

An underwater photograph showing two divers in blue water. One diver is holding a large, light-colored net that is partially filled with debris. The net is suspended vertically. The background is a clear blue sea with some bubbles and light filtering through the water.

iSea

**Environmental Organisation for the
Preservation of the Aquatic Ecosystems**

#zeroplastic diving centers

Project Final Report

Thessaloniki, 2022

@Ikion Diving Alonissos

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#zeroplastic campaign



#zeroplastic campaign started in 2019 with the aim to inform the public about the impact of plastic waste and microplastics on marine ecosystems and human health, but primarily to promote a zero-waste lifestyle through the reduce of plastic items and products containing microplastics. The actions of the project during 2019 included a communication campaign, the production and dissemination of informative material, live streaming interviews with experts in the issue of plastic pollution, awareness raising events, a study for exploring the knowledge and perception of the Greek public towards the issue, and zero waste beach cleanups.

Since 2020 the project continues with a special focus to raise awareness about plastic pollution to the tourism industry through diving centers. Thus, the campaign maintained its twofold approach aiming to raise awareness about the issue both through events and direct actions implemented in collaboration with the participant diving centers.

In this context, in 2021 the project was co-funded by [Beyond Plastic Med](#) with the aim to continue raising awareness to a bigger amount of citizens and business in the tourism sector in Greece and Cyprus. In particular, it included a photography campaign and exhibition, artworks in public spaces, participation in awareness raising events and collaboration with diving centers in Greece and Cyprus in order to involve them in awareness raising and marine litter removal actions.

In all the above actions, OceanCare was mentioned, and its logo was added in the all-new material created.

Actions

For 2022 in the context of the project, the following actions were implemented:

Participant diving centers

Unfortunately, the active participation of diving centers in the project is limited, since their time is limited and in combination with the fact that they are understaffed. As a result, their voluntary commitments to the project are not of high priority compared to their everyday needs in the context of their professional activities. On the other hand, the special coverage of diving

centers is satisfactory, since the participant diving centers are located in different areas around Greece.



[Eco Diving Center](#) is located in Crete.



[Sporades Diving](#), [Ikion Diving Alonnisos](#) and [Gorgonia Diving](#) are located in the Sporades Islands.



[Paros Divers](#), [Paros Diving Center](#), [H2O Diving Nomads Paros](#) are located in the Cyclades islands.



[Paralos Diving Academy](#) and [School of Diving](#) are located in Attica.



[Dive in Corfu](#) is located in Corfu island.



[Kos Divers](#) is located in Kos island.



[Aegean Seals Diving Center](#) is located in Chalkida

You can also find their exact location and distribution through Greece [here](#).



Figure 1: The distribution of the participant diving centers through Greece.

Assessment of the single use plastic and microplastic waste

The single use plastic products and the products possibly containing microplastics used in the context of diving centers' activities were investigated and assessed. To achieve this, all participant diving centers were requested to send a list of all these products that they use in a monthly basis. According to the information sent by the participants, the most common products used, and their quantities follow:

- Single use plastic bottles
- Plastic bags
- Plastic straws

- Single use plastic cups
- Sanitizers, containing microbeads and plastic packaging
- Cleaners, containing microbeads and plastic packaging
- Single use surgical masks

Single use plastic and products containing microplastics monthly

The majority of the diving centers during 2021 had income losses due to COVID-19 pandemic. This year the situation was more stable however, in order to compensate their losses from last year, all diving centers were focused on increasing their clients rather than supporting the project. Also, this year most of the diving centers decided to work understaffed, for increasing their income and therefore they had less time to dedicate to non-strictly business related issues.

According to Figure 2, the largest number of plastics was used in June and July with masks, plastic bottles, plastic straws, plastic cups and bags in greater abundance.

In July, half of the total plastic items' amount/100visitors was used, in comparison with June. This reduction of plastic consumption was possibly achieved due to the awareness raised among the participants and their visitors, in combination with other factors.

The use of masks as protection measures against COVID-19 were also reduced in August compared to July, but this is possibly due to the loosen measures existing during August that led people to a more secure feeling as far as COVID-19 is concerned.

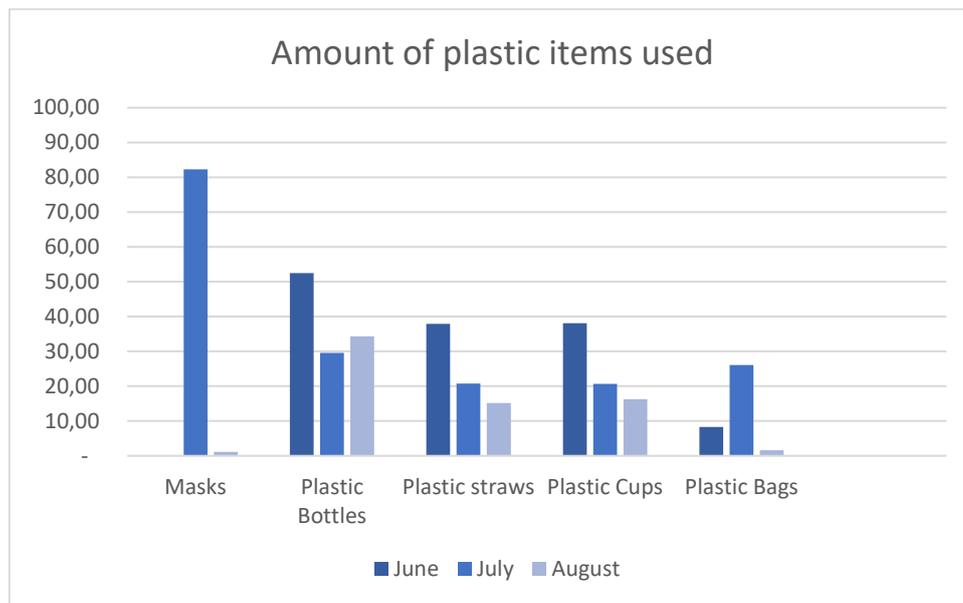


Figure 2: Amount of plastic items used/ 100 visitors during June, July, August and September.

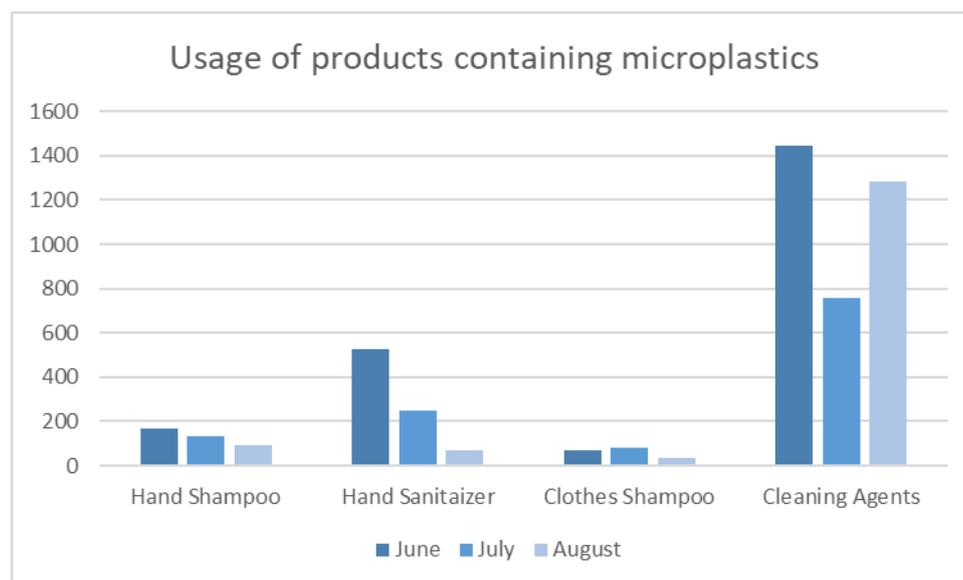


Figure 3: Amount of products containing microplastics used during June, July and August.

According to the data obtained by the diving centers, an average of 2 liters of products containing microplastics were used per month in the context of their activities. The average amount of shampoo gel products corresponds to more than 1 liters/month. According to Raju et. al., 2020, 1g of such products contains 27-30 microbeads. Taking into account the density of the products, it can be stated that an average of more than $6 \cdot 10^4$ microbeads are released to the environment per month from each diving center.

Zero waste solutions and replacement of products

Skopelos and Ikion diving centers continue the good practices and are dedicated to zero waste. As a result, in the past they developed a common action plan including not only waste, but also sustainable solutions for water, energy and fuel saving. They also replaced all the possible printed materials i.e. learning materials, license cards, advertising materials, with online ones, they promote public transportations and cycling among their visitors, carpooling to staff and only dive near their bases in order to avoid extra transportation. They also promote among customers and serve local food products when needed and have installed filters, in order to serve tap water.

Skopelos dive center uses an ecofriendly sunscreen, after the consultancy we provided. In order to reduce its visitors' waste, it also collaborates with a café that provides discount to those bringing their reusable cup.

iSea is in close communication with the project "[Reshape Plastic Skopelos](#)" implemented by Sporades Diving which includes two diving centers that are participating also in the #zeroplastic project.

H2O Diving Nomads Paros found a smart way to reduce the single use plastic bottles used on a daily basis on its diving tours. In particular, they filter great amount of water through the process of reverse osmosis that it is available in the island of Paros, in order to provide drinkable tap water to their visitors in reusable bottles.

Aegean seals diving center is training divers about Dive Against Debris. During the training, the divers are informed about marine debris, the impact in the aquatic environment, the sources of the marine debris and how the divers can be part of the solution.

Particularly, Kos divers participate in citizen science program "[Is it Alien to you? Share it!!!](#)" and [sharks and rays in Greece and Cyprus](#) collecting and reporting observations of alien species and vulnerable species of sharks and rays.

Furthermore, Paros divers and Eco diving center implement underwater cleanups with local volunteers' groups. Finally, Dive in Corfu removes marine litter from the bottom of the sea in every scuba diving trip they are implementing

"Corner" with informative material

According to the numbers reported by the participants, a total number of more than 5,000 people, visitors of the diving centers, were informed about the issue of marine plastic pollution from the representatives of the participating diving centers based on the informative material created by iSea, in the context of #zeroplastic campaign. The number is increased compared to the previous years, both as a result of the increased number of participant diving centers and the after COVID era that allows the tourism businesses to conduct their activities with less limitations than the previous years.



Figure 4: "Corners" of the informative material.

All the #zeroplastic materials were printed and distributed in 5 diving centers in Cyprus in the context of the funding of BeMed. In this context, diving centers learned about the impacts of plastic pollution and how to use the informative materials they received in order to sensitise their visitors. The printed material had also the logo of Ocean Care.



Figure 5: "Corners" of the informative material.

Underwater cleanups

Participants were informed about "[Project Aware](#)" and all the necessary materials for the data collection according to "Dive Against Debris" were presented and provided to them by iSea. A total number of 8 underwater clean ups were implemented from June to October in the context of the project and a total amount of 956 kg of waste was collected. Until now, 5 of

those cleanups were also registered in the Project Aware's citizen science platform.

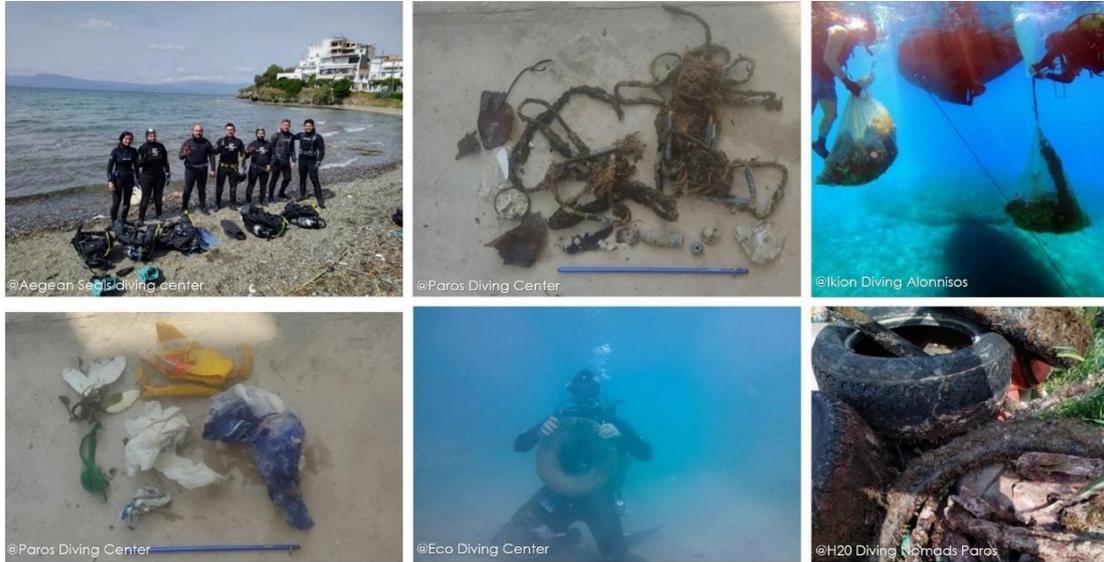


Figure 6: Some aspects of the underwater cleanups.

The details and results of each cleanup follow:

Table 1: List of the implemented cleanups.

Cleanups	Location	Total kg
Cleanup 1	Steni Vala, Alonnisos	20
Cleanup 2	Vasiliko Bay, Peristera island	50
Cleanup 3	Panagitsa beach	100
Cleanup 4	Xeropotamos, Hrakleio	26
Cleanup 5	Livadia Paros island	230
Cleanup 6	Kampana Paros island	60
Cleanup 7	Mesa Panagitsa beach	350
Cleanup 8	Mesa Panagitsa beach	120
Total		956

Table 2: Details of the implemented underwater cleanups.

Cleanup	N.o participants	Total weight	Plastic Bottles	Fishing Nets & pieces of nets	Fishing lines	Plastic Fragments	Glass bottles	Cloth Fragments	Beverage Cans	Cans	Tires
Cleanup 1	3	20	1	1	1	5	18	1	10	-	-
Cleanup 2	7	50	88	1	-	25	6	3	42	4	-
Cleanup 3	8	100	-	-	-	-	3	-	-	10	5
Cleanup 4	3	26	2	-	-	-	-	-	3	-	2
Cleanup 5	13	230	9	-	3	-	12	-	37	-	-
Cleanup 6	2	60	-	-	-	-	-	-	-	-	4
Cleanup 7	12	350	14	-	-	20	-	-	23	12	17
Cleanup 8	8	120	10	-	5	-	-	-	25	-	5
Total	56	956	124	2	9	50	39	4	140	26	33

The average percentage of plastic found in the underwater cleanups exceeded 40% of the total litter recorded, followed by metal (30%) and glass (10%).

Table 3: Ten most abundant seafloor litter items, expressed as a percentage %.

Top 10 litter items	Percentage %
beverage bottles: less than 2 liters (plastic)	15%
beverage cans (aluminum)	13%
beverage bottles (glass)	6%
plastic fragments	4,5%
metal fragments	3%
cigarette filters	3%
gas bottles/cylinder, drums: more than 4 liters	2,5%
cups, plates, forks, knives, spoons (plastic)	2%
glass & ceramic fragments	2%
cans: food, juice, other (tin)	2%

Awareness raising events

Virtual events

In the context of #zeroplastic campaign and in collaboration with the PADI regional manager of Greece and [PADI Aware Foundation](#), an online event took place on February 3rd in order to introduce the campaign to the diving centers of Greece and Cyprus and call them to action against marine plastic litter and microplastics through their participation in the project.

A virtual event took place on April 1st entitled #zeroplastic and Dive against debris". The online event was implemented in collaboration with PADI regional manager of Greece, PADI AWARE Foundation and Aquademia - Institute of Marine Conservation and Education.

Beach cleanups

A beach cleanup, occasioned by [European Week for Waste Reduction, was implemented in collaboration with Mandoulides Educators in Karampournaki, Thessaloniki, on November 26th](#). During the beach cleanup more than 90 kilos of marine litter were collected.

Two beach cleanups were implemented in collaboration with the Municipality of Chalkidiki and local primary schools, in Chalkidiki on May 10th and on June 7th.

A beach cleanup was implemented in collaboration with Blueground in Edem beach, Attica on September 9th.

A beach cleanup was implemented in collaboration with Madoulides Educators in Kellarios Ormos, Thessaloniki, on November 11th. During the beach cleanup more than 160 kilos of marine litter were collected. It must be also highlighted the fact that some of the most uncommon items removed were a suitcase and a printer from Kellarios Ormos.

The total amount of litter collected in the above mentioned clean up events are listed below.

Table 4: Beach cleanups, people engaged and litter collected

Date	Location	Number of participants	Kg
26/11/2021	Karampournaki	42	90
10/05/2022	Chalkidiki	160	10
07/06/2022	Chalkidiki	150	15
09/09/2022	Athens	35	15
11/11/2022	Kellarios Ormos	90	160
Total		477	280



Figure 7: Aspects of the beach cleanups

Educational events

The [informative material](#) was distributed to 12 schools, while it was also used and shared to participants at the [awareness event on World Ocean Day](#), at [5th environmental game festival of the Axios Delta National Park](#) and at Greenwave festival in Thessaloniki. Informative material has been sent to five additional diving centers that do not participate in the project, but they are close partners. Find the informative material [here](#).



Figure 8: Moments from educational events in which #zeroplastic materials were used.

iSea organised a series of activities in collaboration with the municipality of Thessaloniki in the context of the World Ocean Day on 8th of June 2022. For the event, iSea obtained the permit from Ephorate of antiquities to light in blue the White tower, which is the most iconic monument of Thessaloniki and one of the most iconic all over Greece. Simultaneously and in collaboration with the municipality, iSea held an urban exhibition in the surrounding area of the White Tower, with the posters from the #zeroplastic campaign. The passersby were informed about the project, the implications of plastic pollution and tips to reduce their impact by adopting zerowaste practices. Furthermore, a stand was placed in the surrounding area to facilitate creative playing for children regarding the plastic pollution. More than 50 adults were informed about plastic pollution by iSea staff, and more than 10 kids engaged in creative playing.

In the context of project, 6 posters were created to highlight the impact of litter on the marine ecosystems. Four posters focused on the implications of plastic pollution in marine organisms by depicting people in their homes and daily life activities covered with common plastic litter to familiarise the public with the effects of litter on marine fauna. While the other two were highlighting the extent of pollution caused by Single Use Plastics (SUPs) in Greece derived from the dataset of iSea (2017-2021) and the microplastic pollution derived by cigarette buds which is the most abundant litter item in the Mediterranean coasts. The final posters can be found [here](#).

To maximize the reach of the posters and spread the word within younger public, iSea decided to also use the final materials in a mobile photography exhibition in 5 café-bars around the town of Thessaloniki. Each exhibition lasted one week except the last which lasted for four months (June 2022-September 2022). A rough estimate of the consumers seen the exhibition is 79,000 according to the reports of the café-bars. The locations of the café-bars can be found [here](#).

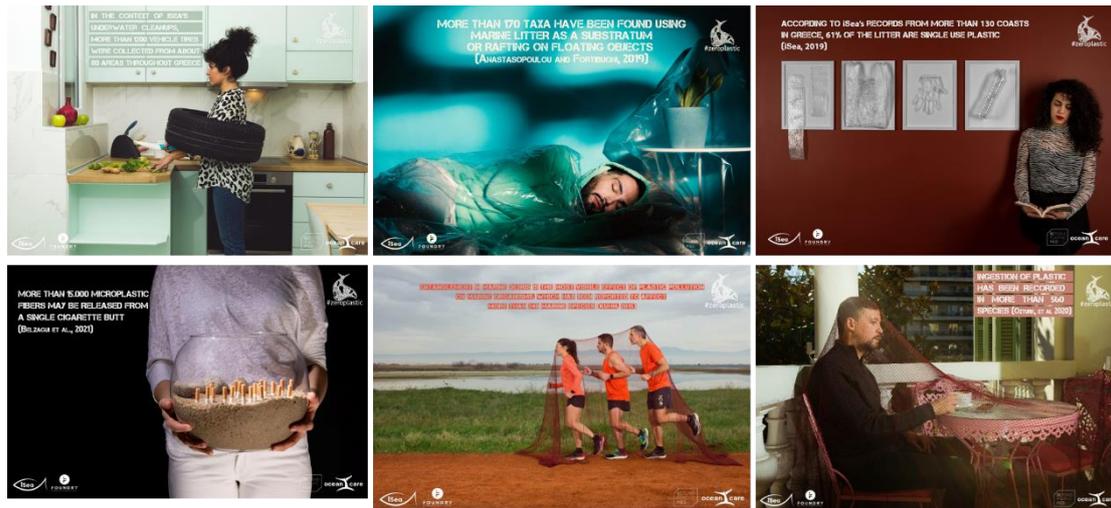


Figure 9: Communication materials produced for the plastic pollution.

Communication plan

The results of the actions were distributed through iSea's social media (Facebook, Instagram, LinkedIn and Twitter) accounts in order to raise awareness among the public about the issue of marine plastic pollution and disseminate the project's results. The project was launched through social media in January. Posts followed in order to present the progress of the project and the actions implemented by the participants.

Social Media	Number of posts	Impressions
Facebook	34	114,932
Instagram	30	16,123
Twitter	30	11,032
LinkedIn	22	5,036
Total		147,123

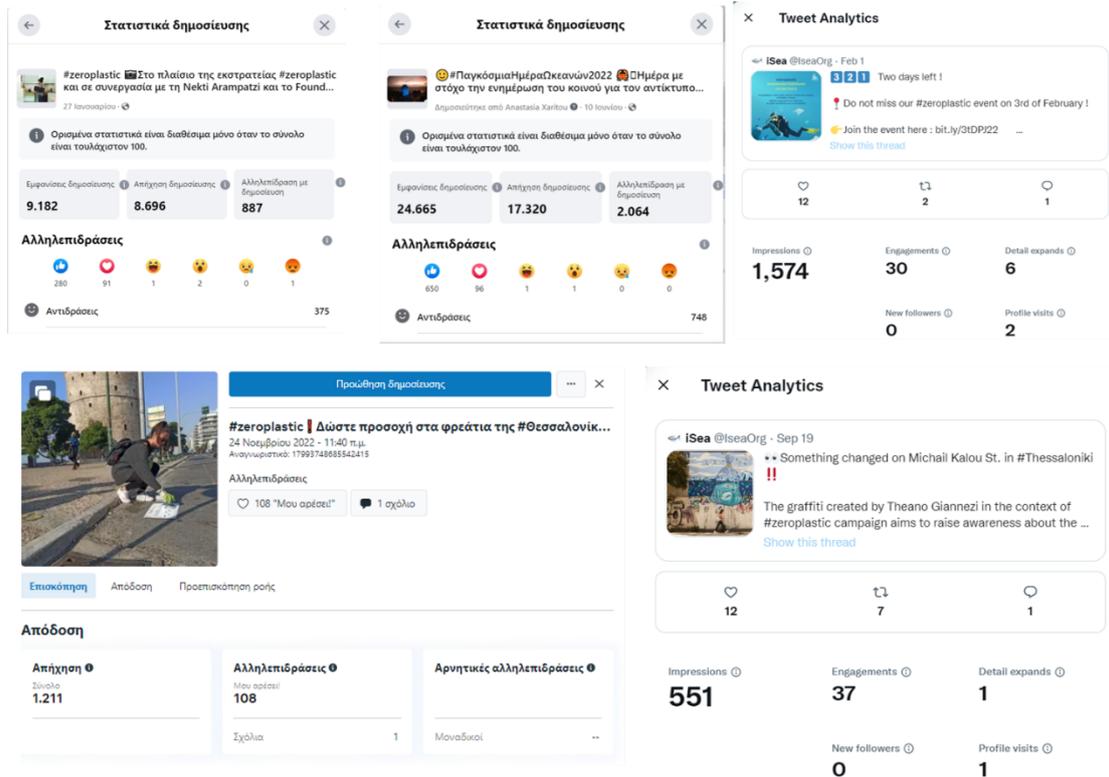


Figure 10: Some of the posts published in the context of #zeroplastic project.

In addition, 25 Instagram stories were published, which appear for a day in iSea's account. The average number of people watching the stories were 180.

In total 36 articles were released in Mass media concerning #zeroplastic campaign, while 16 of them were relevant to the mural, 14 were relevant to the World Ocean Day and 6 about beach cleanups.

«Μην ταΐζετε τα ψάρια» σχημάτισαν με στένσιλ και ζωγράρισαν αποτίγαρα σε φρεάτια της παραλίας, μέλη της περιβαλλοντικής οργάνωσης iSea στο πλαίσιο δράσεων για τη σημερινή, Παγκόσμια Ημέρα Ωκεανών.

«Θέλουμε να ευαισθητοποιήσουμε τον κόσμο για τη θαλάσσια ρύπανση και τις γόπες που καταλήγουν στον θερμικό κόλπο μέσα από τα φρεάτια», εξήγησε στο ΑΠΕ-ΜΠΕ η Ιωάννα Τζιώγα από την iSea, προσθέτοντας ότι έκαναν και σχέδια στένσιλ, με το σύνθημα «Μείωσε τα απορρίμμάτα σου», ενώ όλες οι δράσεις, γίνονται στο πλαίσιο της εκστρατείας «zeroplastic» και υπό την αιγίδα του δήμου Θεσσαλονίκης.



Η εκστρατεία «zeroplastic» υλοποιείται για 4η χρονιά από την iSea και φέτος επικεντρώνεται τόσο στην ενεργή εμπλοκή επιχειρήσεων τουρισμού και συσκευρεμένα καταδυτικών κέντρων σε Ελλάδα και Κύπρο στο ζήτημα των υδάτινων απορριμμάτων. Η εκστρατεία πραγματοποιείται με την υποστήριξη της OceanCare και του BeMed.

πηγή ΑΠΕ-ΜΠΕ

Zero plastic graffiti από την iSea



ALBUM: Arts & Culture

Figure 11: Press releases about the #zeroplastic project.

