United Way Mumbai

Samarth Bharat Vyaspeeth

# MAHIM RETI BUNDER & MAHIM CAUSEWAY BEACH

## NOVEMBER 2024 REPORT

# HISTORY

## Mahim Retibunder

Mahim gets a new beachfront Mumbai 'Mahim Reti Bunder', a dumpyard till a few years ago, has been cleaned and majorly worked upon by the BMC to turn it into an accessible open space. The stretch now has a new layer of clean sand, a British-era promenade that has been repaired and placed with benches, a watchtower offering uninterrupted views of the sea and also equipment for exercising.

# Mahim Causeway

The Mahim Causeway was built between 1841 and 1846 to connect the island of Salsette with Mahim. The swampy region that separated the islands made traveling dangerous, and a need for a causeway was born. Mahim Bay is located between the Mahim Causeway in the south and the Bandra-Worli Sea Link in the north. The bay was a strategic anchorage point for maritime trade during the colonial era. It is home to a variety of marine life and is a scenic backdrop for recreational activities like boating and fishing. Mithi River which is a part of Mahim Causeway

# Present Status

The growing urbanization in Mumbai, which is the economic capital of India, has had adverse effects on the sea, creeks, forests, rivers, and other forms of biodiversity. Due to the massive increase in population along the coastline and creeks of Mumbai, both of these elements have started to become polluted. Several non-biodegradable substances have primarily contributed to this water pollution.

Against this backdrop, it has become crucial to responsibly use such non-biodegradable materials and ensure their proper disposal. And hence there is a priority need to collect, classify and scientifically dispose of the non-degradable materials floating on the shores of Mahim Retibandar and causeway.

# Measures

UNITED WAY MUMBAI, a non-government organization which is a society registered under the Society Registration Act, 1860 and a trust registered the Maharashtra Public Trusts Act, 1950

Samarth Bharat Vyaspeeth, Samarth Bharat Vyaspeeth is section 8 company Non-Profit Organization working in field of

waste management and education for under privileged street children, and SBV is engaged in the collection and disposal/recycling of plastic waste.

To prevent water pollution, both the social organizations United Way Mumbai and Samarth Bharat Vyaspeeth, have come together and formulated an action program to implement the Beach Cleanliness Mission. Under this initiative, every day, through six safai sathis, a minimum of 7 hours is dedicated to collecting non-biodegradable materials from the coastline. Afterward, these materials are sorted at the waste management center under Samarth Bharat Vyaspeeth Project Revitalisation, where they are disposed of in a scientifically appropriate manner.

# Action

Mahim Retibunder and Causeway are adjacent to each other and connected, covering a total area of approximately 4 kilometers.

Based on the timing of the tides, it has been observed that collection activities take place at different times of the day at both locations. Accordingly, the collection campaign is carried out at Mahim Sandbar from 8 AM to 1 PM, and at Causeway from 2 PM to 4:30 PM. Collection is done every day of the week. During the collection process, different types of waste are gathered and sorted. Items like plastic bags, packaging plastics, cartons, glass, hard plastics, cloth, and other materials are collected. Afterward, the collected waste is sent daily to the waste management center under Samarth Bharat Vyaspeeth Project Revitalisation.


# Process

Once the waste reaches the waste management center under Samarth Bharat Vyaspeeth project Revitalisation, it is first spread out in the designated area for sundrying. This process typically lasts for about three to four days to allow the moisture to evaporate. Every morning and afternoon, the waste is turned over to ensure that the moisture in every part of the waste is effectively removed during sundrying.

After the waste has dried, it is sorted into different categories, such as single-use plastics, multilayer plastics, hard plastics, glass, and non-recyclable waste. The single-use plastics and multilayer plastics are processed in a dust remover machine to remove any sand or other debris. The cleaned plastics are then sent to the baling machine, where they are compacted into bales and sent for recycling.

Hard plastics and glass are manually cleaned by staff using cleaning brushes to remove any attached sand, and then they are placed in separate bags and sent for recycling. Non-recyclable waste is sent to the municipal processing center for appropriate disposal.






# Data

## United way Mumbai & Samarth Bharat Vyaspeeth Beach cleanup drive Month of November 2024 Data

| Date | Total Segregation Waste | Mix Plastics | Gunny Bags | Pet Bottles | Glass | Hard Plastics | Thermocol | Shoes | Rejected Waste | Sand | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 November 2024 | 74.2 | | | | | | | | | | |
| 1 November 2024 | 100 | | | | | | | | | | |
| 2 November 2024 | Diwali | | | | | | | | | | |
| 2 November 2024 | | | | | | | | | | | |
| 3 November 2024 | Diwali | | | | | | | | | | |
| 3 November 2024 | | | | | | | | | | | |
| 4 November 2024 | 135.3 | | | | | | | | | | |
| 4 November 2024 | 174 | | | | | | | | | | |
| 5 November 2024 | 122.0 | | | | | | | | | | |
| 5 November 2024 | 187.9 | | | | | | | | | | |
| 6 November 2024 | 105.1 | | | | | | | | | | |
| 6 November 2024 | 154 | | | | | | | | | | |
| 7 November 2024 | 162.5 | | | | | | | | | | |
| 7 November 2024 | 192.4 | | | | | | | | | | |
| 8 November 2024 | 178.0 | | | | | | | | | | |

# Data

## United way Mumbai & Samarth Bharat Vyaspeeth Beach cleanup drive Month of November 2024 Data

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 November 2024 | 194.0 | | | | | | | | | | |
| 9 November 2024 | 214.8 | | | | | | | | | | |
| 10 November 2024 | 203.6 | | | | | | | | | | |
| 10 November 2024 | 223.5 | | | | | | | | | | |
| 1 November to 10 November 2024 Total | 2624.10 | 1148.1 | 198 | 74.6 | 76 | 69.58 | 22 | 28.12 | 543.1 | 335.7 | 128.9 |
| 11 November 2024 | 186.0 | | | | | | | | | | |
| 11 November 2024 | 234.1 | | | | | | | | | | |
| 12 November 2024 | 94.3 | | | | | | | | | | |
| 12 November 2024 | 322 | | | | | | | | | | |
| 13 November 2024 | 85.2 | | | | | | | | | | |
| 13 November 2024 | 327.5 | | | | | | | | | | |
| 14 November 2024 | 82.6 | | | | | | | | | | |
| 14 November 2024 | 332.8 | | | | | | | | | | |
| 15 November 2024 | 152.8 | | | | | | | | | | |
| 15 November 2024 | 336.2 | | | | | | | | | | |
| 16 November 2024 | 85.2 | | | | | | | | | | |

# Data

## United way Mumbai & Samarth Bharat Vyaspeeth Beach cleanup drive Month of November 2024 Data

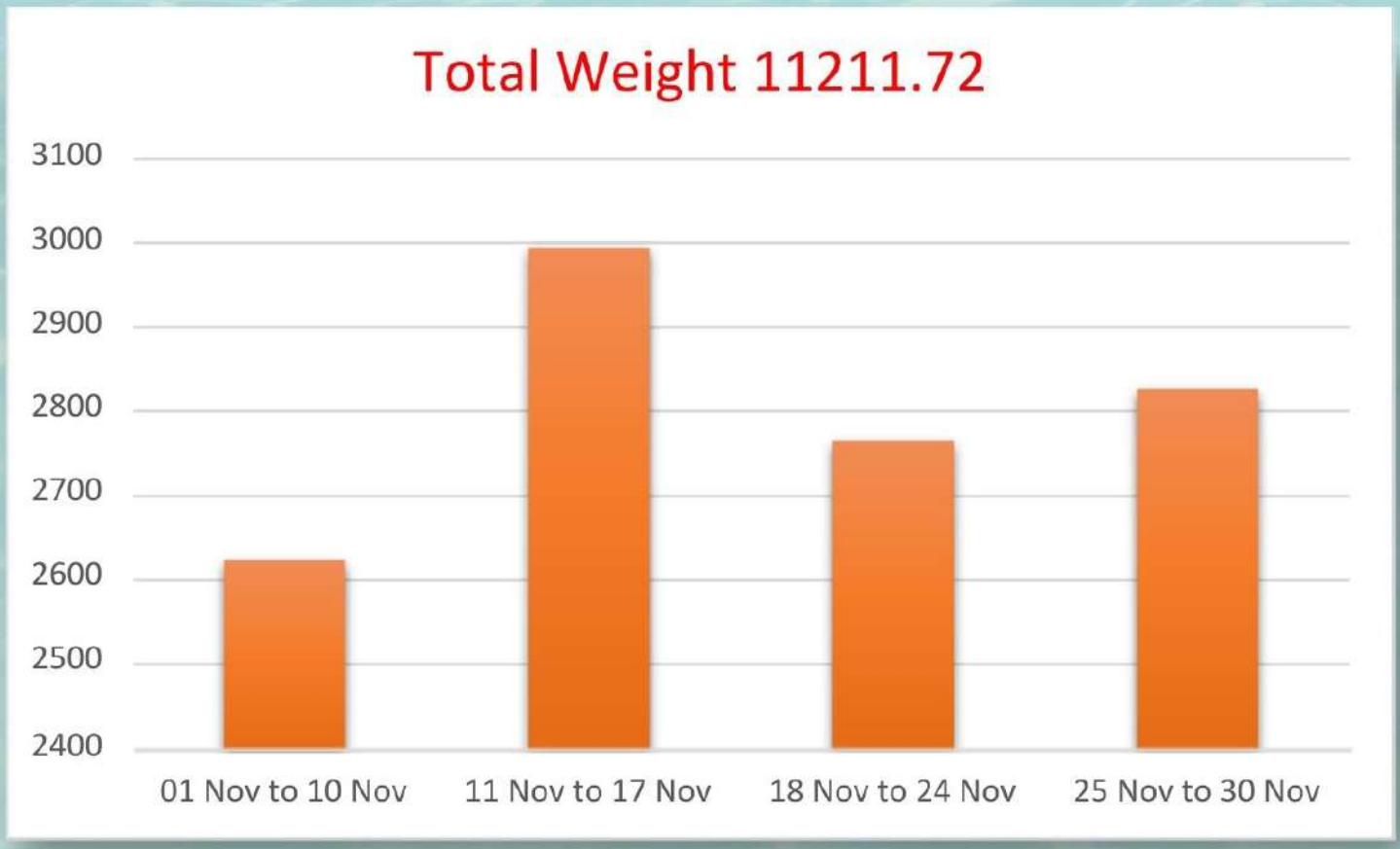
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 November 2024 | 79.7 | | | | | | | | | | |
| 17 November 2024 | 336.1 | | | | | | | | | | |
| **11 November to 17 November 2024** | **2995.10** | **1265.6** | **175** | **83.6** | **97** | **79.15** | **20** | **26.4** | **648.06** | **318.2** | **282.09** |
| 18 November 2024 | 83.9 | | | | | | | | | | |
| 18 November 2024 | 359 | | | | | | | | | | |
| 19 November 2024 | 89.1 | | | | | | | | | | |
| 19 November 2024 | 364.3 | | | | | | | | | | |
| 20 November 2024 | Voting Day | | | | | | | | | | |
| 20 November 2024 | | | | | | | | | | | |
| 21 November 2024 | 87.5 | | | | | | | | | | |
| 21 November 2024 | 369 | | | | | | | | | | |
| 22 November 2024 | 91.06 | | | | | | | | | | |
| 22 November 2024 | 394.8 | | | | | | | | | | |
| 23 November 2024 | 85 | | | | | | | | | | |
| 23 November 2024 | 376.1 | | | | | | | | | | |
| 24 November 2024 | 81.2 | | | | | | | | | | |

# Data

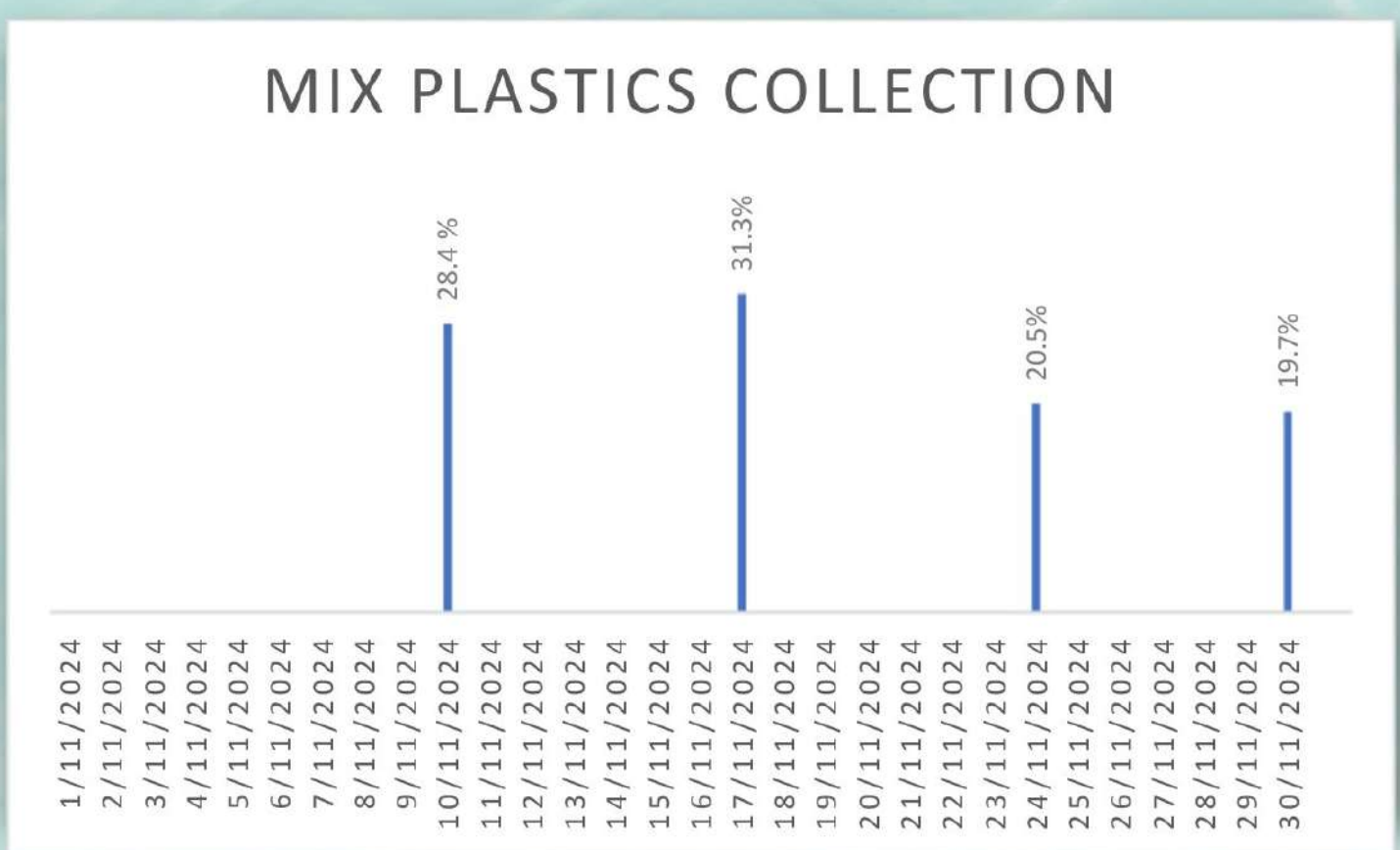
## United way Mumbai & Samarth Bharat Vyaspeeth Beach cleanup drive Month of November 2024 Data

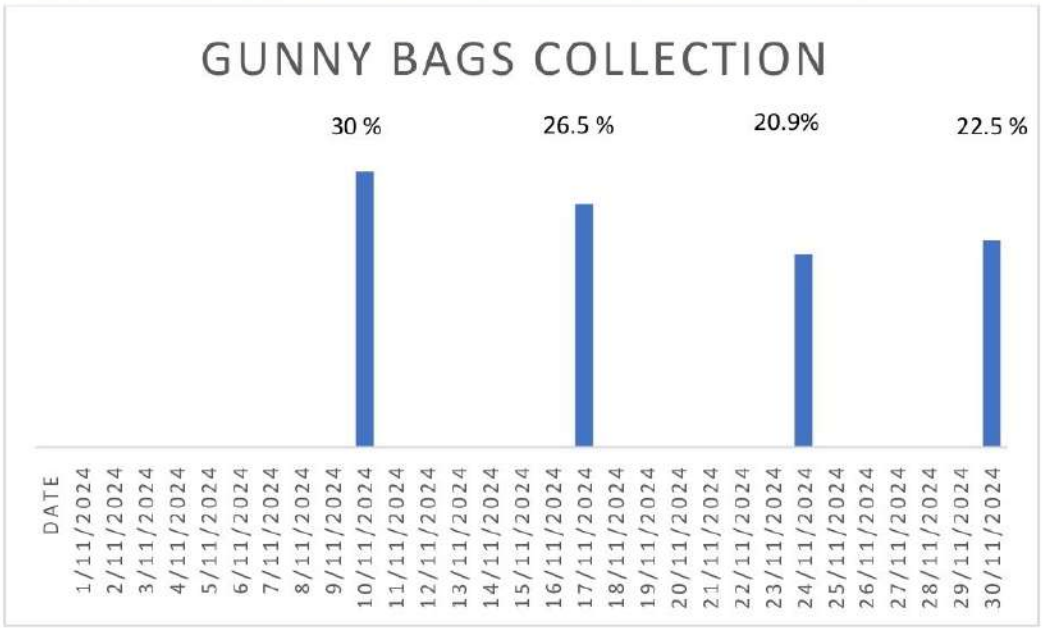
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 November to 24 November 2024 | 2765.46 | 829.63 | 138.27 | 110.61 | 55.3 | 82.96 | 27.65 | 59.3 | 936.31 | 304.2 | 221.23 |
| 25 November 2024 | 88.12 | | | | | | | | | | |
| 25 November 2024 | 391.4 | | | | | | | | | | |
| 26 November 2024 | 83.9 | | | | | | | | | | |
| 26 November 2024 | 386.06 | | | | | | | | | | |
| 27 November 2024 | 74.02 | | | | | | | | | | |
| 27 November 2024 | 389.13 | | | | | | | | | | |
| 28 November 2024 | 86 | | | | | | | | | | |
| 28 November 2024 | 398.05 | | | | | | | | | | |
| 29 November 2024 | 79.14 | | | | | | | | | | |
| 29 November 2024 | 384.09 | | | | | | | | | | |
| 30 November 2024 | 89.1 | | | | | | | | | | |
| 30 November 2024 | 378.05 | | | | | | | | | | |
| 25 November to 30 November 2024 | 2827.06 | 798.23 | 148.62 | 84.26 | 58.12 | 59.25 | 52.15 | 59.37 | 905.06 | 377.2 | 284.8 |
| | 11211.72 | | | | | | | | | | |

## MONTHLY GRAPH




## DATA ANALYSIS




GUNNY BAGS COLLECTION
30 %
26.5 %
20.9%
22.5 %
DATE
1/11/2024
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4/11/2024
5/11/2024
6/11/2024
7/11/2024
8/11/2024
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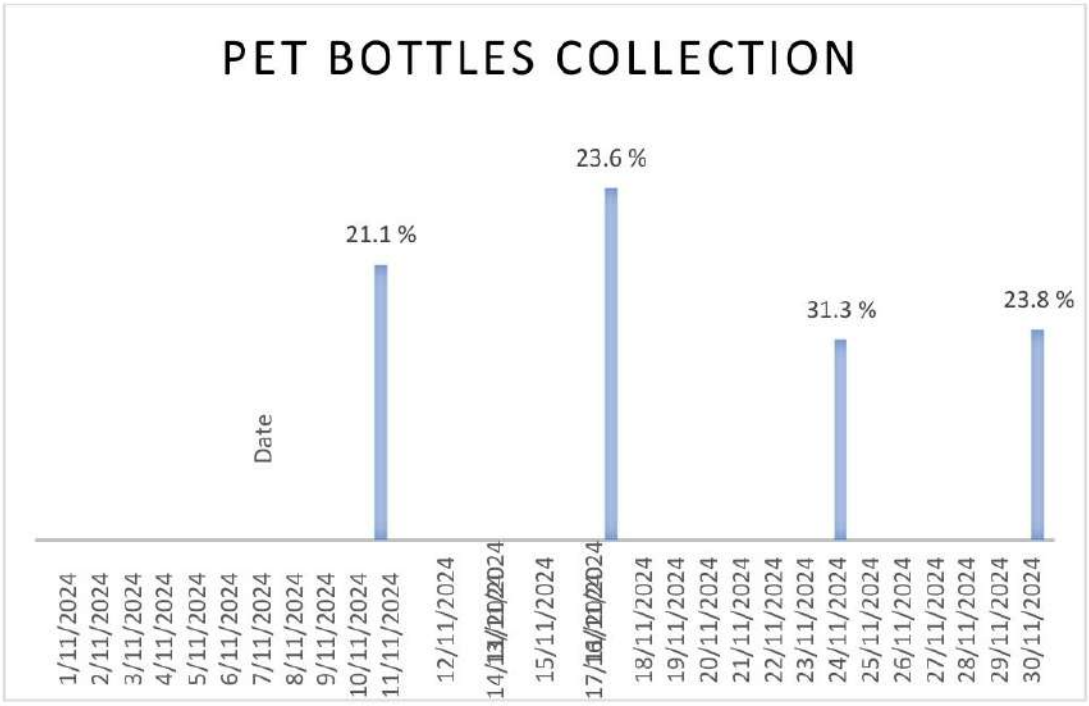
PET BOTTLES COLLECTION
23.6 %
21.1 %
31.3 %
23.8 %
Date
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5/11/2024
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8/11/2024
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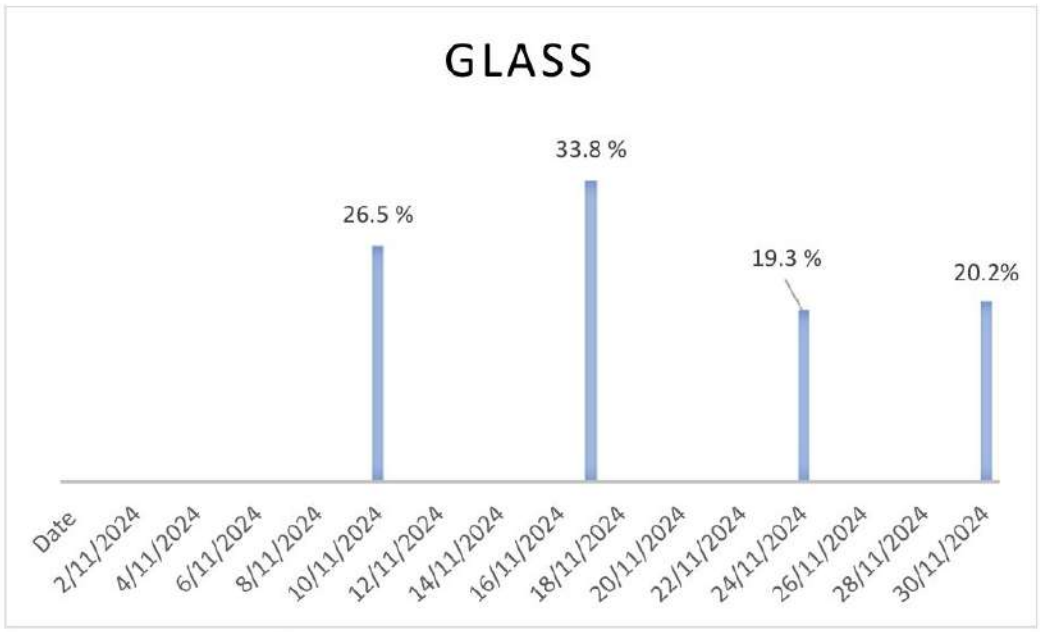
GLASS
33.8 %
26.5 %
19.3 %
20.2%
Date
2/11/2024
4/11/2024
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8/11/2024
10/11/2024
12/11/2024
14/11/2024
16/11/2024
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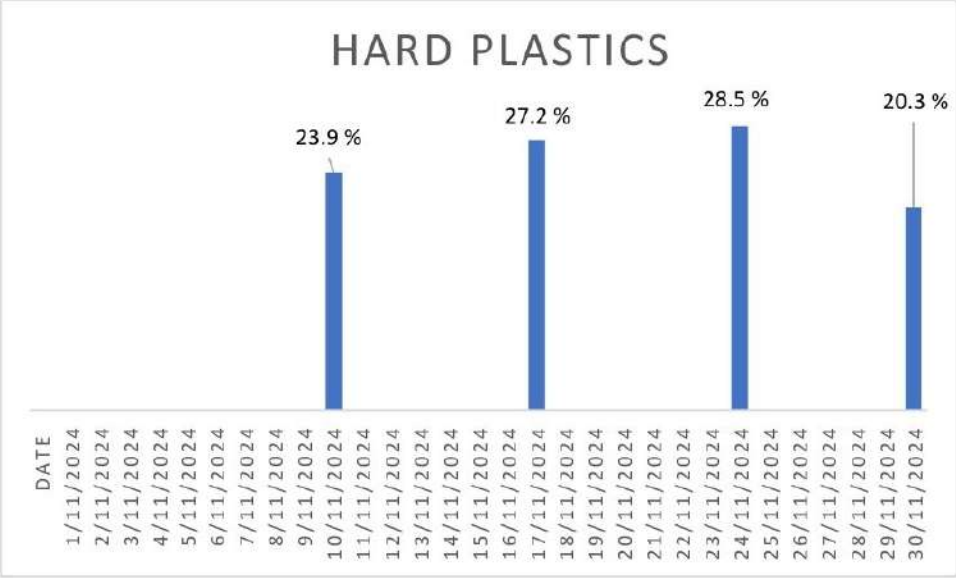
HARD PLASTICS
23.9 %
27.2 %
28.5 %
20.3 %
DATE
1/11/2024
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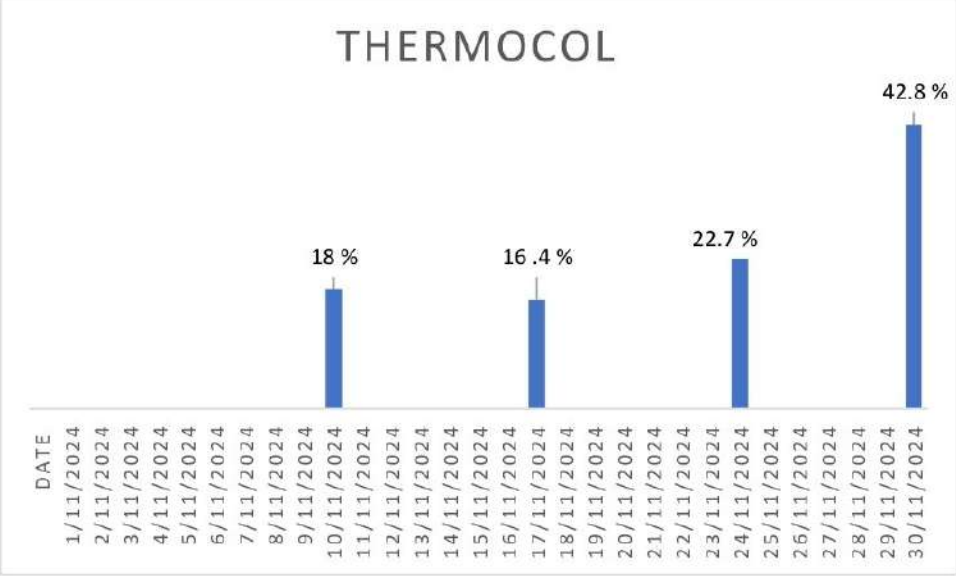
THERMOCOL
18 %
16 .4 %
22.7 %
42.8 %
DATE
1/11/2024
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SHOES
16.2 %
15.2 %
34.5 %
34.2 %
DATE
1/11/2024
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3/11/2024
4/11/2024
5/11/2024
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30/11/2024


REJECTED WASTE
17.9 %
21.3 %
30.8 %
29.8 %
DATE
1/11/2024
2/11/2024
3/11/2024
4/11/2024
5/11/2024
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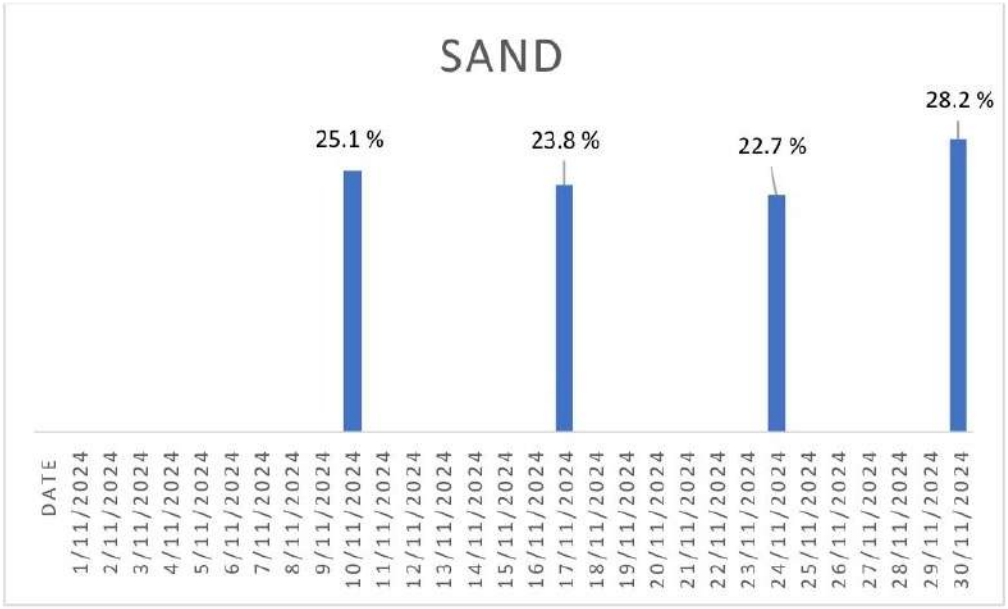
SAND
25.1 %
23.8 %
22.7 %
28.2 %
DATE
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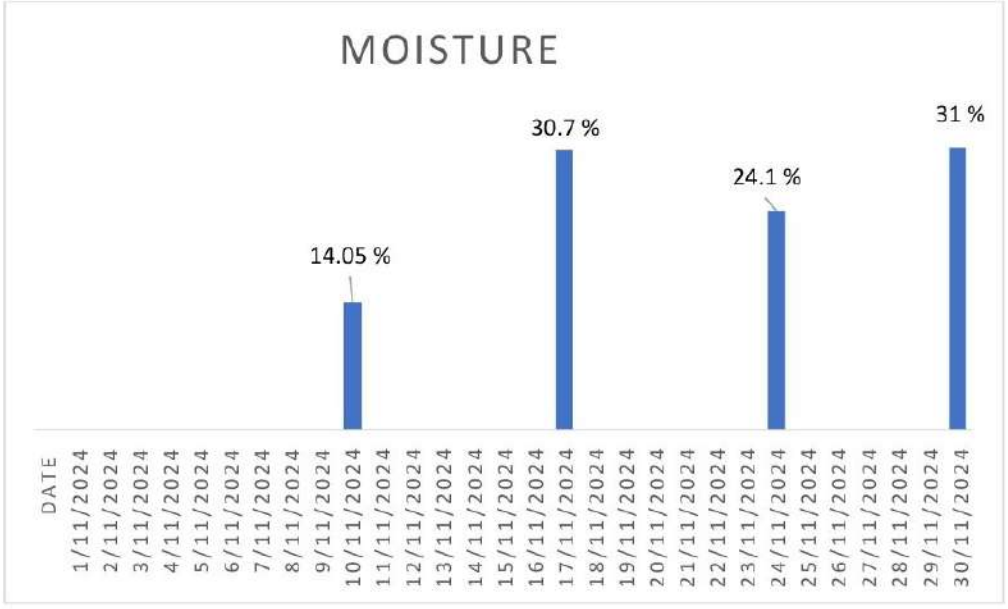
MOISTURE
14.05 %
30.7 %
24.1 %
31 %
DATE
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5/11/2024
6/11/2024
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## Findings

Collection Span – 1st November – 30th November 2024
Total Working Days – 27
Total Holidays – 3
Total Working Hours - 27 X 7 = 189 Hrs.
Total waste collected – 11211.72 KG
Waste collection per hour – 59.32 KG
Waste collection per hour per Safai Sathis – 11.86 KG
Total Mix Plastics – 4041.56 KG
Total Gunny Bags – 659.89 KG
Total Pet Bottles – 353.07 KG
Total Glass- 286.42 KG
Total Hard Plastics- 290.94 KG
Total Tharmocol- 121.8 KG
Total Shoes- 173.19 KG
Rejected Waste – 3032.53 KG
Sand – 1335.3 KG
Moisture- 917.02 KG

## Percentage Analyzing

Mix Plastics - 28%
Gunny Bags - 8%
Pet Bottles - 3%
Glass - 2%
Hard Plastics - 2%
Tharmocol - 2%
Shoes – 2.1%
Rejected Waste - 32%
Sand - 12%
Moisture - 9%

# Remarks

Of the total collected waste, 41% was found to be plastic waste.

Due to the ebb tide, a large amount of sand enters the waste, and as a result, the proportion of sand in the collected waste was also significant, amounting to 12%.

A considerable amount of waste that cannot be recycled, such as waste thrown into the sea, creeks, and drainage systems, was found to make up nearly 32% of the total waste.

To reduce the sand content, measures have been implemented to shake off the sand while collecting the waste. Efforts will be made in the future to further reduce this percentage.

Among the plastic waste, nearly 80% was found to be packaging material.

Prior to the collection, this waste had been floating in the waters of the creek and sea for at least 3 to 4 months. The packaging date and expiry date found on the plastic bags indicated that these plastics had been polluting the water for around 2 to 4 months before washing up on the shore. This indicates that the plastic waste had been contributing to water pollution for a significant period of time.