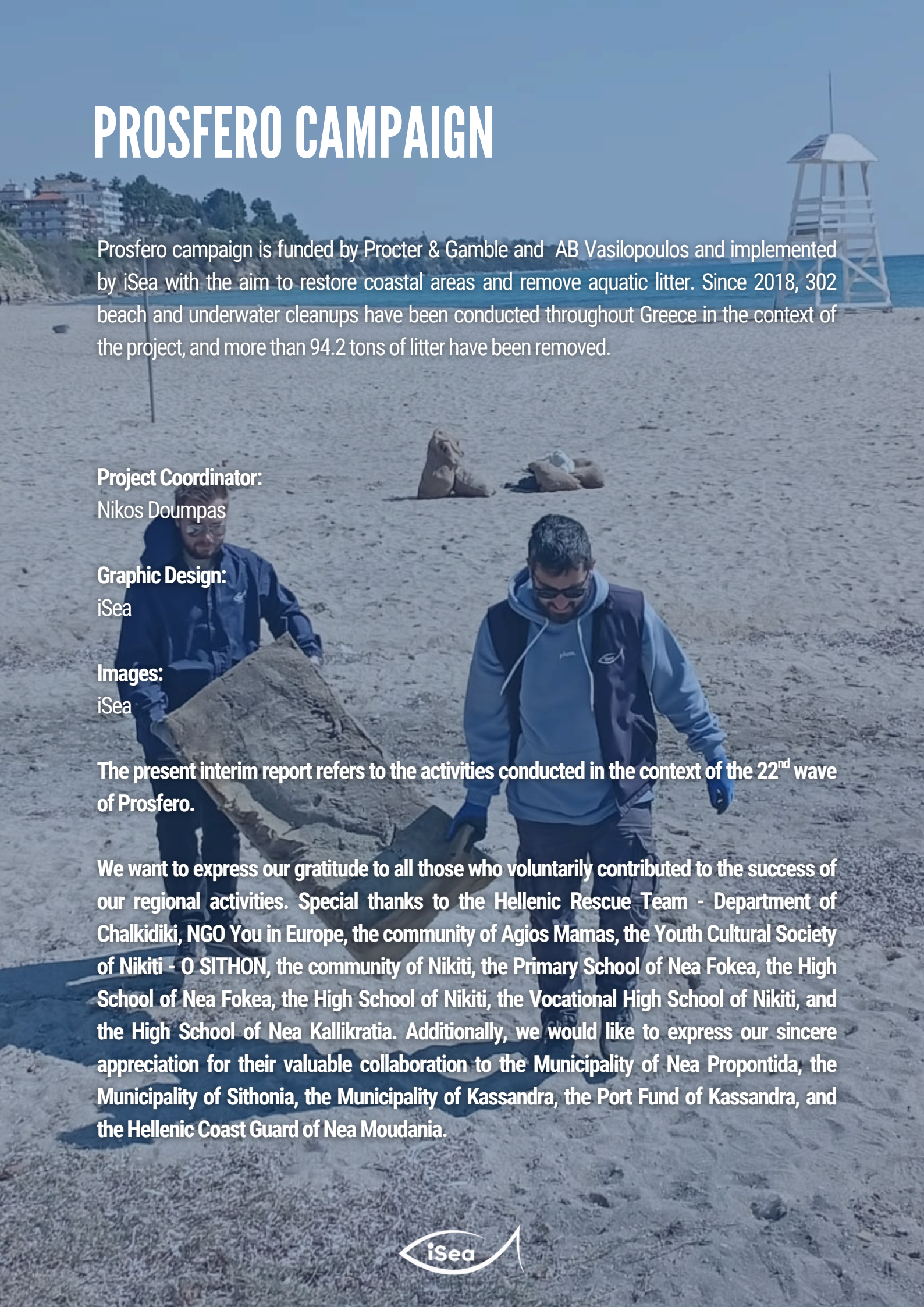
Prosfero

Beach and underwater cleanups in Chalkidiki

PROSFERO CAMPAIGN



Prosfero campaign is funded by Procter & Gamble and AB Vasilopoulos and implemented by iSea with the aim to restore coastal areas and remove aquatic litter. Since 2018, 302 beach and underwater cleanups have been conducted throughout Greece in the context of the project, and more than 94.2 tons of litter have been removed.

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Graphic Design:
iSea

Images:
iSea

The present interim report refers to the activities conducted in the context of the 22nd wave of Prosfero.

We want to express our gratitude to all those who voluntarily contributed to the success of our regional activities. Special thanks to the Hellenic Rescue Team - Department of Chalkidiki, NGO You in Europe, the community of Agios Mamas, the Youth Cultural Society of Nikiti - O SITHON, the community of Nikiti, the Primary School of Nea Fokea, the High School of Nea Fokea, the High School of Nikiti, the Vocational High School of Nikiti, and the High School of Nea Kallikratia. Additionally, we would like to express our sincere appreciation for their valuable collaboration to the Municipality of Nea Propontida, the Municipality of Sithonia, the Municipality of Kassandra, the Port Fund of Kassandra, and the Hellenic Coast Guard of Nea Moudania.

UNTIL TODAY

302 beach & underwater cleanups

94.2 tons of litter have been removed

BEACH CLEANUPS

1st Activity (A1): Nikiti beach
2nd Activity (A2): Agios Mamas wetland beach
3rd Activity (A3): Nea Kallikratia beach
4th Activity (A4): Nea Fokea beach

Table 1: Supplementary data of “Prosfero” beach cleanups conducted in Chalkidiki 2025.

ACTIVITY	DATE	VOLUNTEERS	LITTER COLLECTED (KG)
A1	11-02-2025	130	40
A2	13-02-2025	13	125
A3	20-03-2025	280	108
A4	26-03-2025	150	83.4
Total		**573**	**356.4**

BEACH LITTER MONITORING RESULTS

In the context of the actions and to survey the abundance of marine litter in each area, beach litter was monitored according to the monitoring framework and list of items of the protocol established in the context of the Marine Strategy Framework Directive.

In total, 356.4 kg of litter were removed from 4 beaches in Chalkidiki. A total of 841 litter items were recorded, 89.5% of which were plastics. Consistent with global literature and data, plastic was the most abundant type of litter across all actions conducted.

LITTER TYPES

The average percentage of plastic found on all beaches is 94%
In all the cleanup actions, plastic was the most abundant type of litter.

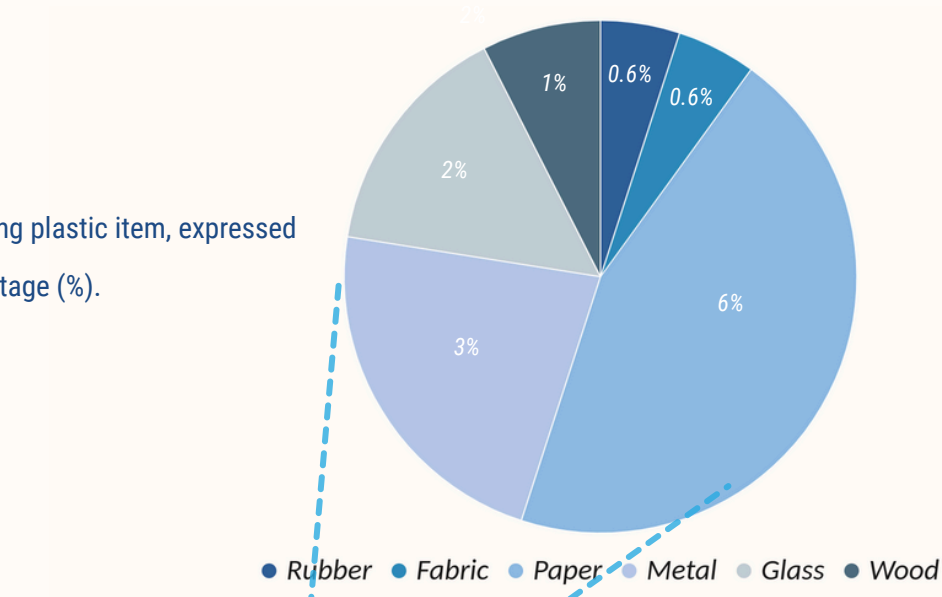

Figure 1: Litter typer, excluding plastic item, expressed as a percentage (%).

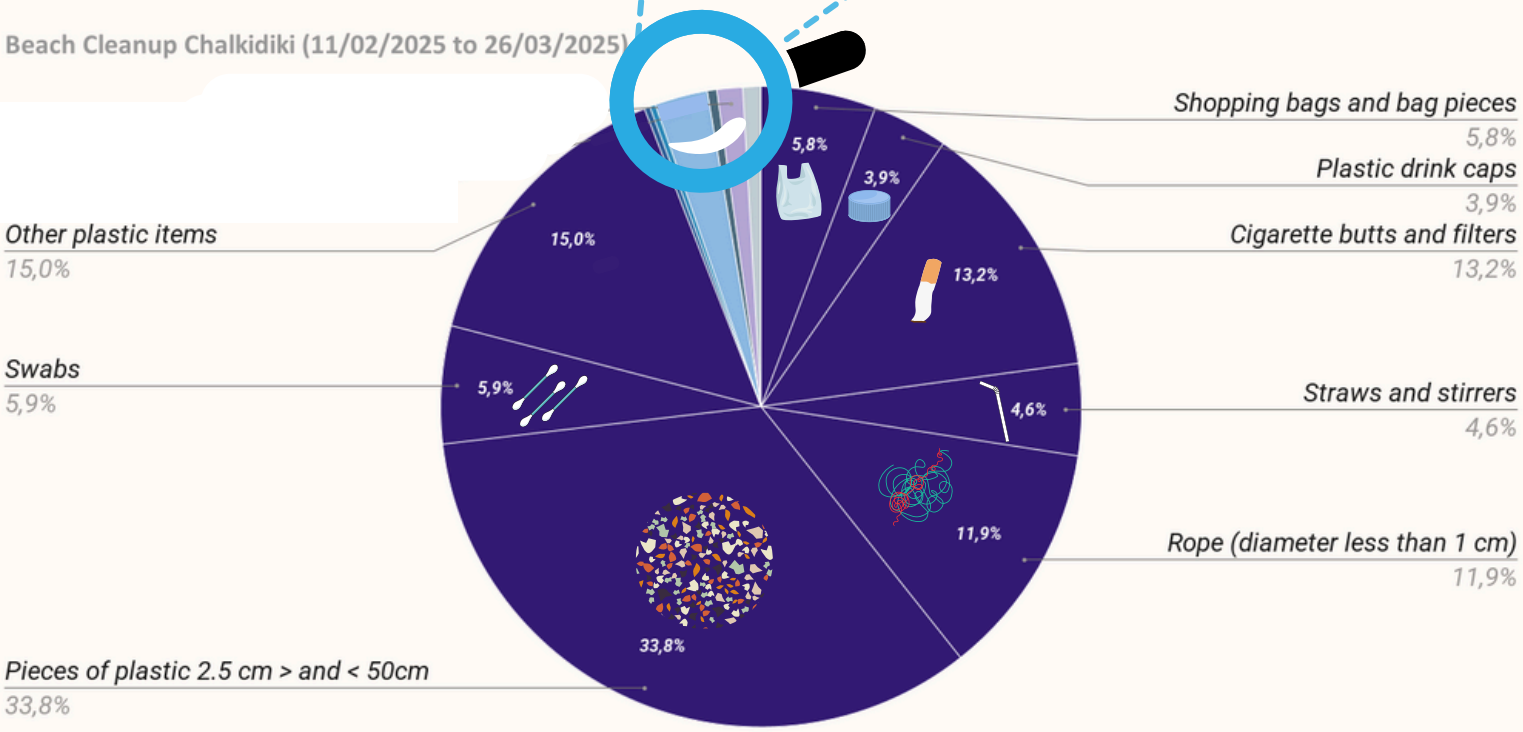

Figure 2: Litter typer, expressed as a percentage (%).

In all of the beach cleanups, plastic exceeded 83%.

LITTER TYPES

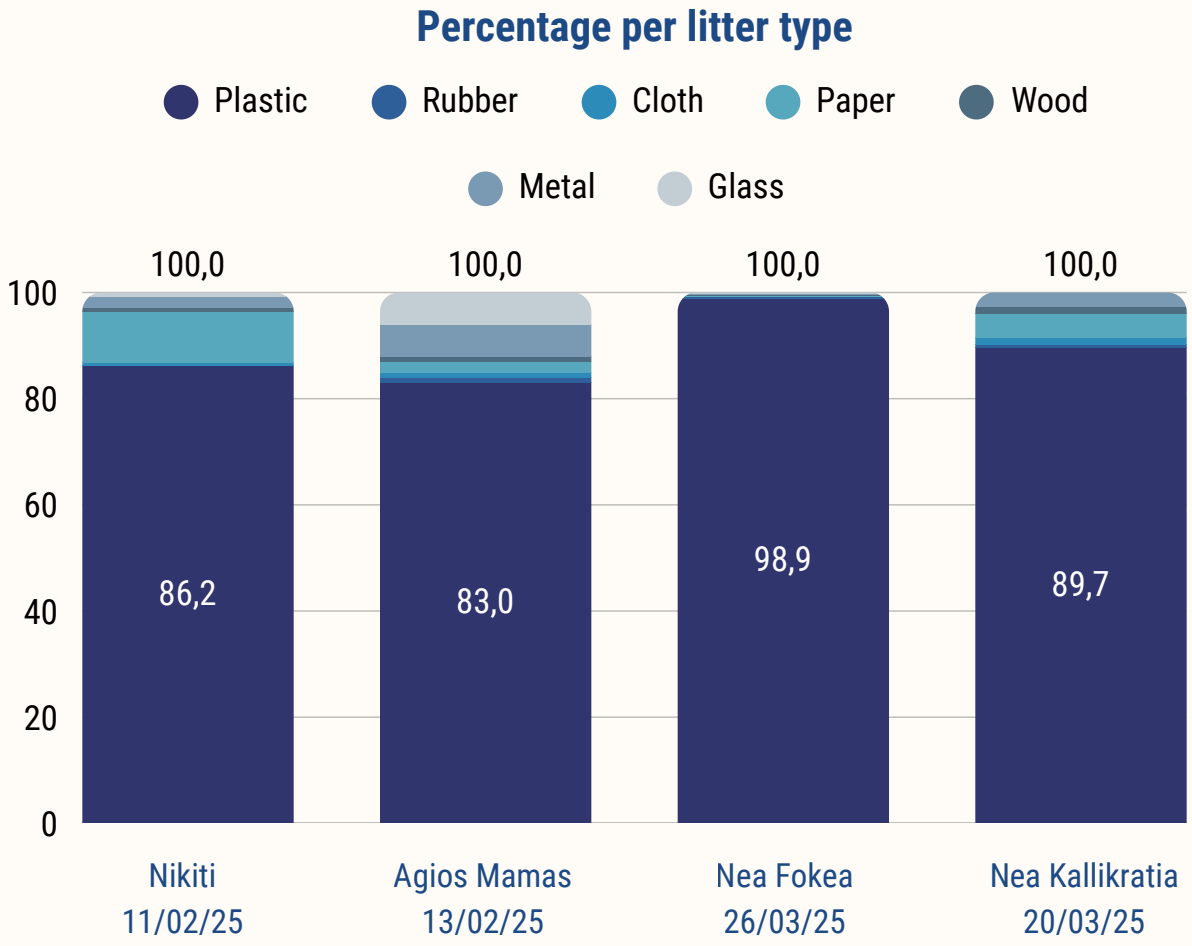

Figure 3: Recorded types of litter, per activity, expressed as percentage (%).

Chalkidiki is one of the most popular tourist destinations in Greece. According to ELSTAT, there are 1.013 licensed accommodations in Chalkidiki with a capacity of 45.000 beds, while in 2022 the permanent population exceeded 104,000 residents. Therefore, during the summer season, the influx of tourists increases the regional population by approximately ⅓, contributing to the increase of waste that ends up in the environment, particularly single-use items. In addition, the area supports increased agricultural and fishing activities, while there are more than 9 Wastewater treatment plants, many of which discharge into nearby streams and beaches.

In Nikiti (A1) 138 litter items were recorded per 100 meters, with 86.2% consisting of plastic, and the most abundant item was “cigarette butts”. In the wetland of Agios Mamas (A2), 82 litter items were recorded per 100 meters, 83% of which were plastic, and the most abundant item was “pieces of plastic >2.5 and <50 cm”. On the beach of Nea Fokea (A3), 455 litter items were recorded per 100 meters, 98% of which were plastic, and the most abundant item was “pieces of plastic >2.5 and <50 cm”. Finally, on the beach of Nea Kallikratia (A4), 154 litter items were recorded per 100 meters, 89% of which were plastic, and the most abundant item was “pieces of plastic >2.5 and <50 cm”.

It is worth noting that the wetland of Agios Mamas is part of the Natura 2000 Protected Areas Network. While this area recorded the lowest number of litter items among the four locations, the total amount of collected litter was the highest. The area was heavily burdened with litter items that had washed up on the beach due to recent severe weather events, as well as bulky waste resulting from activities in the nearby area, primarily agricultural operations.

LITTER TYPES

ITEMS	PECENTAGE (%)
Plastic pieces 2.5 cm > <50 εκ	31.8%
Cigarette butts and filters	12.3%
Ropes of diameter < 1cm	11.5%
Plastic straws and stirrers	5.7%
Plastic bags and their pieces	5.2%

Table 2: Five most abundant beach litter items, expressed as a percentage %.

On 3 out of the 4 beaches, a large number of cigarette butts were collected. These beaches attract a high volume of tourists during the summer season.

LITTER OF LOCAL INTEREST

In the wetland of Agios Mamas, a significant amount of irrigation system equipment was collected,, such as pipes, fixing wedges, etc.

On the beach of Nea Kallikratia, we removed items related to catering businesses and beach bars, such as beach flags, sofa mattresses, broken furniture parts, etc.

RECOMMENDATIONS

Cigarrete butts and filters were the 2nd most abundant item in the beaches of Chalkidiki. To avoid their disposal in the environment, ashtrays should be placed in all public spaces in urban and remote areas, where recreational activities take place, like beaches and parks. Fines foreseen by each Municipality Cleaning Regulation should be enforced, especially in cases of non-proper disposal of cigarette butts and filters, or other small litter items. (Charitou A., EValuating MARine litter in Greece, 2024)

The irrigation equipment most likely ended up on the beach following the severe weather that recently affected the area. According to local associations, some of this equipment is also intentionally discarded in nearby streams when damaged or no longer in use, rather than being properly disposed of. As a result, these items that are discarded in the streams or the fields are carried by heavy rainfall into the sea and washed up on beaches. We recommend that all irrigation equipment owners take preventive measures by securing materials that can easily be taken by wind or rain, especially when severe weather is forecasted. Additionally, the municipalities should ensure that streams remain free of illegal waste and that environmental regulations regarding waste disposal are strictly enforced, and also the appropriate fines are imposed.

RECOMMENDATIONS

This beach of Nea Kallikratia is used by local catering businesses in the summer. The equipment collected (mattresses, flags, chairs, garbage bags, etc.) originated from these businesses that, at the end of the season, were either stored directly on the beach or, when damaged, were abandoned and not removed. Items like the mattress shown in the photo are significant sources of pollution as their materials degrade easily into microplastics, which can be transported by wind and rain over long distances.

Current legislation outlines the responsibilities of the concessionaires regarding beach cleanliness and waste management. We propose that the municipality ensure that all businesses completely remove their equipment (damaged or not). Additionally, a thorough cleanup of the beach should be carried out after the equipment removal, accompanied by an on-site inspection conducted by a municipal representative to verify compliance with measures. In cases of non-compliance, the appropriate fines should be imposed.

UNDERWATER CLEANUPS

5th Activity (A5): Port of Nea Fokea
6th Activity (A6): Port of Nea Skioni

ACTIVITY	DATE	VOLUNTEERS	LITTER (KG)
A5	26-03-2024	4	60
A6	27-03-2024	7	300
Total		**11**	**360**

Table 3: Supplementary data of “Prosfero” underwater cleanups conducted in March 2025.

BENTHIC LITTER MONITORING RESULTS

In the context of the actions, and to survey the abundance of marine litter in each area, beach litter was monitored according to the framework and item list outlined in the Marine Strategy Framework Directive.

In total, 360 kg of litter were removed from the ports of Nea Fokea and Nea Skioni. A total of 533 litter items were recorded, 69% of which were plastics. In consistence with with the global literature and data, plastic was the most abundant type of litter across all the actions conducted in Chalkidiki.

LITTER TYPES

The average percentage of plastic found at the two ports is 69%.

In both cleanup actions, plastic and particularly plastic bags, plastic bottles and plastic cups were the most abundant litter. In the metal category following plastic, beverage tin cans were the most abundant litter.

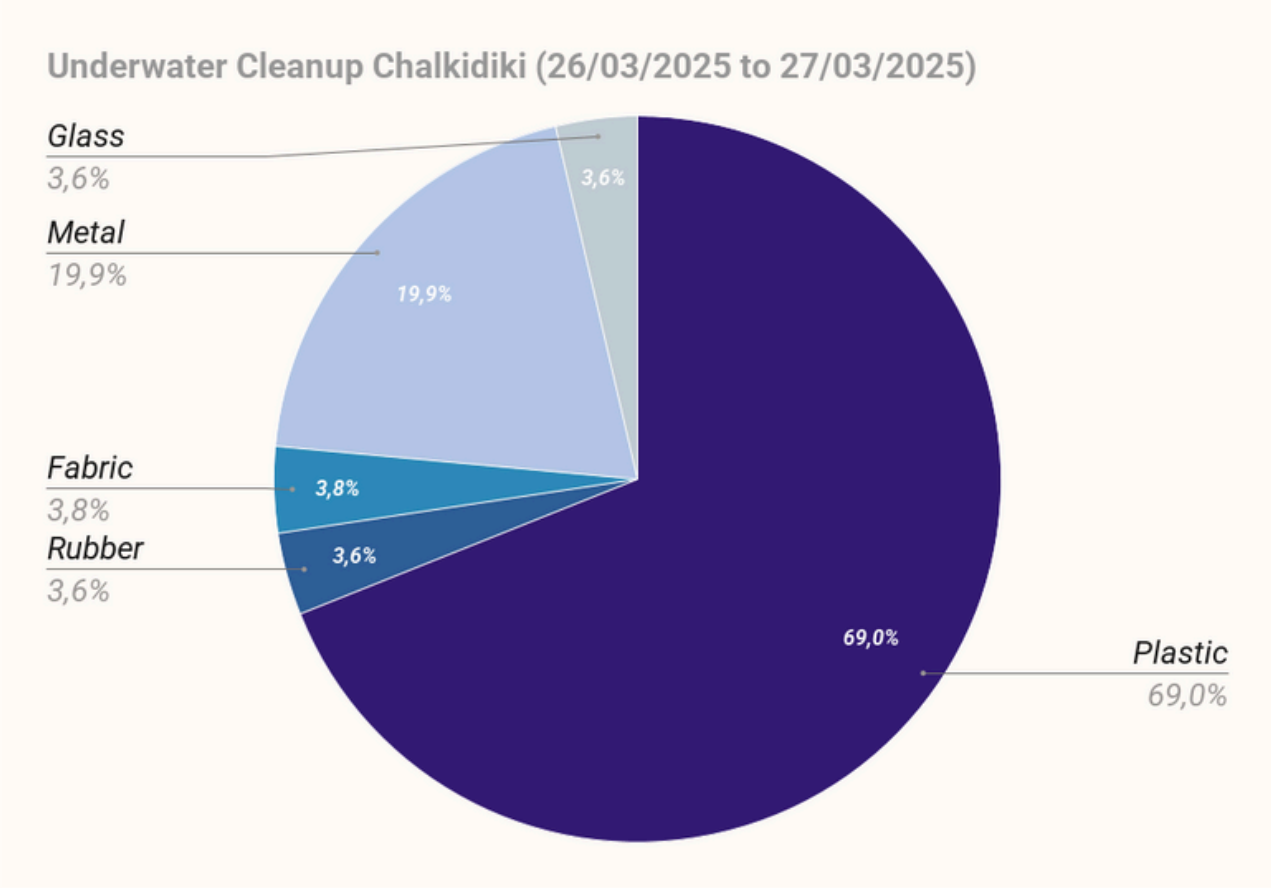

Figure 4: Collected types of litter per underwater cleanup, expressed as a percentage (%).

In both ports, plastic exceeded 69%, followd by metal reaching 19.9%.

LITTER TYPES

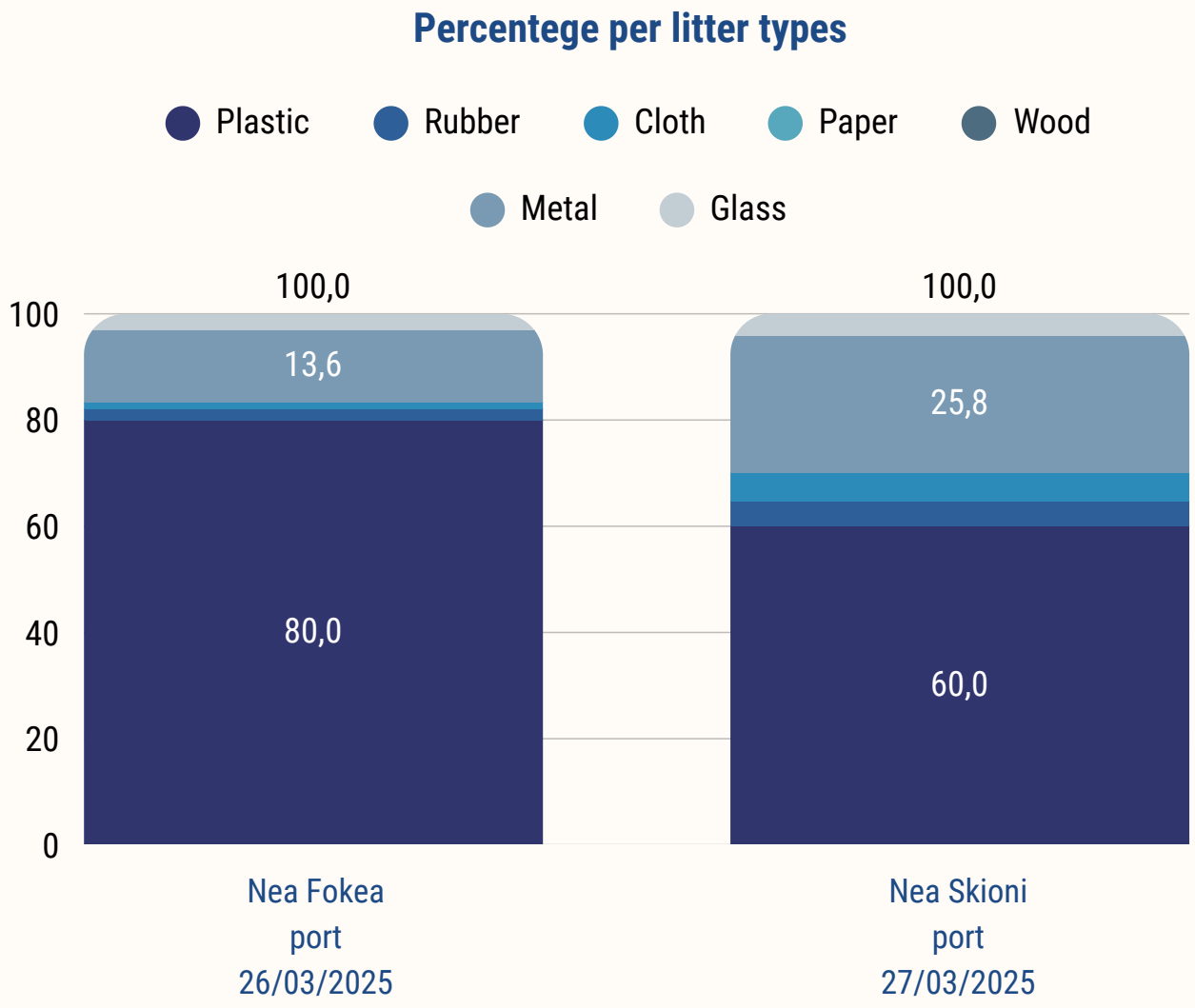

Figure 5: Collected types of litter per underwater cleanup in Chalkidiki, expressed as a percentage

At Nea Fokea port (Δ5), the most abundant litter recorded were plastic bags (83) and plastic bottles (45) followed by beverage tin cans (31). These results align with the results of all our previous underwater cleanups.

At Nea Skioni port (Δ6), the most abundant litter items recorded were beverage tin cans (72) followd by plastic bottles (60) and plastic bags (52).

Both ports are used mostly by fishers (professional/recreational) and recreational boats. Due to these activities, we have found many items, such as fishing lines, plastic bags for ice, fishing lures, diving masks, snorkelers, and beach towels etc. The tin cans and plastic bottles found likely ended up in the marine environment due to improper disposal by consumers, or inadequate waste management by municipalities.

LITTER TYPES

Table 4: Five most abundant underwater litter items, expressed as a percentage %.

ITEMS	PERCENTAGE (%)
Plastic bags	25.3%
Plastic bottles	19.7%
Beverage tin cans	19.3%
Plastic cups	6%
Food containers	4.5%

In total we removed 72 beverage tin cans, 60 plastic bottles, 52 plastic bags and 22 food containers. At the Nea Skioni port, we removed many fishing lines that, due to limitations of the recording protocol, cannot be fully reflected in the statistical analysis. These fishing lines were entangled and therefore recorded as a single item (13).

At the port of Nea Fokea we collected a total of 83 plastic bags, an exceptionally high given the size of the port.

LITTER OF LOCAL INTEREST

At the port of Nea Skioni we collected a significant quantity of fishing lines originating from fishing activities (professional - recreational)

In both ports we found large amounts of single-use plastics (bottles, cups, bags) and beverage tin cans.

RECOMMENDATIONS

The plastic bags collected from the seabed in Nea Fokea were primarily ice bags used by fishers to keep their catch fresh, as well as thin shopping bags used by consumers. Unfortunately, due to the port's location and physical characteristics, it is unclear whether these bags were discarded directly into the sea or carried by currents. Waste bins should be emptied daily, properly maintained, and equipped with secure, closed lids to prevent plastic bags from escaping. Additionally, local businesses must be monitored for compliance with the legislation framework on plastic bag use to reduce the amount of plastic bags that end up in the environment. (Charitou A., EValuating MARine litter in Greece, 2024)

RECOMMENDATIONS

The fishing lines removed from the port of Nea Skioni are a type of litter observed in many fishing ports, including this one. Most of these fishing lines are from professional fishing gear, “longline”. As the fishers are fixing their gear, they throw away the lines when damaged or no longer usable. Additionally, recreational fishers fishing at the ports often leave behind thinner lines. Fishing activities highly affect the amount of litter found in the marine ecosystem. Therefore, it is essential to implement separate collection systems and alternative management schemes for fishing gear under the extended producer responsibility. These measures should be applied not only in fishing ports but also in locations frequented by recreational fishers. (Charitou A., EValuating MARine litter in Greece, 2024)

RECOMMENDATIONS

Plastic bottles, cups, food containers and beverage tin cans are among the most abundant items found in underwater cleanups. These items may be intentionally discarded, but also commonly blown or washed out of damaged and/or open garbage bins by strong winds or heavy rainfall. Existing garbage bins in the ports must be properly maintained, their lids must be kept in good condition to ensure they are sealed and must be regularly emptied, particularly during the summer months. In cases of of extreme weather, bins should be secured. (Charitou A., EValuating MARine litter in Greece, 2024)

Plastic bottles and cups are made of PET, a high-value recyclable plastic. Thus, PET items should be discarded separately by the consumers supported by the installation of dedicated recycling stations. Similarly, aluminum beverage cans and glass bottles should be collected separately for recycling, as they are both valuable recyclable materials. To reduce the use of plastic water bottles, the installation of public drinking fountains should be prioritized (Charitou A., EValuating MARine litter in Greece, 2024)

To reduce single-use plastic cups and food containers, businesses must be subject to stricter enforcement regulations that promote financial incentives for using reusable alternatives as outlined in the European Directive (EU) 2019/90412 and National Law 4736/202013 should be enforced. (Charitou A., EValuating MARine litter in Greece, 2024)

Particularly in underwater cleanups, utensils and food containers are among the most abundant litter items. The use of reusable cutlery, cups and utensils at public events, according to the National Waste Prevention Programme 2021-2030, should be promoted. (Charitou A., EValuating MARine litter in Greece, 2024)

PARTICIPATION

A total of 583 volunteers participated in the activities in Chalkidiki.

Specifically, 579 volunteers and 4 divers contributed to the activities. Volunteers and divers included iSea members, as well as local schools and associations.

130 participants

Vocational School of Nikiti, High school of Nikiti, E.E.N.N O Sithon, Community of Nikiti

Beach of Nikiti

13 participant

Hellenic Rescue Team (Dept of Chalkidiki), You In Europe, Community of Agios Mamas

Wetland of Agios Mamas

150 participants

Primiary and High school of Nea Fokea

Beach of Nea Fokea

280 participants

High school of Nea Kallikratia

Beach of Nea Kallikratia

4 participants

Municipality of Kassandra

Port of Nea Fokea

8 participants

Municipality of Kassandra

Port of Nea Skioni

INFORMATIVE EVENTS

As part of the “Prosfero” project, 1 informative event took place in Nea Moudania under the auspices of the Municipality of Nea Propontida.

People attended the event, including locals and kids. The iSea representatives informed all the attendees about the aim and the actions of “Prosfero” project and distributed informative material on marine pollution and measures for its prevention and mitigation.

Adults and children who attended the event had the opportunity to learn about the most common beach litter and to see items removed from the seabed during underwater cleanups as well. Children played with the floor game and answered questions about how they could change their everyday habits into zero waste and zero plastic. The event was implemented with the collaboration and under the auspices of the Municipality of Nea Propontida and with the participation of iSea’s volunteers.

COMMUNICATION PLAN

A total of 6 “stories” were published via Social Media by iSea during the actions to inform the public about the progress of each action, maintain interest in the project, and raise awareness about the issue of marine litter and its impact on marine ecosystems.

STORY	REACH
iSea 1	324
iSea 2	567
iSea 3	335
iSea 4	478
iSea 5	480
iSea 6	247
Total	3.031

A press release was created and shared with the local press and uploaded on iSea’s website, inviting the local communities to participate in the campaign and providing information about the schedule of the upcoming actions.

MEDIA	LINK
Facebook Municipality of Kassanda	Link 1
Ergo Chalkidikis	Link 2
Chalkidiki Politiki	Link 3
Facebook Chalkidiki Politiki	Link 4
Ergo Chalkidikis	Link 5

Table 5: Press releases about the Prosfero project published regarding actions in Chalkidiki

Find out more about
Prosfero project

Environmental Organisation
for the Preservation of the
Aquatic Ecosystems

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