

NET4mPLASTIC PROJECT

WP3 – Act. 3.2 Data collection for selected Macro-Areas in Italy and Croatia and model implementation

D 3.2.1

Report of the results of the previous EU projects on MP and data collection related to plastic and MP in the northern Adriatic basin

June, 2020 – Final Version

Project Acronym	NET4mPLASTIC
Project ID Number	10046722
Project Title	New Technologies for macro and Microplastic Detection and Analysis in the Adriatic Basin
Priority Axis	3
Specific objective	3.3
Work Package Number	3
Work Package Title	Preliminary activities and project implementation
Activity Number	3.2
Activity Title	Data collection for selected Macro-Areas in Italy and Croatia and model implementation
Partner in Charge	PP2 – Regione Marche
Partners involved	LP – University of Ferrara (UNIFE); PP1 – University of Trieste (UNITS); PP5 – Veterinary Public Health Institute of Abruzzo and Molise Regions (IZSAM) PP6 – Teaching Institute for Public Health, Primorje-Gorski Kotar County (TIPH) PP7 – Public Institution RERA SD for Coordination and Development of Split Dalmatia County (RERA) PP8 – University of Split – Faculty of Civil Engineering, Architecture and Geodesy (UNIST – FGAG).
Status	Final
Distribution	Public

CONTRIBUTING PARTNERS	UNIFE, UNITS, REGIONE MARCHE, IZSAM, TIPH, RERA, UNIST – FGAG.
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Data	Vers	Prep	Resp	Appr	Rev	Comment
30/07/2019	1.1	PP1 UNITS	Chiara Schmid Luca Cozzarini	Alessio Lupi	Draft	Comment and approval
30/10/2019	1.1	PP8 UNIST- FGAG	Roko Andričević, Petra Šimundić, Toni Kekez, Marin Spetič	Alessio Lupi	Draft	Comment and approval
30/12/2019	1.1	LP UNIFE	Umberto Simeoni Corinne Corbau	Alessio Lupi	Draft	Comment and approval
31/05/2020	1.2	LP UNIFE	Carmela Vaccaro Corinne Corbau	Alessio Lupi	Draft	Comment and approval
31/05/2020	1.1	PP5 IZSAM	Nadia Barile Sara Recchi Eliana Nerone	Alessio Lupi	Draft	Comment and approval
31/05/2020	1.1	PP6 TIPH	Itana Bokan	Alessio Lupi	Draft	Comment and approval
31/05/2020	1.1	PP7 RERA	Gorana Baničević	Alessio Lupi	Draft	Comment and approval
30/06/2020	1.1	PP2 Regione Marche	Alessio Lupi	Alessio Lupi	Final	Comment and approval

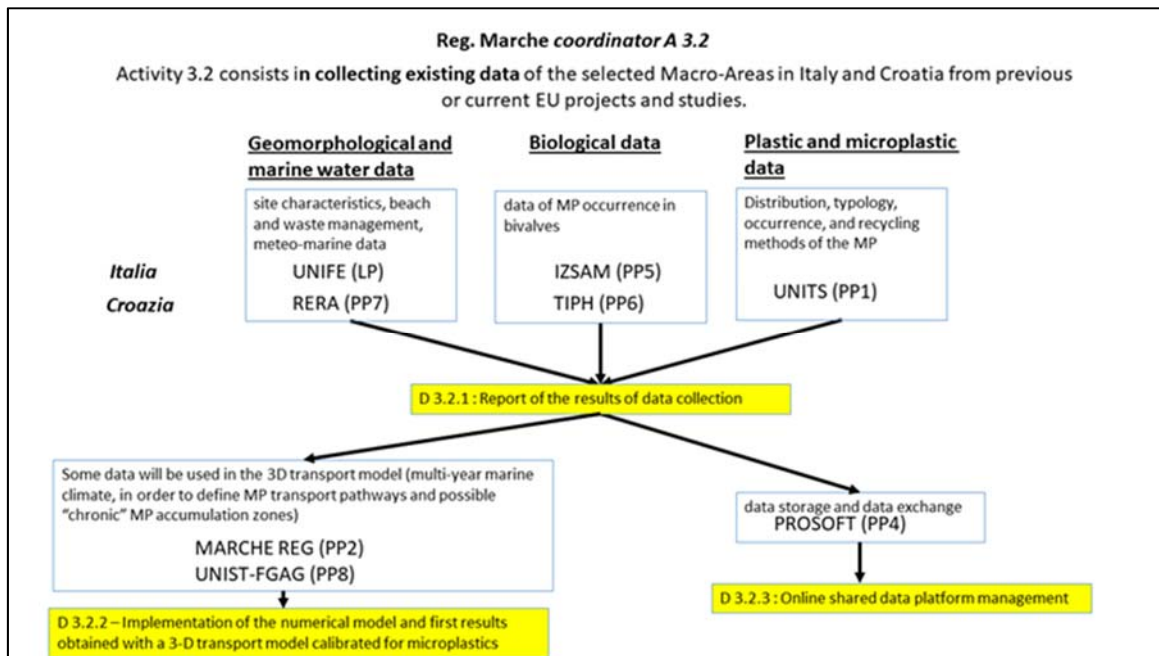
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1 Introduction

This text refers to the Deliverable D 3.2.1 of the “Net4mPlastic” project, namely the: *“Report of the results of previous EU projects on MicroPlastic (MP) and data collection related to plastic and MP in all marine compartments in the northern Adriatic basin, to site characteristics and weather-marine data, and to beach and waste management in Croatian and Italian pilot sites”*.

As first step the partners of the “Net4mPlastic” project have agreed the kind of data to be provided and the specific roles in line with the expertise of each partner. The division of tasks and roles are resumed in the following scheme:



In details, the activity to be performed consists in the collection of existing data related to the selected Macro-Areas in Italy and Croatia from previous or current EU projects and studies.

In particular: the Public Institution RERA SD for coordination and development of Split Dalmatia County (PP7 – RERA) and the University of Ferrara (LP –UNIFE) are expected to collect data of site characteristics, beach and waste management, weather-marine data in the Macro-Areas, while the Veterinary Public Health Institute of Abruzzo and Molise Regions (PP5 – IZSAM) and the Teaching Institute for Public Health, Primorje-Gorski Kotar County (PP6 – TIPH) will collect data of MP occurrence in bivalves. The University of Trieste (PP1-UNITS) will gather data about distribution, typology, occurrence, and recycling methods of the MP.

The data will be managed by Prosoft doo (PP4-PROSOFT) to facilitate data storage and data exchange between the partners involved.



Some data will be used in the 3D transport model developed by the Marche Region (PP2-Marche), with the support of the University of Split (PP8-UNIST-FGAG): physical processes of Adriatic Sea will be simulated considering multi-year marine climate, in order to define MP transport pathways and possible “chronic” MP accumulation zones.

Below is the detail of the individual "geomorphological data" of each individual site (Tab. 1, 2,3):

Site	PP	Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Rosolina beach	UNIFE	https://idt2.regione.veneto.it/	http://www.atlantedellalaguna.it/	http://www.arpa.veneto.it/temi-ambientali/acqua/acquae-marino-costiere/progetti/i-sedimenti-presenti-lungo-i-litorali-veneti	http://www.atlantedellalaguna.it/?q=maps#ema-4-titolo	https://idt2.regione.veneto.it/	The dynamics of the Adriatic Sea ecosystem.: An idealized model study Author links open overlay panelM.Zavatarella J.W.Baretta1bJ.G.Baretta-Bekker1bN.Pinardia	Remote sensing in coastal water monitoring: Applications in the eastern Mediterranean Sea(IUPAC Technical Report)Pure Appl. Chem., Vol. 84, No. 2, pp. 335–375, 2012. http://dx.doi.org/10.1351/PAC-REP-11-01-11 © 2011 IUPAC, Publication date (Web): 22 December 2011
Note				Database with physical, chemical and microbiological characteristics of the sediments data. The project collected data from 1998 to 2007, continuing the establishment in the same areas until 2011			Article on biomass-based ecological model. Other articles in the literature deal with sediment transport in the Adriatic area with numerical simulations	Many studies have been conducted to exploit this monitoring technique in favor of oil spills

Tab.1 : detail of the "Geomorphological" data related to the "Rosolina beach" site

Site	PP	topographic data	bathymetrical data	sedimentological data	weather and marine conditions	geomorphological evolution	existing numerical simulations	remote sensing information/ UAV
Goro	UNIFE	http://geoportale.regione.emilia-romagna.it/it/catalogo/dati-cartografici/cartografia-di-base/database-topografico-regionale/idrografia/acquedotti-marine/linea-di-costa-marina-dbtr-cos_gli	https://www.arpae.it/dettaglio_notizia.asp?id=8932&idlivello=3	https://www.arpae.it/dettaglio_general.asp?id=3306&idlivello=1886	https://simc.arpae.it/dext3r/	https://ambiente.regione.emilia-romagna.it/it/geologia/geologia/costa/banche-dati-settore-costiero	https://www.arpae.it/dettaglio_generale.asp?id=3293&idlivello=1883	Development Of Oil Spill Detection Techniques For Satellite Optical Sensors And Their Application To Monitor Oil Spill Discharge In The Mediterranean Sea https://core.ac.uk/download/pdf/11013170.pdf
Note								https://www.arpae.it/cms3/documenti/_cerca_doc/meteo/laboratorio_telerilevamento/labt00009_spisni-marletto%20ar5_04.pdf It is a work carried out by ARPA and dating back to 2004. in this work areas subject to mucilaginous phenomena and eutrophication are observed along the Adriatic coast between the mouth of the Po and Abruzzo.

Tab. 2: detail of the "geomorphological" data relating to the "Goro" site

The same .xls sheet also contains the “water quality information” data still referring to Rosolina beach, Goro as well as some info relating to the Marche Region. Where available, for the different types of data - Namely the: "Water quality information", "Oxygen content temperature", "PH", "Chlorophyll", "Hazardous pollutants", "Marine relevant contaminants", "Contaminants from waste treatment" - there are links source and related notes. The details of the "water quality information" data related to each individual site are shown below (Tab. 3, 4,5):

Water quality information	Oxygen content	Temperature	PH	Chlorophyll	Hazardous pollutants	Marine relevant contaminants	Contaminants from waste treatment
http://www.arpa.veneto.it/arpavinforma/bollettini/acqua-1/acque-marino-costiere	http://www.arpa.veneto.it/temi-ambientali/acqua/file-e-allegati/documenti/acque-marino-costiere/rapporti-annuali/2014_11_RapDeroga2013.pdf	http://www.arpa.veneto.it/temi-ambientali/idrologia/attivita-e-servizi/fornitura-dati	http://www.arpa.veneto.it/temi-ambientali/idrologia/attivita-e-servizi/fornitura-dati	http://www.arpa.veneto.it/temi-ambientali/acqua/file-e-allegati/documenti/acque-marino-costiere/rapporti-annuali/2014_11_RapDeroga2013.pdf	https://pdfs.semanticscholar.org/7932/314f73431888a5e2c77d9b2024b4b790be81.pdf	http://www.arpa.veneto.it/temi-ambientali/idrologia/attivita-e-servizi/fornitura-dati	
Information bulletins starting from 2001 with info related to observations on the quality of the sea, state of the sea and wind direction.		The supply of data is currently for consideration, based on what is defined in the appropriate Rate List.	The Veneto Region has activated a series of specific controls, entrusting them since 1999 to the Regional Agency for Environmental Prevention and Protection of the Veneto (ARPAV).				

Tab. 3: detail of the "water quality information" relating to the "Rosolina beach" site

Water quality information	Oxygen content	Temperature	PH	Chlorophyll	Hazardous pollutants	Marine relevant contaminants	Contaminants from waste treatment
https://www.arpae.it/archivio_bollettini.asp?idlivello=534							
Digital data available since 2007							

Tab. 4: detail of the "water quality information" relating to the "Goro" site.

- Macro-Microplastic data (relative to the Rosolina beach, Goro and Lidi ferraresi sites).

Site	owner of the data	Site specification		Macro, marine litter			Microplastic						GENERAL INFO				
		access to the site (easy/difficult)	sea water/ beach	method used sampling	yes / no / maybe available	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	yes / no / maybe available	associated pollutants or contaminants	other information
Rosolina beach	UNIFE	easy	Beach	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	Indicate the unit	no	no	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	355	yes	yes	yes	microscope observation	no	no	no
GORO	Emilia Romagna	medium	Beach	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	20 samples: jansary, july, november 2018 and June 2019	no	no	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	available	yes	yes	yes	microscope observation	available for macro	no	no
Lidi Ferraresi	Emilia Romagna	easy	beach	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	75 samples	no	no	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	DefFishGear protocols for sea surface and beach sediment sampling and sample analysis	available	yes	yes	yes	microscope observation	no	no	no

Fig. 2: Overall view of the "Macro-Microplastic data" sheet

The "Macro-Microplastic data" refer to n. 3 sites: Rosolina beach, Goro and Lidi ferraresi.

This sheet indicates "Site specifications", indications related to difficulties in accessing the site, or whether the data refer to sea water or beach.

The information is collected in "Macro, marine litter", "Microplastic" and "General information"

Below is the detail of each individual site (Tab. 5,6,7):

Site specification		Macro, marine litter				Microplastic							GENERAL INFO		
		yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
Access to the site (easy/difficult)	Sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
Easy	Beach	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	Sampling started from 2017	no	no	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	355	yes	yes	yes	Microscope observation	no	no	no

Tab. 5: detail of the "Macro-Microplastic data" relating to the "Rosolina beach" site

		Macro, marine litter				Microplastic							GENERAL INFO		
		yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
medium	Beach	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	20 samples: jenuary, july,nove mber 2018 and June 2019	no	no	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	available	yes	yes	yes	microscope observation	available for macro	no	no

Tab.6: dettaglio dei "Macro-Microplastic data" relativi al sito "Goro"

		Macro, marine litter				Microplastic							GENERAL INFO		
		yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
easy	beach	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	75 samples	no	no	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis	DeFishGear protocols for sea surface and beach sediment sampling and sample analysis								

Tab. 7: detail of the "Macro-Microplastic data" relating to the "Rosolina beach" site

Moreover, the University of Ferrara delivered the following data and information that are collected and displayed in separate files annexed to this report. Namely:

- ANNEX 1: the “D.3.2.1 Data Collection UNIFE” file describes the data on “Microplastics in marine environment” present in literature and on institutional sites. The file is in Italian;
- ANNEX 2: the “D.3.2.1_microplastic projects_UNIFE” file lists and describes the projects in progress and completed on the topic of microplastics in the northern Adriatic basin;
- ANNEX 4: the “Microplastic projects DynamicMap” .rar is an archive containing the files needed to display an interactive map of projects in progress and completed on the topic of microplastics in the northern Adriatic basin.

The first two files have already been uploaded for disclosure on the institutional website <https://www.italy-croatia.eu/web/netformplastic>

2.2 University of Trieste

The University of Trieste (UNITS – PP1) provides a set of data on "marine litters" collected on few sites of the Adriatic sea (both on the Italian and Croatian sides).

The data are rendered in tabular format (.xls). The file "PP1_UNITS_Available data Marine litter_3_rev-UniTS" is composed of 3 sheets:

2.2.1 Macro-Microplastic data

This sheet contains the qualitative description of the data in tabular format

Reference	Site	Site specification		Macro, marine litter			Microplastic						GENERAL INFO		other notes		
				yes / no / maybe available			yes / no / maybe available						yes / no / maybe available				
		access to the site (easy/difficult)	sea water (SW)/ beach (B)/ sediments (SED)	method used sampling	quantity (unit)	composition	origin	method used sampling	lab analysis	Quantity (unit)	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	

Fig.3: organization of the Macro-Microplastic data sheet of the .xls file "PP1_UNITS_Available data Marine litter_3_rev-UniTS"

2.2.2 EMODnet beaches

This sheet lists the sites subject to monitoring in tabular form and with graphic reference. The same graph specifies the numerical measurements and the temporal coverage.

Country name	Beach code	Beach name	Survey type	Litter reference list
Montenegro	ME0001	Kamenovo	monitoring	TSG_ML
Montenegro	ME0002	Igalo	monitoring	TSG_ML
Croatia	HR_BeMa_SAP	Island Mjet - Saplnara beach	monitoring	TSG_ML
Croatia	HR_BeMa_NE	Neretva delta - Komin	monitoring	TSG_ML
Croatia	HR_BeMa_ZAG	Island Vis - Zaglav beach	monitoring	TSG_ML
Croatia	HR_BeMa_OM	Omiš - Punta beach	monitoring	TSG_ML
Slovenia	SI-BeMa_PI1	Piran - Fiesa	monitoring	TSG_ML
Slovenia	SI-BeMa_ST1	Srunjan	monitoring	TSG_ML
Slovenia	SI-BeMa_BS1	Bele Skale 1	monitoring	TSG_ML
Slovenia	SI-BeMa_BS2	Bele Skale 2	monitoring	TSG_ML
Italy	SMRS3	Marina Nova	monitoring	ITA
Italy	SMRS2	Lido di Staranzano	monitoring	ITA
Italy	SMRS4	Fossalon	monitoring	ITA
Italy	SMRS1	Isola di S. Andrea	monitoring	ITA
Italy	SP003	Brussa	monitoring	ITA
Italy	SP012	Cavallino faro	monitoring	ITA
Italy	SP048	Sottomarina	monitoring	ITA

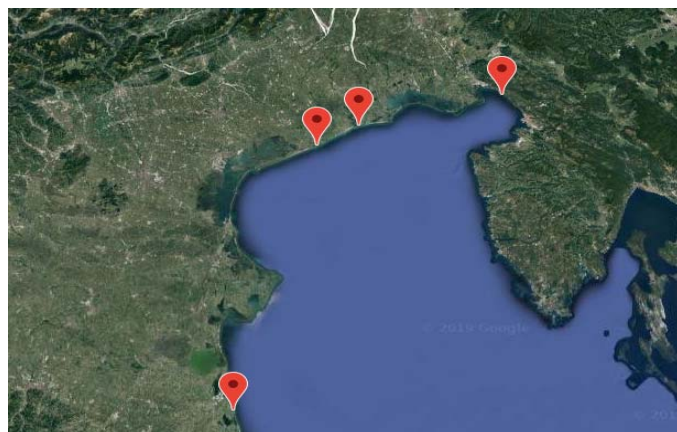
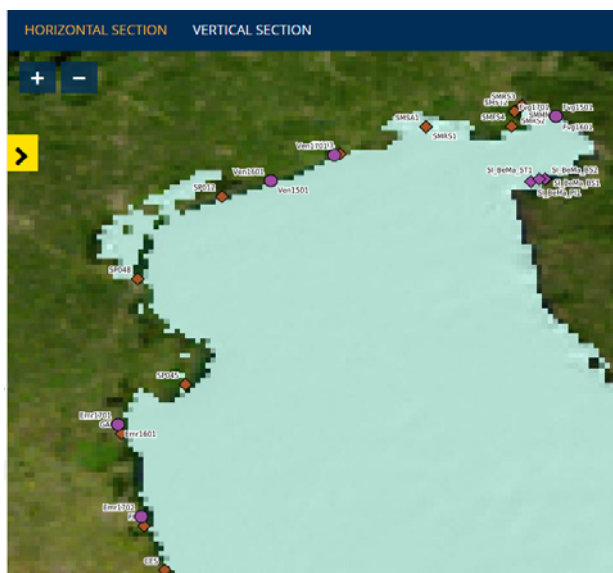
Italy	SP045	Barricata	monitoring	ITA
Italy	GAR	Porto Garibaldi	monitoring	ITA
Italy	FB	Foce del Bevano	monitoring	ITA
Italy	CES	Cesenatico	monitoring	ITA
Italy	RI	Rimini	monitoring	ITA
Italy	PS	Fiorenzuola di Focara	monitoring	ITA
Italy	MC	Civitanova Marche	monitoring	ITA
Italy	SB	San Benedetto - Grottammare	monitoring	ITA
Italy	ABR_SP	Scerne di Pineto	monitoring	ITA
Italy	ABR_SLV	Silvi sud	monitoring	ITA
Italy	ABR_OR	Lido Saraceni	monitoring	ITA
Italy	ABR_VPA	Vasto Punta Aderci	monitoring	ITA
Italy	BIF	Rio Vivo	monitoring	ITA
Italy	1-R_PUG	Foce Lato	monitoring	ITA
Italy	3-F_PUG	San Vito	monitoring	ITA
Italy	4-P_PUG	Barletta Ponente	monitoring	ITA

 Number surveys & temporal coverage - Official monitoring



2.2.3 EMODnet data examples

This sheet additionally reports, in details, the type of waste found in each individual monitoring campaign for each individual reference sites.



country name	beach code	beach name	survey type	litter reference list
Italy	Fvg 1701	Canovella degli zoppoli	cleaning	TSG_ML
Italy	Ven1601	tra Brussa e Cavallino - Spiaggia del Mort vicino Brussa - Vallev ecchia (tra Bibione e Caorle)	cleaning	TSG_ML
Italy	Ven1701	vicino Brussa - Vallev ecchia (tra Bibione e Caorle)	cleaning	TSG_ML
Italy	Emr1702	sopra foce Bevano -foce dei Fiumi Uniti	cleaning	TSG_ML

Ven1601	tra Brussa e Cavallino - Spiaggia del Mort				
Emr1702	sopra foce Bevano -foce dei Fiumi Uniti				
Ven1701	vicino Brussa - Vallev ecchia (tra Bibione e Caorle)				
Fvg 1701	Canovella degli zoppoli				
SurveyCode	LitterReferenceList	ItemCode	ItemName	ParameterOriginalName	NoItems

Ven1601 tra Brussa e Cavallino - Spiaggia del Mort					
Survey Code	Litter ReferenceList	Item Code	ItemName	ParameterOriginalName	NoItems
19418	TSG_ML	G1	4/6-pack yokes, six-pack rings	4/6-pack yokes, six-pack rings	0
19418	TSG_ML	G3	Shopping Bags incl. pieces	Shopping Bags	12
19418	TSG_ML	G4	Small plastic bags, e.g. freezer bags incl. pieces	Small plastic bags, e.g., freezer bags	0
19418	TSG_ML	G5	Plastic bag collective role; what remains from rip-off plastic bags	Plastic bag collective role; what remains from rip-off plastic bags	0
19418	TSG_ML	G7	Drink bottles <=0.5l	Drink bottles <=0,5l	36
19418	TSG_ML	G8	Drink bottles >0.5l	Drink bottles >0,5l	0
19418	TSG_ML	G9	Cleaner bottles & containers	Cleaner bottles & containers	15

The attached .pdf file "3.2_Available data_UNITS-revCS" is a complete description of the contents of the aforementioned .xls file

2.3 University of Split

The University of Split Faculty of Civil Engineering, Architecture and Geodesy (UNIST-FGAG) provides a report added as Annex 3.

The information provided relates to the results of previous EU projects on MicroPlastic (MP) and data collection related to plastic and MP in all marine compartments in the Northern Adriatic Sea basin, site characteristics and weather and sea data, beach and waste management in Croatian and Italian pilot sites.

The text that is accompanied by numerous tables, each of which displays the available data in relation to the characteristics and management of plastic and microplastic waste.

As for MP waste, data is collected from previous surveys and analysis.

Available data related to macro litter on beaches is listed in **tables 01-22**, which contains location characteristics, sampling type and date, waste characteristics, waste amounts (number of items per 100 m and per m²), waste management as well as qualitative and quantitative characterization of location cleanliness, if available.

In **tables 23-33** data related to analysis of macro litter on sea bottom with scuba/snorkelling survey, containing location characteristics and waste amounts (average number per 100 m²).

In **tables 34-40** data are listed related to bottom trawl survey of macro litter on sea bottom. Tables contain location characteristics and waste amounts data (average number of items found per km²; average total weight (kg) of waste found per km²).

In **tables 41-66** data related to the sampling of the sea surface are listed, containing the localization characteristics and the average concentration of microplastic in articles per km².

In **tables 67 - 75** a sediment analysis is performed containing data on the site characteristics, the volume of each sediment sample and the quantity of large and small plastic micro particles per kg of sediment.

Data related to the MP in rivers are listed in **Tables 76 – 80**: these include the characteristics of the position, the weather conditions and the data on the average concentrations of articles per km².

Tables 81 - 85 show data relating to the analysis of fishing areas containing information on positions, sampling conditions and concentrations (items per km²).

2.4 Marche Region

The Marche Region provides tabular data (.xls) according to the scheme proposed and shared by the PP (Table_Data Collection_3.2.1.xlsx): in particular data related to the sheets: "geomor-water data" and "Macro-Microplastic data" are presented.

The info concerning the "geomor-water" data group refer to web links or data available on the net on the institutional site of the Marche Region.

Site	Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Marche Region	http://www.regione.marche.it/Regione-Utile/Paesaggio-Territorio-Urbanistica/Cartografia	http://www.regione.marche.it/Regione-Utile/Paesaggio-Territorio-Urbanistica-Genio-Civile/Difesa-della-costa		https://www.mareografico.it/?session=05883123334L67ZCRC8369&syslng=ita&sysmen=-1&sysind=-1&syssub=-1&sysfnt=0&code=STAZ&ids=11&idreq=1@1@2	http://www.regione.marche.it/Regione-Utile/Paesaggio-Territorio-Urbanistica-Genio-Civile/Difesa-della-costa		
note		It provides for the planning and interventions aimed at defending the coasts. Providing technical and administrative requirements linked to the planning and management of coastal defense operations. Referent: Dott. Ing. Giorgio Filomena Tel: 0718067413 email: giorgio.filomena@regione.marche.it	The first, of great detail, was carried out in the years 1971 and 1972 by the University of Ferrara. The second, conducted twenty years later, in 1993, by Idroser, then 2006 and 2012	2010-2019			

Tab. 8: detail of the "geomorphological" data relating to the "Marche Region" site

Water quality information / oxygen content / temperature / pH / chlorophyll	Hazardous pollutants	Marine relevant contaminants	Contaminants from waste treatment
http://www.arpa.marche.it/images/acqua/mare/monitoraggio_marino_costiero/bollettini/2019/bollettino_mare_giugno_2019.pdf	Osservatorio Epidemiologico Ambientale delle Marche	http://www.regione.marche.it/Regione-Utile/Protezione-Civile/Previsione-e-Monitoraggio/Inquinamento-incidenti-marini	
<p>Monitoring carried out from 500 to 3000 mt from the coast and involves the entire coastal stretch of the Marche Region from Gabicce to the Tronto river-mouth. The monitoring above do not include information on the presence of Escherichia coli.</p> <p>Information on those latter can be found on the portal: http://www.portaleacque.salute.gov.it/PortaleAcquePubblico/mappa.do</p>	The data is not available online	The data cannot be accessed online, but a "SEA PROTECTION" function is indicated. It has a forecasting system with radar and A.I.S. and a simulation model of sea currents and wave motions	

Tab. 9: detail of the "water quality information" relating to the "Marche Region" site

While the data of the "Macro-Microplastic" group refer to the results of researches conducted by ARPAM and related to MPs found in the Esino and in the Chienti Rivers for the periods: March to October 2018 and February to October 2019. The data mentioned above are collected by ARPAM at sea at 6 stations located respectively 6, 1.5, 0.5 nautical miles orthogonally to the mouths of the Esino and Chienti rivers. The results of each of the n.4 data collection initiatives are described in an .xls file composed by several sheets, each of which describes the sampling site (station), the marine weather data, as well as the shape, color, number of objects per square meter of sea water sampled in color and shape indicated by the MPs.

2.5 Veterinary Public Health Institute of Abruzzo and Molise Regions

The Veterinary Public Health Institute of Abruzzo and Molise Regions (PP5 – IZSAM) provides tabular data (.xls) according to the scheme proposed and shared by the PP (Table_Data Collection_3.2.1.xlsx), or presents data in reference to the thematic sheet: "biota".

In October 2019, PP5–IZSAM shared a table with references to a set of scientific articles and previous EU projects reporting MP in biota samples collected in the Adriatic basin (SofA_PP5- References A3.2.xls).

On following a further table was shared reporting a sampling of the biota on the "Sacca di Goro" site analyzed on 05/12/2019. The following parameters are analyzed:

- Physicochemical SEA:

- Depth;
- T° water;
- Ph water;
- Salinity water (ppt);
- O2 water (mg/l);
- T° air.

- Chemical BIOTA:

- IPA: Benzo(a) pyrene ($\mu\text{g}/\text{Kg}$);
- Summ 4 IPA - Benzo(a)pyrene, Benzo(a)anthracene, Benzo(a)fluoranthene and Chrysene ($\mu\text{g}/\text{Kg}$);
- Sum of dioxins (pg/g);
- Sum of dioxins and dioxin-like PCBs (pg/g);
- Sum of PCB non dioxin-like PCBs (ng/g);
- Mercury (mg/Kg);
- Lead (mg/Kg);
- Cadmium (mg/Kg)

- Microplastics' analysis:

- Average maximum shell length (cm)
- Average soft tissue (g)
- Average n° microplastics/organism
- Average n° microplastics/g of soft tissue
- Colour (white, clear, red, blue, green, yellow, black, other colours)
- Type (fragments, pellets, filaments, film, foam, granules, not categorized)

Size class (< 15 μm , 15-50 μm , 50-100 μm , 100 -500 μm , > 500 μm)

Author (last/first)	Year	Journal/s ource	Topic	Publicatio n Type	Citation	Location	Summary/Relevance to	Keyword
EFSA	2016	EFSA Journal	Average values of MP items/g tissue w.w. Of bivalves	R & D project - REPORT	Presence of microplastics and nanoplastics in food, with particular focus on seafood	EU	Primary micro plastics are plastics originally manufactured to be that size, while secondary micro plastics originate from fragmentation. Nano plastics can originate from engineered material or can be produced during fragmentation of micro plastic debris. Micro plastics range from 0.1 to 5,000 µm and nano plastics from approximately 1 to 100 nm (0.001–0.1 µm). There is no legislation for micro plastics and nano plastics as contaminants in food. Based on the studies conducted, the mean levels of MP presence in bivalves is 0.2– 4.0 items/g tissue w.w.	microplastic, nanoplastic, food, seafood, occurrence
Renzi, M.	2018	Marine Pollution Bulletin	Average values of micro plastics in bivalves sampled in location of Cesenatico	Peer-reviewed journal	Microplastic contents from maricultured and natural mussels	Italy	Results of this research focuses on microplastic contents (levels, type, size, colour) in maricultured and natural mussels (<i>Mytilus galloprovincialis</i>) from different Italian stocks. No significant differences were found among maricultured and natural stocks. Feeding raw mussel could produce median MP intakes of 6.2–7.2 items/g w.w.	Human risks, Microplastics, mussel, mariculture
Tsangaris, C.	2015	REPORT DeFishGear	Average values of microplastics in bivalves sampled in location of Chioggia and Cesenatico	DeFishGear REPORT	MONITORING MICROPLASTIC LITTER- Protocol for biota sampling and sample separation	Italy, Albania, Slovenia, Bosnia	The international DeFishGear project, funded under the European IPA Adriatic program, has addressed various aspects related to the presence of solid waste in the Adriatic Sea. Specifically, one of the objectives of the project was to study the presence, type, quantity and toxicological effects of microplastics present in marine organisms, specifically mussels.	microplastics, monitoring, sampling, biota, mussels
Vandermeersch, G.	2015	Environmental Research	Average values of microplastics in bivalves sampled in location of Goro Lagoon and Po estuary	Peer-reviewed journal	A critical view on microplastic quantification in aquatic organisms	Belgium	This study conducted a literature review on all available extraction and quantification methods. Two of these methods, involving wet acid destruction, were used to evaluate the presence of microplastics in field-collected mussels from three different “hotspot” locations in Europe (Po estuary, Italy; Tagus estuary, Portugal; Ebro estuary, Spain). An average of 0.18±0.14 total microplastics g ⁻¹ w.w. for the Acid mix Method and 0.12±0.04 total microplastics g ⁻¹ w.w. for the Nitric acid Method was established. Additionally, in a pilot study an average load of 0.13±0.14 total microplastics g ⁻¹ w.w. was recorded in commercial mussels (<i>Mytilus edulis</i> and <i>M. galloprovincialis</i>) from five European countries (France, Italy, Denmark, Spain and The Netherlands).	Microplastics, seafood, contamination, mussel, food safety

Tab. 10: detail data sheet - SofA_IZSAM

Sampling date	Country - Macroarea	GPS lat	GPS long	Habitat (natural bank /mussel farm)	Sea chemical-physical parameters						Chemical analysis							
					Depth	T° water	Ph water	Salinity water (ppt)	O ₂ water (mg/l)	T° air	IPA: Benzo(a)pyrene (µg/Kg)	Summ 4 IPA - Benzo(a)pyrene, Benzo(a)anthracene, Benzo(a)fluoranthene and Chrysene (µg/Kg)	Sum of dioxins (pg/g)	Sum of dioxins and dioxin-like PCBs (pg/g)	Sum of PCB non dioxin-like PCBs (ng/g)	Mercury (mg/Kg)	Lead (mg/Kg)	Cadmium (mg/Kg)
05/12/2019	Italy - Sacca di Goro	N 44°44.920'	E012°17.936'	mussel farm CO.PE.GO.	9 m	14 °C	8.11	range 15-35	range 11-9	4 °C	non rilevato	2	0,104 ± 0,017	0,305 ± 0,050	5,02 ± 0,66	0,04	0,58	0,26
05/12/2019	Italy - Sacca di Goro	N 44°45.031'	E012°17.699'	mussel farm CO.PE.GO.	9 m	14 °C	8.09	range 15-35	range 8,86 - 7,30	4 °C	non rilevato	2,2	0,058 ± 0,010	0,178 ± 0,029	2,78 ± 0,37	Non quantificabile (< 0,025)	0,25	0,1

Summary data of Microplastics' analysis on total sample (50 mussels)																							
Average maximum shell lenght (cm)	Average soft tissue (g)	Average n° microplastics/ organism	Average n° microplastics/ g of soft tissue	Colour								Type						Size class					
				white	clear	red	blue	green	yellow	black	other colours	fragments	pellets	filaments	film	foam	granules	not categorized	< 15 µm	15-50 µm	50-100 µm	100-500 µm	> 500 µm
5,32	2,84	3,02	1,11	4	24	3	5	13	0	102	0	20	0	124	0	1	4	2	0	5	4	31	111
<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>	<i>in progress</i>

Tab. 11: detail data sheet "Biota" - IZSAM

2.6 Public Institution RERA SD for coordination and development of Split Dalmatia County

The PP7-RERA provides information according to the shared scheme (Table_Data_Collection_3.2.1.xlsx) delivering "geomor-water data" and "Macro-microplastic data".

In particular references are provided regarding "geomorphological data" section, while no data have been provided in relation to the "water quality information" section.

The data, which concerns several sites on the Croatian coast, is divided according to the subject of the study / research from which they originate, namely:

- Beach litter ("geomor-water data" Tab. 12 and "Macro-microplastic data" Tab. 16),
- Microplastic in beach sediment ("geomor-water data" Tab. 13 "Macro-microplastic data" Tab. 17),
- Floating plastic ("geomor-water data" Tab. 14e "Macro-microplastic data" Tab. 18),
- Floating microplastic ("geomor-water data" Tab. 15 and "Macro-microplastic data" Tab. 19)

The data provided by the PP7-RERA are resumed in the following tables.

Site	LP/PP	Geomorphological data						
		Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Zaglav	Project DeFishGear	Yes	/	Yes	Yes	Yes	No	No
Duće	Project DeFishGear	Yes	/	Yes	Yes	Yes	No	No
Saplunara	Project DeFishGear	Yes	/	Yes	Yes	Yes	No	No
Nin	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Stončica	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Prapatna	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Žaborić	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Lovrečina	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Bilin žal	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Mandre	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Šimuni	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Povljana	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Stara Povljana	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No

Tab. 12: detail data sheet "geomorf.water data" - RERA, oggetto della studio "Beach litter"

Site	Source	Geomorphological data						
		Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Duće	Project DeFishGear	Yes	/	Yes	Yes	Yes	No	No
Bačvice	Project DeFishGear	Yes	/	Yes	Yes	Yes	No	No
Nin	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Zaglav	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Neretva River mouth	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Prapatna	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Lovrečina	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Lumbarda - Pržina	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No
Nin	Croatian national monitoring of marine litter	Yes	/	Yes	Yes	Yes	No	No

Tab. 13: detail data sheet “geomorf.water data” - RERA, oggetto della studio “Microplastic in beach sediment”

Site	Source	Geomorphological data						
		Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Splitski channel	Project DeFishGear	Yes	Yes	/	Yes	Yes	No	No
Dugi otok	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Punta Planka	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Krknjaši	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Hvarski channel	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Mljetski channel	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Neretvanski channel	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No

Tab. 14: detail data sheet "geomorf.water data" - RERA, oggetto della studio "Floating plastic"

Site	Source	Geomorphological data						
		Topographic data	Bathymetrical data	Sedimentological data	Weather and marine conditions	Geomorphological evolution	Existing numerical simulations	Remote sensing information/ UAV
Splitski channel	Project DeFishGear	Yes	Yes	/	Yes	Yes	No	No
Dugi otok	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Punta Planka	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Krknjaši	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Hvarski channel	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Mljetski channel	Croatian national monitoring of marine litter	Yes	Yes	/	Yes	Yes	No	No
Neretvanski channel	Croatian national monitoring of marine litter	Yes	Yes		Yes	Yes	No	No

Tab. 15: detail data sheet "geomorf.water data" - RERA, oggetto della studio "Floating microplastic"

Site	owner of the data	Site specification		Macro, marine litter				Microplastic							GENERAL INFO		
				yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
		access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
Beach litter					Indicate the unit					Indicate the unit							
Zaglav	Project DeFishGear	pedestrian/boat	beach	Yes, DeFishgear protocol	item/m2	yes	no	/	/	/	/	/	/	/	/	/	/
Duće	Project DeFishGear	easy	beach	Yes, DeFishgear protocol	item/m2	yes	no	/	/	/	/	/	/	/	/	/	/
Saplunara	Project DeFishGear	pedestrian	beach	Yes, DeFishgear protocol	item/m2	yes	no	/	/	/	/	/	/	/	/	/	/
Nin	Croatian Ministry of Environment (CME)/Institute of Oceanography and Fisheries, Split, Croatia (IOF)	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Stončica	CME/IOF	pedestrian/boat	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Prapatna	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Žaborić	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Lovrečina	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Bilin žal	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Mandre	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Šimuni	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Povljana	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/
Stara Poveljana	CME/IOF	pedestrian/boat	beach	Yes, DeFishgear protocol	item/m2	yes	yes	/	/	/	/	/	/	/	/	/	/

Tab. 16: detail data sheet "Macro-Microplastic data" - RERA, oggetto della studio "Beach litter"

Site	owner of the data	Site specification		Macro, marine litter				Microplastic							GENERAL INFO		
				yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
		access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
Microplastic in beach sediment																	
Duče	Project DeFishGear	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Bačvice	Project DeFishGear	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Nin	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Zaglav	DeFishGear/ CME/IOF	pedestrian/boat	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Neretva River mouth	DeFishGear/ CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Prapratna	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Lovrečina	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Lumbarda - Pržina	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Nin	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Stara Poveljana	CME/IOF	pedestrian/boat	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Poveljana	CME/IOF	easy	beach	Yes, DeFishgear protocol	item/kg sediment	yes	No	Yes, DefishGear protocol	Stereomicroscope	item/kg sediment	No	Yes	No	Qualitative and quantitative analysis	No	No	/

Tab. 17: detail data sheet "Macro-Microplastic data" - RERA, oggetto della studio "Microplastic in beach sediment"

Site	owner of the data	Site specification		Macro, marine litter				Microplastic							GENERAL INFO		
				yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
		access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
Floating plastic																	
Splitski channel	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km1	yes	yes	/	/	/	/	/	/	/	No	No	/
Dugi otok	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/
Punta Planka	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/
Krknjaši	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/
Hvarski channel	DeFishGear/ CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/
Mljetski channel	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/
Neretvanski channel	CME/IOF	boat	sea water	Yes, DeFishgear protocol	item/km2	yes	yes	/	/	/	/	/	/	/	No	No	/

Tab. 18: detail data sheet "Macro-Microplastic data" - RERA, oggetto della studio "Floating plastic"

Site	owner of the data	Site specification		Macro, marine litter				Microplastic							GENERAL INFO		
				yes / no / maybe available				yes / no / maybe available							yes / no / maybe available		
		access to the site (easy/difficult)	sea water/ beach	method used sampling	quantity	composition	origin	method used sampling	lab analysis	quantity	colour	shape	composition	kind of analysis	Chemical information	associated pollutants or contaminants	other information
Floating microplastic																	
Splitski channel	Project DefishGear	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg1	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Dugi otok	CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Punta Planka	CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Krknjaši	CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Hvarski channel	DefishGear/CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Mljetski channel	CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/
Neretvanski channel	CME/IOF	boat	sea water	/	/	/	/	Yes, DefishGear protocol	Stereomicroscope	item/kg2	No	Yes	No	Qualitative and quantitative analysis	No	No	/

Tab. 19: detail data sheet "Macro-Microplastic data" - RERA, oggetto della studio "Floating microplastic"

2.7 Teaching Institute for Public Health, Primorje-Gorski Kotar County (TIPH)

The Teaching Institute for Public Health, Primorje-Gorski Kotar County (PP6– TIPH), provides tabular data (.xls) according to the scheme proposed and shared by the partner organizations, or presents data in reference to the thematic sheet: “geomorphological-water data” and “biological data”.

More specifically, TIPH specifies that geomorphological data are available on request for some selected locations (source: Hydrographic Institute of the Republic of Croatia and Croatian Meteorological and Hydrological Service). Moreover information on water quality is made available by Hrvatske vode (<https://www.voda.hr/en>).

As regards the biota TIPH states that data are available on request for some selected locations; moreover some specific pollutants are monitored in biota (fish and mollusks) according to the law NN 96/2019.

Site	LP/PP	Geomorphological data						
		topographic data	bathymetrical data	sedimentological data	weather and marine conditions	geomorphological evolution	existing numerical simulations	remote sensing information/ UAV
Primorje-Gorski kotar County	PP6	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations	Croatian Meteorological and Hydrological Service - DHMZ- https://meteo.hr/index_en.php ; data available on request	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations	Hydrographic Institute of the Republic of Croatia - data available on request for some selected locations

Tab. 20.a: detail data sheet “geomorphological data” - TIPH

Site	LP/PP	Water quality information							
		Water quality information	Oxygen content	Temperature	pH	Chlorophyll	Hazardous pollutants	Marine relevant contaminants	Contaminants from waste treatment
Primorje-Gorski kotar County	PP6	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations; some specific pollutants are monitored according to law NN 96/2019	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations; some specific pollutants are monitored according to law NN 96/2019	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations; some specific pollutants are monitored according to law NN 96/2019

Tab. 20.b: detail data sheet "water quality information" – TIPH

Site	LP/PP	biota
		yes / no / maybe available
Primorje - Gorski kotar County	PP&	Hrvatske vode - https://www.voda.hr/en ; data available on request for some selected locations ; some specific pollutants are monitored in biota (fish and mollusks) according to law NN 96/2019

Tab. 21: detail data sheet "biota" - TIPH

3 Conclusions

This report describes the contributions provided by the partner organizations of the project “Net4mPlastic” in relation to the results of previous EU projects on Micro Plastics and data collection related to plastic and Micro Plastics in all marine compartments in the northern Adriatic basin, to site characteristics and weather-marine data, and to beach and waste management in Croatian and Italian pilot sites.

In details:

- **UNIFE (LP)** has provided data in tabular format (.xls) according to the scheme proposed and shared by the PPs (Table_Data Collection_3.2.1.xlsx), the data refer to the categories "geomorf-water data" and "Macro_Microplastic data".

The "geomorphological data" refer to n. 3 sites (Rosolina beach, Goro and Marche): the partner provided links to websites from which it is possible to obtain data about specific parameters such as: "topographic", bathymetrical ", sedimentological ", weather and marine conditions ", "Geomorphological evolution".

A section is dedicated to "water quality information": also in this case the source links (websites) are provided for the identification of some characteristic parameters such as: "water quality information", "oxygen content temperature", "pH", "chlorophyl", "hazardous pollutants", " marine relevant contaminants ", " contaminants from waste treatment".

The "Macro-Microplastic data" refer to n. 3 sites: Rosolina beach, Goro and Lidi ferraresi: the information for each site is collected in "Macro, marine litter", "Microplastic" and general info".

- **UNITS (PP1)** has provided data in tabular format (.xls) according to the shared scheme. The data refer to the "Macro_Microplastic data" category. A qualitative description of the data is provided, the list of sites being monitored and the related temporal coverage. Finally, the type of waste found in each individual monitoring campaign, for the individual reference sites, is identified.
- **UNIST-FGAG (PP8)** has provided data in text format (.doc) which refer to results of previous EU projects. The text is accompanied by numerous tables, each of which collects data in relation to the characteristics and management of plastic and microplastic waste.
- **MARCHE REGION (PP2)** provided data in tabular format (.xls) according to the shared scheme. The data refer to the "Geomorf-water data" and "Macro_Microplastic data" categories. The data of the "Geomor-water" group include links to data available online on the institutional website of the Marche Region. The data of the "Macro-Microplastic" group refer to the results of monitoring campaigns in the Esino River and in the Chienti River (reference periods March and October 2018 and February and October 2019). The data mentioned above are collected by ARPAM at sea at 6

stations located respectively 6, 1.5, 0.5 nautical miles orthogonally to the mouths of the Esino and Chienti rivers.

- **IZSAM (PP5)** shared a table with references to a set of scientific articles and previous EU projects reporting MP in biota samples collected in the Adriatic basin (SofA_PP5- References A3.2.xls). On following a further table was shared reporting a sampling of the biota on the "Sacca di Goro" site.
- **TIPH (PP6)** provides information according to the shared scheme, in details: "geomorphological data" and "biota" are provided. TIPH states that data are available upon request for some of the selected venues, the data source and owner is indicated with reference to the website.
- **RERA (PP7)** provides information according to the shared scheme, in details: "geomorphological data" and "Macro-microplastic data" are provided. The information, which relates to various sites on the Croatian coast, is divided according to the subject of the study / research from which they originate.

4 Annexes

- ANNEX 1: the file describes the data on "Microplastics in marine environment" present in literature and on institutional sites. The file is in Italian;
- ANNEX 2: the file lists and describes the projects in progress and completed on the topic of microplastics in the northern Adriatic basin;
- ANNEX 3: the file lists the previous EU projects as well as scientific papers regarding macro and micro litter data and collection and particular locations in the Adriatic Sea;
- ANNEX 4: the "Microplastic projects DynamicMap".rar is an archive containing the files needed to display an interactive map of projects in progress and completed on the topic of microplastics in the northern Adriatic basin.

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