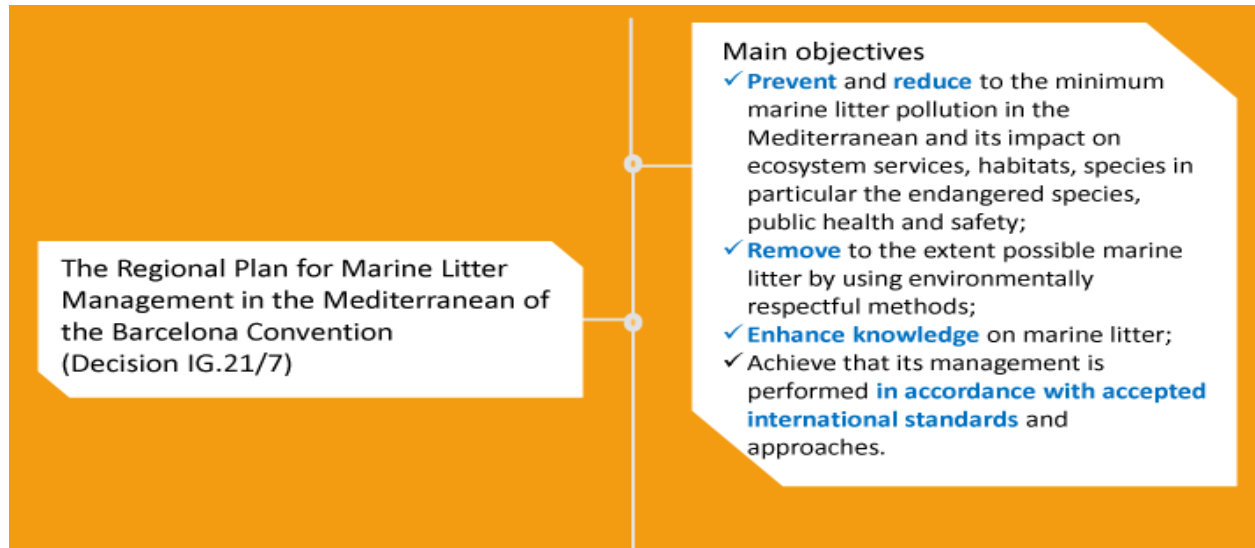
Dr. Thomais Vlachogianni, MIO-ECSDE Programme Officer and SWIM-H2020 SM Marine Litter Expert started her presentation with a comprehensive overview of the certainties and uncertainties related to marine litter and plastic pollution and in particular as prerequisites for better decision making. She provided a brief description of the main elements of the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean and the measures that have been considered as best practice ones, such as the adopt a beach, the plastic bag levy, the fishing for litter scheme, etc.



European Environment Agency



Image 2. The main objectives of the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean.



European Environment Agency



She also gave an overview of the advances made within the EU Marine Strategy Framework Directive with regards to marine litter as well and overview of the Plastics Strategy and the recent developments on banning single-use items. Dr. Vlachogianni showcased a series of wide-ranging best practice marine litter measures implemented at European Regional Seas level which are listed below:

- THE FREIBURGCUP – A REUSABLE COFFEE CUP ‘TO GO’
- THE IRISH PLASTIC BAG LEVY
- THE GREEK PLASTIC BAG LEVY
- THE RESPONSIBLE SNACK BARS INITIATIVE
- THE INDIRECT FEE SYSTEM FOR THE COLLECTION OF SHIP-GENERATED WASTE IN CYPRUS
- THE ORIGINAL UNPACKAGED INITIATIVE
- THE PRECIOUS PLASTIC INITIATIVE
- THE OPERATION CLEAN SWEEP INITIATIVE
- THE EXTENDED PRODUCER RESPONSIBILITY SCHEME
- THE FP7 MARLISCO PROJECT
- THE FISHING FOR LITTER SCHEME
- THE TARGETED REMOVAL OF GHOST NETS
- THE SETTING UP OF DERELICT FISHING GEAR MANAGEMENT SCHEMES

The discussions focused on the strengths and weaknesses of the aforementioned measures and on how these could be implemented on the ground in Israel. Special emphasis throughout the discussions was given on how to cut single-use plastic items. The participants of the workshop would like to see the plastic bag levy measure expand and apply beyond the retailers and the supermarkets.

The second session of the workshop (14.00-16.30) focused on experiences and lessons learned related to marine litter monitoring and assessment.

Dr. Thomais Vlachogianni, MIO-ECSDE Programme Officer and SWIM-H2020 SM Marine Litter Expert started her presentation with the definition of monitoring: monitoring is a long term, standardized measurement, observation, evaluation and reporting of the environment in order to define status and trends. She clarified that marine monitoring aims to provide information on the types, quantities, distribution and impacts of marine debris; to identify the sources of marine debris; and to assess the effectiveness of management measures to address the issue. She explained the DPSIR framework and continued with a thorough description of the Barcelona Convention IMAP indicators and the Marine Strategy Framework Directive Marine Litter Criteria.



European Environment Agency



Box 1. The Marine Litter Operational Objectives and respective Indicators within the framework of the Barcelona Convention Integrated Monitoring and Assessment Programme (IMAP).

Marine Litter and the Barcelona Convention Ecosystem Approach

Ecological Objective 10 (EO10): Marine and coastal litter do not adversely affect the coastal and marine environment.

IMAP Common Indicator 22: Trends in the amount of litter washed ashore and/or deposited on coastlines (including analysis of its composition, spatial distribution and, where possible, source).

IMAP Common Indicator 22: Trends in the amount of litter in the water column including micro plastics and on the seafloor.

IMAP Candidate Indicator 24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles.

Box 2. The Marine Litter Descriptor, criteria, and respective Indicators within the framework of the EU MSFD.

Marine Litter within the EU MSFD

Properties and quantities of marine litter do not cause harm to the coastal and marine environment (Descriptor 10)

Criteria D10C1 - Primary: The composition, amount and spatial distribution of litter on the coastline, in the surface layer of the water column, and on the seabed, are at levels that do not cause harm to the coastal and marine environment.

- ✓ amount of litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source (10.1.1)
- ✓ amount of litter in the water column (including floating at the surface) and deposited on the seafloor, including analysis of its composition, spatial distribution and, where possible, source (10.1.2)

Criteria D10C2 - Primary: The composition, amount and spatial distribution of micro-litter on the coastline, in the surface layer of the water column, and in seabed sediment, are at levels that do not cause harm to the coastal and marine environment.

- ✓ amount, distribution and, where possible, composition of microparticles (in particular microplastics) (10.1.3)

Criteria D10C3 - Secondary: The amount of litter and micro-litter ingested by marine animals is at a level that does not adversely affect the health of the species concerned.

- ✓ amount and composition of litter ingested by marine animals (10.2.1)

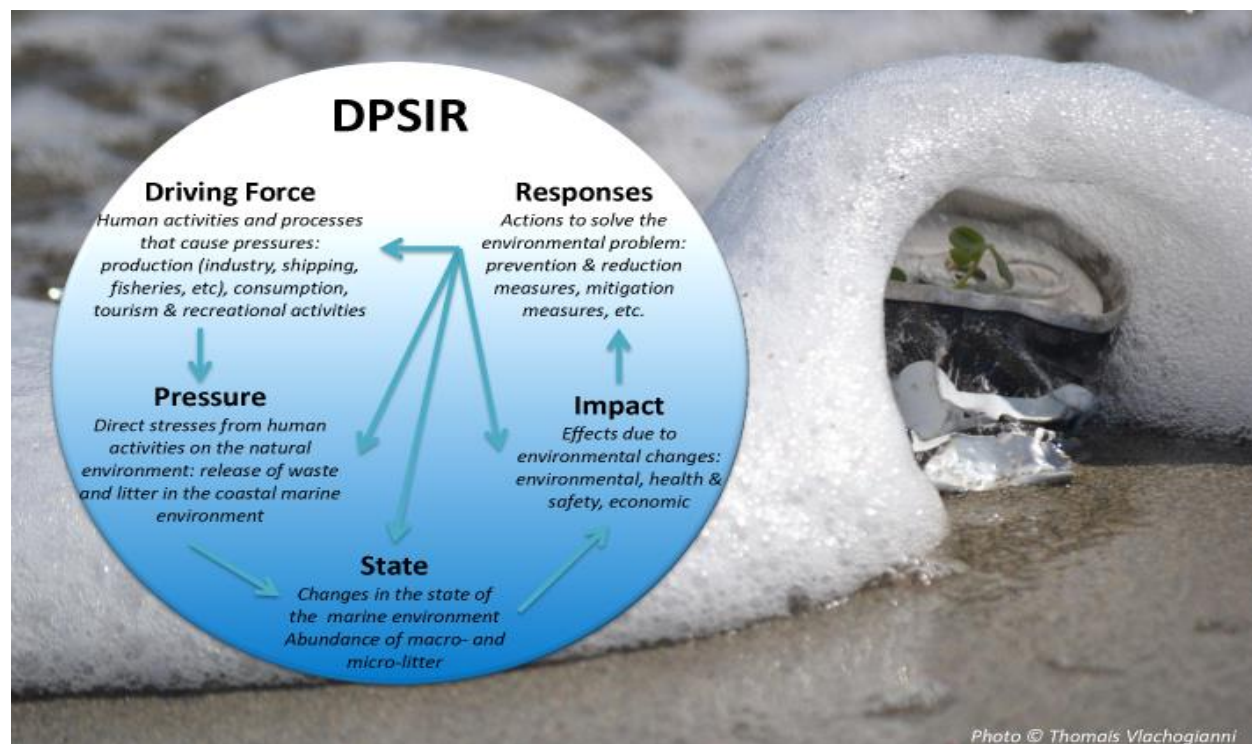
Criteria D10C4 - Secondary: The number of individuals of each species which are adversely affected due to litter, such as by entanglement, other types of injury or mortality, or health effects.



European Environment Agency



Image 3. The DPSIR approach for managing marine litter.



Dr. Vlachogianni focused on marine litter monitoring protocols that are to a large extent harmonized and are suitable for official marine litter monitoring programmes and could be implemented in participatory science initiatives with the involvement of local authorities, managers of coastal and marine protected areas, environmental NGOs, etc. These included the following macro-litter monitoring methods:

- BEACH – VISUAL OBSERVATION
- FLOATING – VISUAL OBSERVATION
- SEAFLOOR – SCUBA/SNORKELLING
- SEAFLOOR – TRAWLING
- RIVERS – VISUAL OBSERVATION

For each of these methods she provided a comprehensive overview of the following:

- SITE SELECTION CRITERIA
- SAMPLING UNITS
- FREQUENCY AND TIMING OF SURVEYS
- SIZE LIMITS AND CLASSES TO BE SURVEYED
- COLLECTION AND IDENTIFICATION OF LITTER



European Environment Agency



- QUANTIFICATION OF LITTER
- EQUIPMENT/CONSUMABLES NEEDED

Regarding marine micro-litter monitoring she gave an overview of the main methods commonly applied and explained the associated key steps regarding sampling, sample processing and litter identification.

Ms. Galia Pasternak from the University of Haifa and Dr. Yael Segal Rozenberg from the Oceanographic & Limnological Research Department of the National Institute of Oceanography of Israel presented the marine litter monitoring programme of Israel and the results and findings obtained. In thirty coastal surveys conducted between summer 2012 and autumn 2018 on eight sandy beaches, 12.1 items per 100 m² were found. Some 90% of these items were plastic while 35% of these were single-used plastic items. Floating marine debris was surveyed during eight cruises at 17 sites with EcoOcean's vessel. The surveys were carried out between summer 2013 and spring 2015. During the surveys also microplastic samples were collected with a manta net. In the floating macro-litter surveys a range of 0-2341 items per km² (Aver. 228) were found, 96% of which was plastic. Seafloor macro-litter was carried out in collaboration with divers during underwater cleanups and/or within the "Sea Guard" volunteering program. Microplastics in Israeli Mediterranean coastal waters were studied by Noam van der Hal from the University of Haifa. Surface water microplastics abundance was found to be 7.68 ± 2.38 particles/m³ and it is considerably higher than in other Mediterranean regions. Plastic fragments were the most common type of microplastics. Microplastics density in the sediments at 10 m depth were relative low (0.014 particles/cm³ or 1.94 particles/kg), whereas the abundance of microparticles in a sublittoral sample (115 m depth) showed a high abundance of microparticles in that area (with 355 particles/kg).

Mr. Fred Arzoiné, Deputy Director, Marine Environment Protection Division of the Israeli Ministry of Environmental Protection wrapped up the workshop by summarizing the main issues addressed. In addition, he listed the recommendations of the workshop and the upcoming next steps.



European Environment Agency



6 - CONCLUSIONS AND RECOMMENDATIONS

The main conclusions of the workshop are summarised below:

- Marine litter is a rapidly growing problem understood and perceived by everybody directly related to his/her behaviour. Therefore, we need to work in changing attitudes and behaviour related to the consumption and production patterns.
- The effective implementation of the Barcelona Convention Regional Plan for Marine Litter Management in the Mediterranean is the key in order to curb marine litter in Israel.
- It is of high priority for Israel the promotion of a circular economy through increased resource efficiency facilitating sustainable consumption and production patterns, including cradle-to-cradle life cycle design, high quality recycling and sustainable packaging, encouraging extended producer responsibility and environmentally responsible fishing and maritime transport practices.
- There is an imperative need to improve the scientific knowledge on amounts, pathways, distribution, trends and sources of marine litter in Israel in order to design and implement more effective measures. In this respect, the following activities should be undertaken by future research initiatives: a higher number of sites should be monitored in order to collect data on beach litter, floating litter and seafloor litter. Riverine inputs of marine litter should also be studied. Appropriate studies should be designed and implemented in order to shed light on the impacts of marine litter, environmental as well as socio-economic ones.
- It is highly recommended to promote participatory science campaigns in order to enhance the knowledge basis on marine litter. Such campaigns can be facilitated via the use of related tools such as the EEA's Marine Litter Watch App.
- There should be a systematic and continuous promotion of sound educational and awareness raising programmes on marine litter at all levels.
- Civil society organizations are essential partners in showcasing and/or promoting marine litter prevention, reduction and mitigation measures.
- A solution oriented approach when communicating the problem of marine litter coupled with concrete showcases of feasible actions has a greater impact in terms of triggering action.
- Marine litter actions should take account the local specificities while linking to national and/or regional and international efforts, creating in this way a sense of broader participation, a momentum that fosters citizenship, co-responsibility and empowerment towards taking up individual and collective actions.



European Environment Agency



ANNEX I. AGENDA OF THE WORKSHOP

  	
תכנית חוף נקי הישגי 2018 והזדמנויות לשלוש שנים הקרובות	מושב א – Session I
תכנית חוף נקי, פרד ארזואן, סגן מנהל היחידה הארצית להגנה הסביבה הימית, המשרד להגנת הסביבה	10:00 – 09:15
שלושה סיפורי הצלחה של הרשויות החופיות: ימית הוניקמן פרץ- עיריית אשדוד; לירון מעוז- עיריית הרצליה; נגה לבנברג- מ.א. חוף הכרמל;	10:45 – 10:00
הפסקת קפה	11:00 – 10:45
ניסיון בינלאומי, טומי ולשוגיאני דרכים להפחתת פסולת ימית - MIO-ECSDE Ways to reduce pollution from marine litter, global experience, Thomie Vlachogianni MIO-ECSDE	12:30 – 11:00
ההרצאה תינתן באנגלית	
דין	13:00 – 12:30
Lunch - ארוחת צהריים	14:00 – 13:00
ההערכה של כמות הפסולת ימית	מושב ב – Session II
ניטור פסולת ימית, טומי ולשוגיאני, MIO-ECSDE Marine litter monitoring, Thomie Vlachogianni MIO-ECSDE	15:00 – 14:00
ההרצאה תינתן באנגלית	
ממצאי מחקר פסולת ימית בישראל- גליה פסטרנק, החוג לציוויליזציות ימיות, אוניברסיטת חיפה	15:00 – 15:20
תכנית ניטור הפסולת בישראל במסגרת תכנית הניטור הלאומי של הסביבה הימית- ד"ר יעל סגל, חקר ימים ואגמים	15:40- 15:20
דין וסכום – Discussion and summary	16:00 – 15:40



European Environment Agency



ANNEX II. LIST OF PARTICIPANTS



European Environment Agency



החפשמ ששו מש	ונגרא	דיקפת
פרד ארזואן	הגנת הסביבה הימית	סגן מנהל היחידה הארצית לה
שלמה כץ	המשרד הגנס	מנהל היחידה הימית
אלינה וינטרסטרנג	המשרד להגנת הסביבה	
משה בן-ששון	משרד המדע	מנהל מדעי תחומי מים, חקלא
Rani Amir	MoEP	Haifa Dit. Manager
מיכל וימר לוריא	עמותת אקואושן	מנהלת מחלקה חופית
ציון שדה	עיריית נתניה	ראש מנהלת חופים
עדי לוי	האגודה הישראלית לאקולוגיה	מנהל מדעי
יהודית מוסרי	המשרד להגנת הסביבה	מתכננת היחידה הארצית לה
גבאי יוסף	מועצה אזורית חוף הכרמל	מנהל איכ"ס וחופים
דלית מוהר ארליך	המשרד להגנת הסביבה	מרכזת חינוך ואכיפה
אושרי ליברמן	עיריית ראשון לציון	מנהל תחום פיקוח על האגמים
אריה תורג'מן	עיריית אשדוד	מנהל אגף חופים
יאיר וולוביץ	עמותת ארץ ללא בדל	יו"ר ומנכ"ל
אריה לוי	עיריית אשקלון	מנהל מחלקת רצועת החוף
חגית אמיגה	עיריית טירת כרמל	מנהלת מדור איכות הסביבה
אריה וגנר	עיריית טירת כרמל	מנהלת מחלקת חזות העיר
רפאל מיכאל	אנשי ים התיכון	מנהל
בעז מיזל	ההתאחדות הישראלית לצליל	
עמיר ארד	הגנה"ס	מנהל תחנה דרומית
מאיה יעקבס	עמותת צלול	מנכ"ל
דליה טל	עמותת צלול	מנהלת קמפיינים
לימור גורליק	צלול	רכזת תחום זיהום פלסטיק
דוד פסו	עיריית אשקלון	אחזקת חופים
מעין חיים	היחידה הימית	מהנדסת שמירת הסביבה החו
אריק רוזנבלום	אקואושן	מנכ"ל
יצחק תורג'מן	עיריית אשדוד - אגף החופים	מנהל שירותי חוף
מיכל וימר לוריא	אקואושן	מנהלת מחלקה חופית
אבי צ'פרק	עיריית אשדוד אגף החופים	מפקח חוף
אבי יצחק	עיריית אשדוד אגף החופים	סגן מנהל אגף החופים
טל אזולאי	החברה העירונית לפיתוח תייר	מנהלת פיתוח סביבתי וקיימות
מאיר ברק	עיריית חיפה	מנהל תפעולי אגף החופים



European Environment Agency



החפשמ משו מש	אוגרא	דיקפת
אחראי תחום שפע	מועצה אזורית חוף השרון	אייל ג'נח
מפקח נקיון חופים לא מוכרזים עיריית עכו	אבי גז	
מנהלת מח' חינוך	אקואושן	תמר טננבאום
פקח ימי	רשות הטבע והגנים	אלון פן
מנהל חופי הים	מ.א.עמק חפר	זבידוב בני
סגן מנהל אגף תפעול ומזכיר	עיריית חדרה	חיים חומרי
מפקח נקיון	עיריית ראשון לציון	אבי חיון
רכזת פעילות מרכז מגלים	עמותת Ecoocean	אדוה אשכנזי
רכזת פיתוח ופרויקטים	אקואושן	איריס ובר
מנהל מדעי	אקואושן	אסף אריאל
מנהלת תחום בכיר למדע ומח	המשרד להגנת הסביבה	ארנה מצנר
סטודנט	המשרד להגנת הסביבה	שיר שכטר
Yael Segal	IOLR	Reasercher
זאב בן-יהודה	imi	
מרכז מדעי לניטור ומחקר בים	המשרד להגנת הסביבה	דרור צוראל
רכזת פעילות מרכז מגלים	עמותת ecoocean	אדוה אשכנזי
	נ.ד.ג. אדוויסרס	אורלי בביצקי
צוות פיתוח	מוזיאון המדע ע"ש בלומפילד	חגית טישלר
סמנכ"לית פיתוח עסקי	מוזיאון המדע ע"ש בלומפילד	טל בר-לב
מרכזת מחזור	המשרד להגנת הסביבה	livnat goldberg
מנהלת מדור קיימות	עיריית הרצליה	לירון מעוז
Director of EPR Department	Ministry of Environmental	NOA SHPITZER
ראש תחום מחזור	המשרד להגנת הסביבה	ירדן שני רוקמן
ממונה מחזור ופסולת	המשרד להגנת הסביבה	נורית נוימרק-גוהר
מנהלת קיימות והסברה	היחידה לאיכות הסביבה אילת	יעל אדרעי
	עצמאי	דן רובין מילר
יועץ איכות ובטיחות אש	עצמאי	חיים גנטמן
ראש תחום חקלאות סביבה וא	הלמ"ס	משה ינאי
רכזת תחום זיהום פלסטיק ופול		לימור גורליק





ANNEX III. LIST OF RESOURCES SHARED

- Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol (Decision IG.21/7)
- MEDPOL Beach Litter Survey Form (UNEP(DEPI)/MED WG.439/20/L.1)
- The UNEP/MAP Marine Litter Assessment in the Mediterranean
- The MSFD TGML Report on Harm caused by Marine Litter
- The MSFD TGML Report on Identifying Sources of Marine Litter
- The MSFD TGML Report on Monitoring of Marine Litter in European Seas
- THE MSFD TGML Report on Riverine Litter Monitoring
- The IPA-Adriatic DeFishGear Marine Litter Assessment in the Adriatic and Ionian Seas
- The IPA-Adriatic DeFishGear Marine Litter Socio-Economic Implications Report
- The IPA-Adriatic DeFishGear Monitoring Methodology for Marine Litter on Beaches
- The MARLISCO Marine Litter Best Practice Guide
- The MARLISCO Educational Material 'Know, Feel, Act! To Stop Marine Litter
- The MARLISCO Targeted Brochure 'Stopping Marine Litter Together'
- The MARLISCO Guide 'How to Communicate Marine Litter with Stakeholders
- The Interreg Med ACT4LITTER List of Best Practice Marine Litter Measures



European Environment Agency

