REPORT
on International Coastal Cleanup (ICC) Action
held in Primorsky Krai on September 26, 2009

A regular International Coastal Cleanup action was held in Primorsky Krai on September 26, 2009. This year ICC campaign has been extended. Actions were carried out in Shchitovaya Bay (Ussuriysky Gulf), in Olga Bay (Olginsky District, Primorsky Krai), at the head of the Amursky Gulf – on the north-western coast (Tavrichanka settlement, Nadezhdinsk District, Primorsky Krai) and in Uglovoy Bay (Prokhladnoye settlement, Nadezhdinsk District, Primorsky Krai), in Emar Bay (Ussuriysky Gulf), on *Volna* beach (Nakhodka Bay) (Fig. 1).

The action's principal organizers were Sea Protection Institute, Maritime State University named after Admiral G.I. Nevelskoy and Regional Coordination Unit of the North-West Pacific Action Plan (POMRAC NOWPAP), that held actions in Shchitovaya Bay and Olga Bay; Primorsky Krai Administration (actions in Emar Bay and Nakhodka Bay); as well as *Defenders and Conservators* social environmentalist movement (actions in the Amursky Gulf).

The action is primarily targeted at improving the quality of the Primorsky Krai marine coastal zone, as well as at perfecting regional mechanisms for finding solutions to the marine litter issue within the Russian sector of NOWPAP through the involvement of public, research and administrative agencies concerned.

ICC Action in Shchitovaya Bay. On the coast of Shchitovaya Bay there were allotted 3 sectors, each 30m by 10m in size and located along the water edge. Thus the length of the coastline cleaned up was 90m, and total area – 900sq.m. The action participants (Vladivostok high schools' students) were divided into 3 groups of 15 people. Each group was headed by instructors trained at the Sea Protection Institute, Maritime State University named after Admiral G.I. Nevelskoy (Olga Deeva, Maria Gorda, Anastasia Groznova). The total number of the action participants was 50 (Fig. 2). Table 1 shows the data on the marine litter collected.

Table 1

Types and quantities of marine litter collected in Shchitovaya Bay

Group No.	Plastic	Metal	Glass	Others	Total
	kgs				
1	1.6	0.26	0.3	5.8	**7.96**
2	7.2	0.9	0.9	2.3	**11.3**
3	11.6	3.9	4.3	64.9	**84.7**
Total	**20.4**	**5.06**	**5.5**	**73**	**103.96**

Fig. 1. ICC geography

Fig. 2. ICC action participants in Shchitovaya Bay (Vladivostok, Ussuriysky Gulf)

The action resulted in collecting 103.96kgs of marine litter. The analysis of filled up ICC blank forms has revealed that the items left behind by beach-goers / holiday-makers dominate in the litter composition. Fig. 3 displays the distribution of different types of litter throughout the three groups.

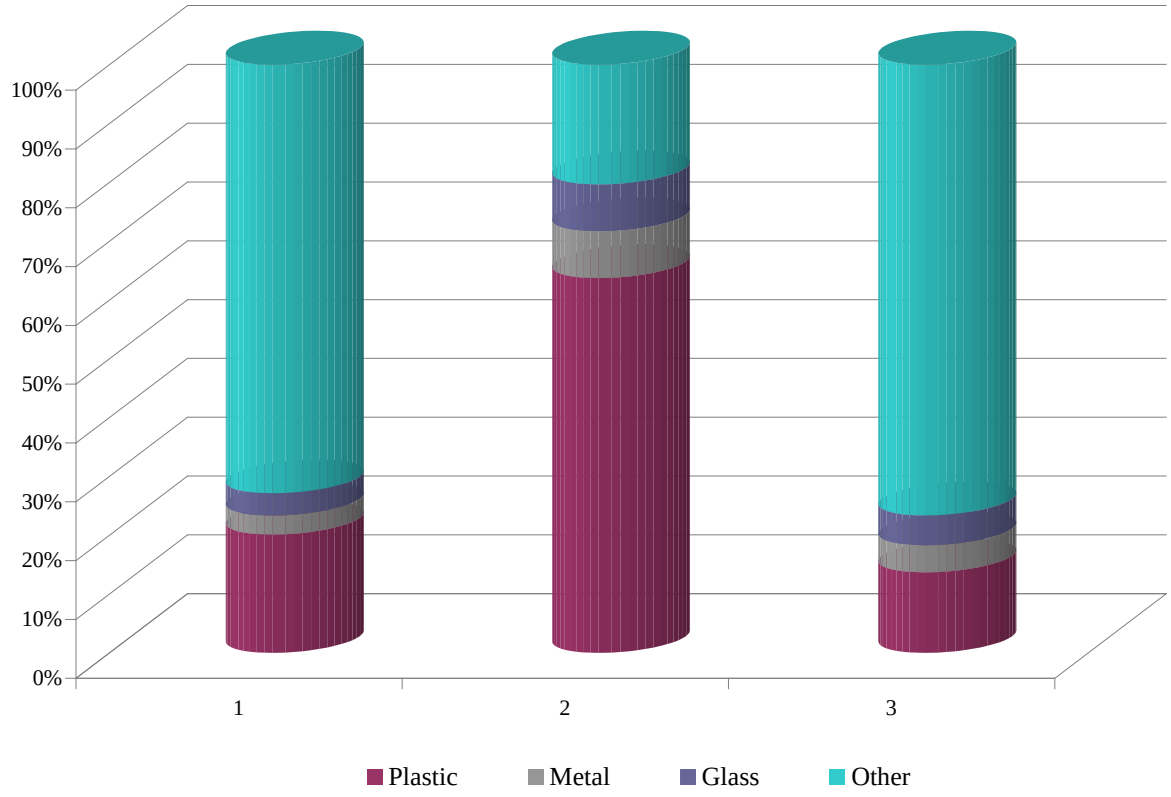

Fig. 3. The percentage of different litter types within the groups of litter collectors (Shchitovaya Bay)

As it is witnessed by the figure in groups 1 and 3 predominating litter type was that of the "others" type, including wastepaper, welfare items, and construction materials. In group 2 it is plastic that predominated. 70 per cent of the total litter amount was accounted for by household appliances, construction materials, pieces of cars, which were united under a common type of «others» (Fig. 4).

Fig. 5 shows the percentage of the amount of litter collected by all the groups at the allotted site in Shchitovaya Bay.

In the course of the action the weight of litter collected by each group was defined. Group 3 became the leader with the result of 84.7kgs of collected marine litter (Fig. 6).

The summary table of data for Shchitovaya Bay is given in Schedule 1 (Summary card).

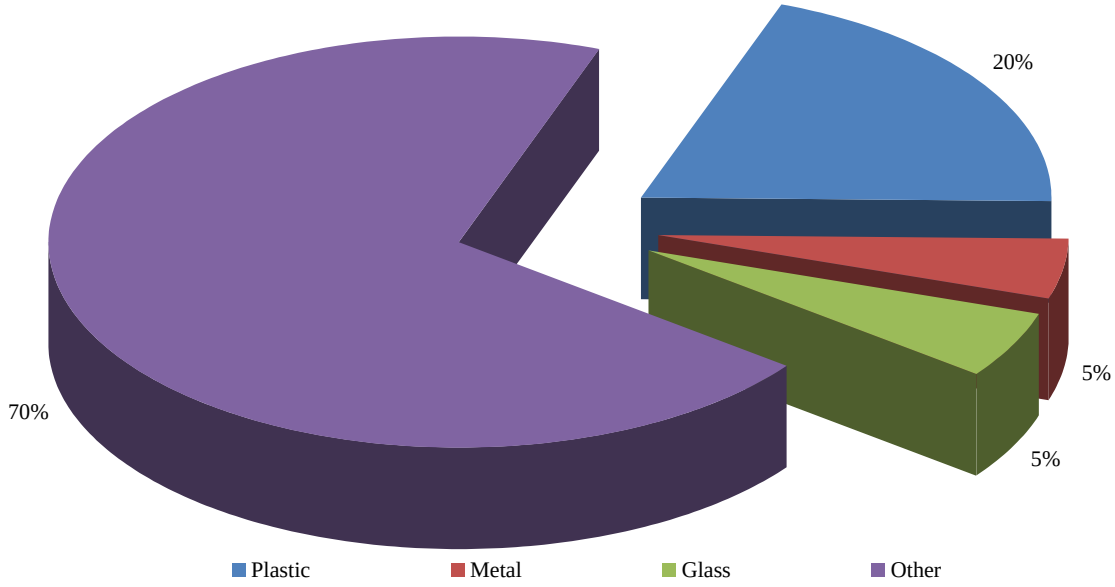

Fig. 4. Percentage of different litter types (Shchitovaya Bay)

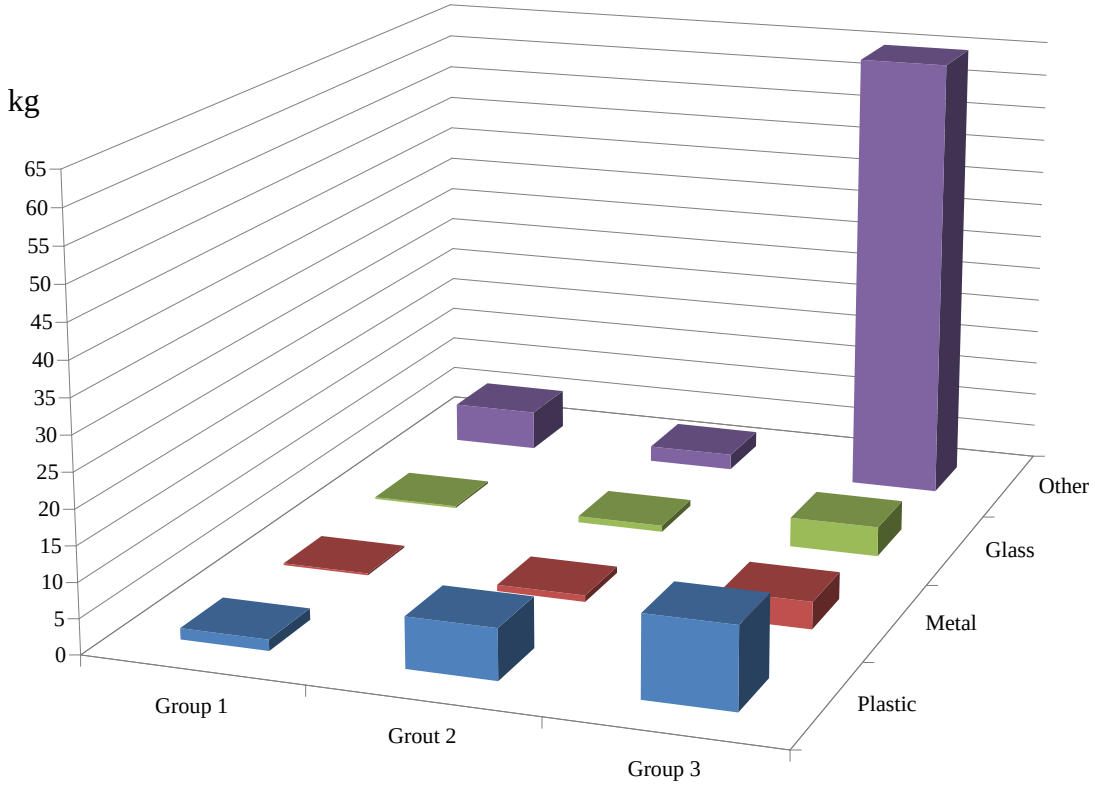

Fig. 5. Percentage of different litter types collected in groups (Shchitovaya Bay)

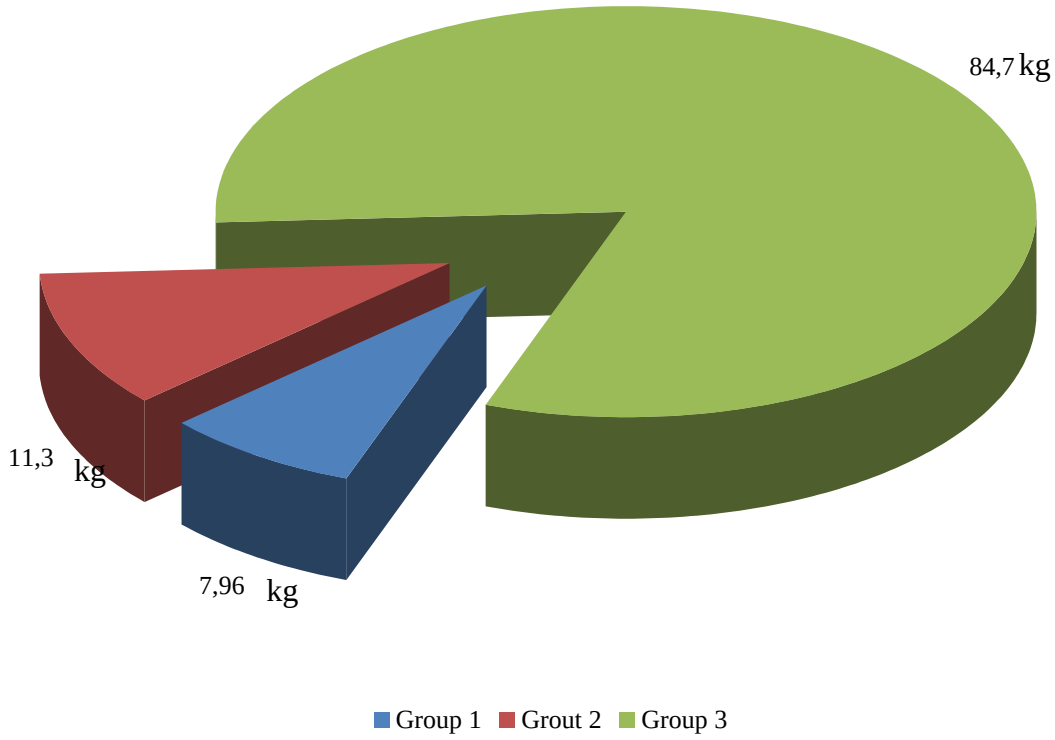

Fig. 6. The total weight of litter collected (Shchitovaya Bay)

ICC Action in Olga Bay. At the head of Olga Bay there were allotted 2 sectors, each 80m by 10m in size and located along the water edge. Thus the length of the coastline cleaned up was 160m, and total area – 1,600sq.m. The action was attended by the students of the 11th form of the Olginsky District Secondary School. To run the action the participants were divided into 2 groups (boys and girls) of 7. Each group was headed by instructors trained at the Sea Protection Institute, Maritime State University named after Admiral G.I. Nevelskoy (Anna Striga, and Anastasia Ryazanova). The total number of the action participants was 16 (Fig. 7). Table 2 shows the data on the marine litter collected.

Table 2

Types and quantities of marine litter collected in Olga Bay

Group No.	**Plastic**	**Metal**	**Glass**	**Others**	**Total**
	kg				
1	8	5.8	37.8	3.5	**55.1**
2	5.5	3	49.2	62.5	**120.2**
Total	**13.5**	**8.8**	**87**	**66**	**175.3**

The action resulted in collecting 175.3kgs of marine litter. The analysis of filled up ICC blank forms has revealed that the items made of glass dominate in the litter composition. Fig. 8 displays the distribution of different types of litter throughout the groups.

Fig. 7. ICC action participants in Olga Bay (Primorsky Krai)

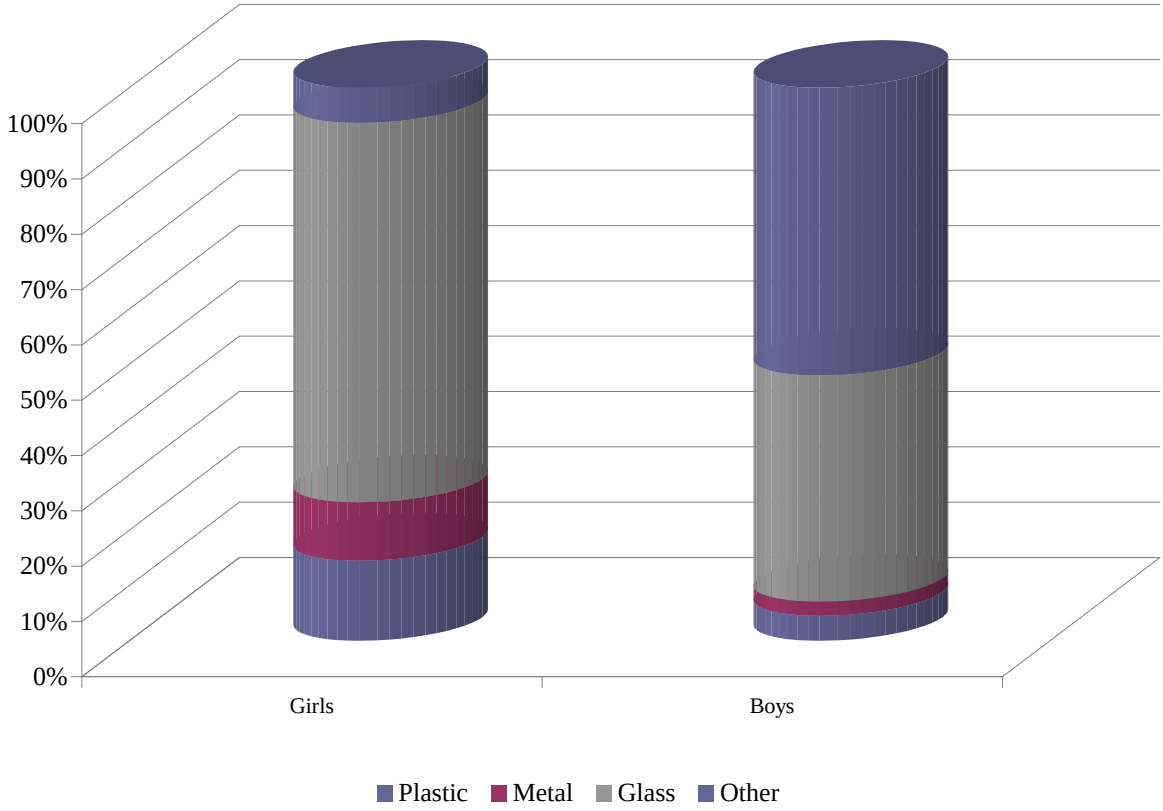

Fig. 8. The percentage of different litter types within the groups of litter collectors (Olga Bay)

Fig. 9 shows the percentage of different types of marine litter collected by boys and girls. 69 per cent of the total amount of litter was accounted for by glass waste (bottles, broken glass). 14 per cent was accounted for by waste of “others” type, covering construction materials and car spare parts.

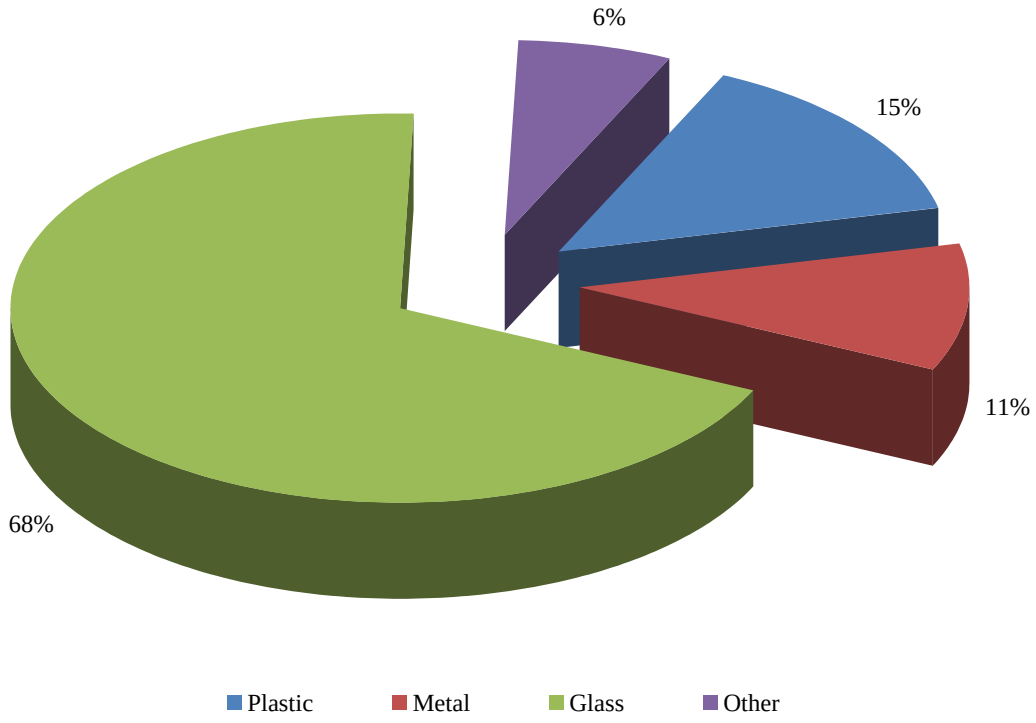

Fig. 9. Percentage of different litter types (Olga Bay)

Fig. 10 shows the percentage of the amount of litter collected by all the groups at the allotted site in Olga Bay.

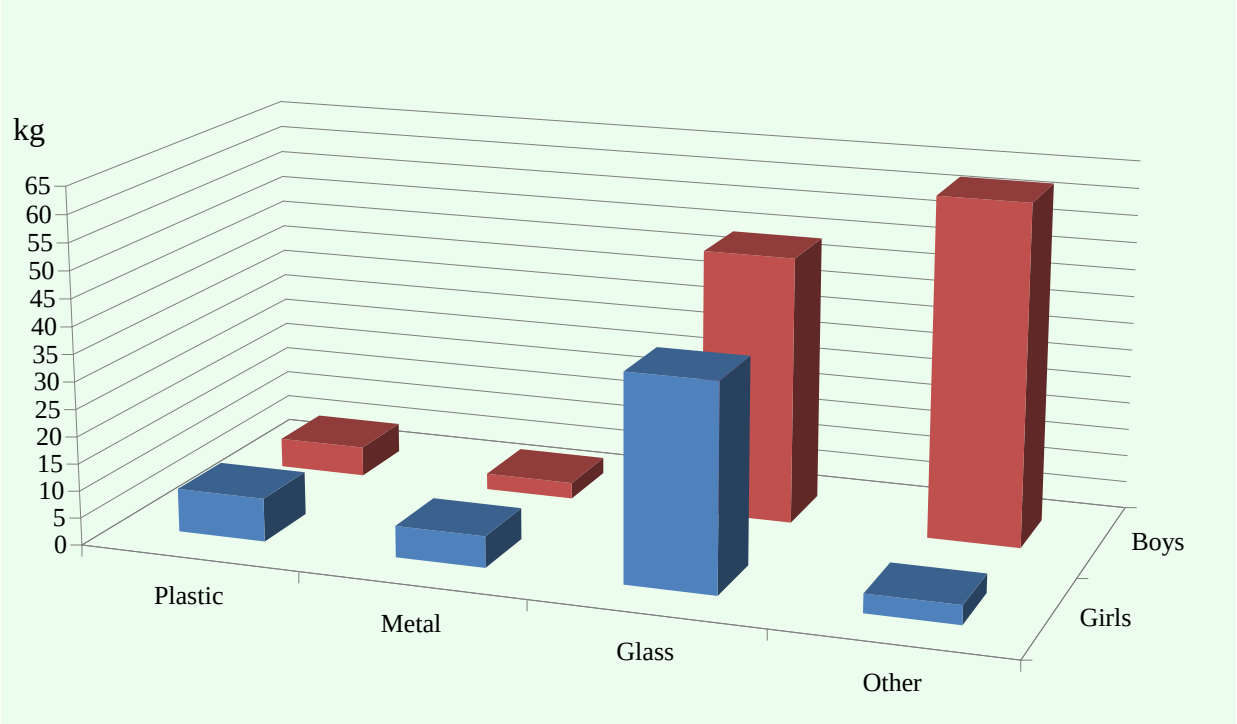

Fig. 10. Percentage of main types of litter collected in groups (Olga Bay)

The summary table of data for Olga Bay is given in Schedule 2.

ICC Action on the north-western coast of the Amursky Gulf (Tavrichanka settlement). In Tavrichanka on the coast of the Amursky Gulf, a site was allotted of 200m by 10m in size. The area of the cleaned up site was 2,000sq.m. The action was attended by the students of the 11th form of the Secondary School No. 4 (10 people). In the course of the action 53kgs of marine litter were collected. Items left behind by beach-goers / holiday-makers dominate in the litter composition. Table 3 shows the data on the litter collected. The percentage of different types of marine litter is represented in Fig. 11.

Table 3

Types and quantities of marine litter collected in the Amursky Gulf (Tavrichanka settlement)

Plastic	Metal	Glass	Others	Total
kg				
4.5	1.5	16	31	**53**

Fig. 12 demonstrates the percentage of litter types, where plastic makes 8 per cent of the total amount of marine litter, 30 per cent is accounted for by glass, 3 per cent – by metal and 59 per cent by other items of marine litter.

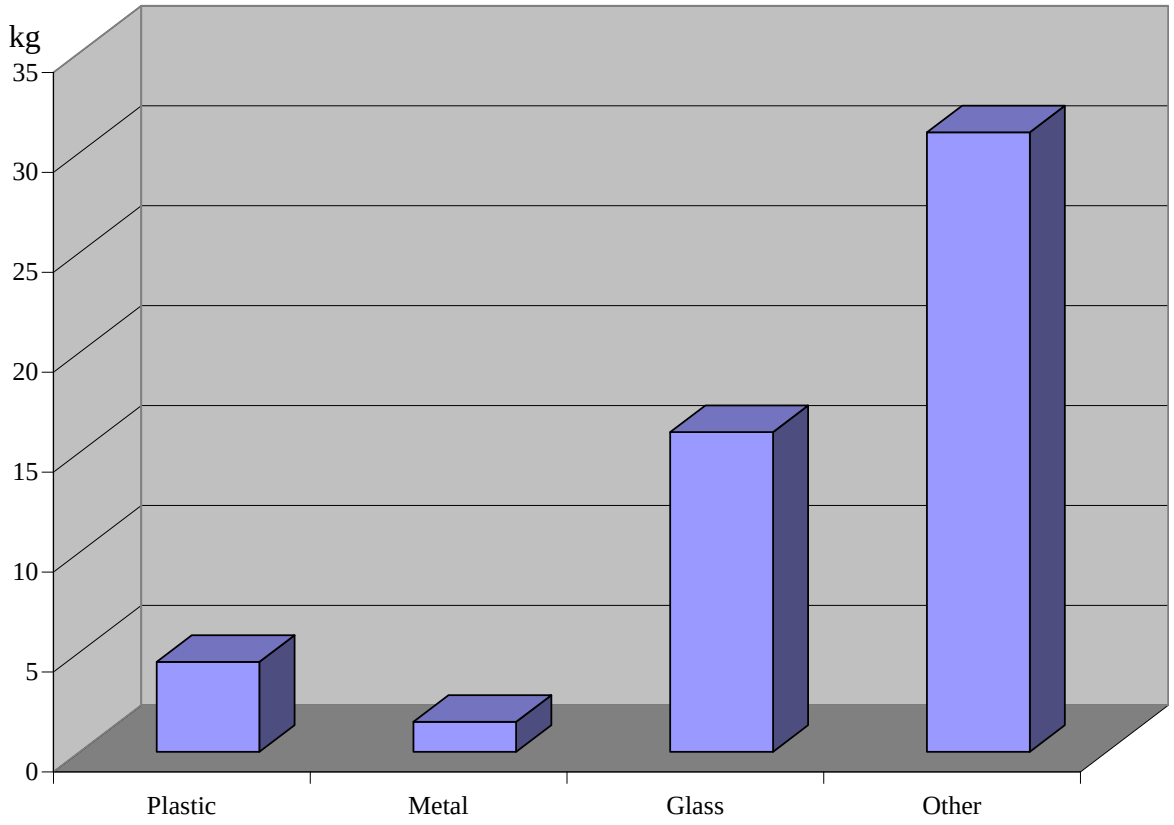

Fig. 11. Percentage of main types of litter collected (Tavrichanka settlement)

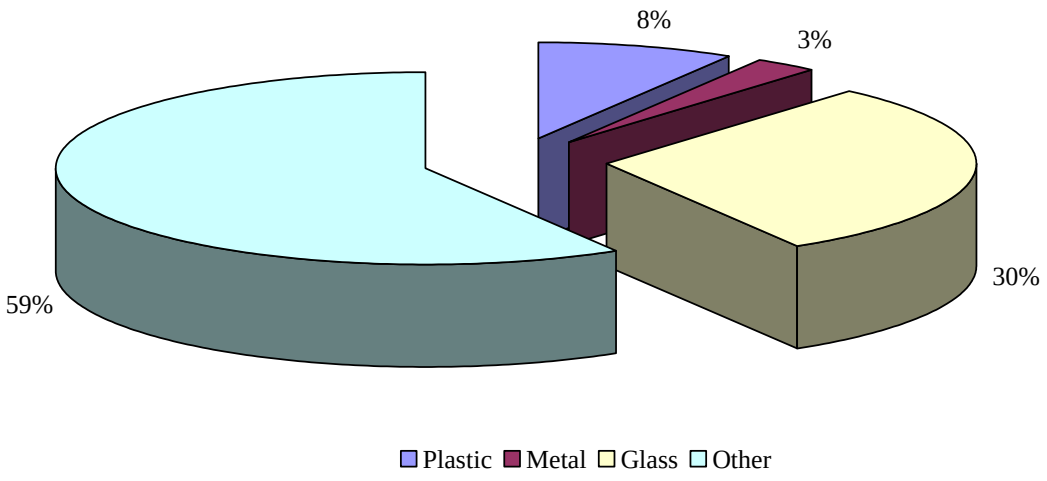

Fig. 12. Percentage of main types of litter collected (by weight) (Tavrichanka settlement)

ICC Action in Uglovoy Bay (Prokhladnoye settlement. **).** In Prokhladnoye settlement the action took place on a plot of the beach of 100m by 10m in size. The area of the cleaned up site was 1,000sq.m. The action was attended by 6 students of Secondary School No. 7 of Prokhladnoye settlement. As a result 14kgs of marine litter were collected. Like on the other

parts of the coast, items left behind by beach-goers / holiday-makers dominate in the litter composition. Table 4 shows the data on the litter collected. The percentage of marked out types of marine litter is represented in Fig. 13.

Table 4

Types and quantities of marine litter collected in the Uglovoy Bay (Prokhladnoye settlement)

Plastic	Metal	Glass	Others	Total
kg				
5	0.4	1.8	6.8	**14**

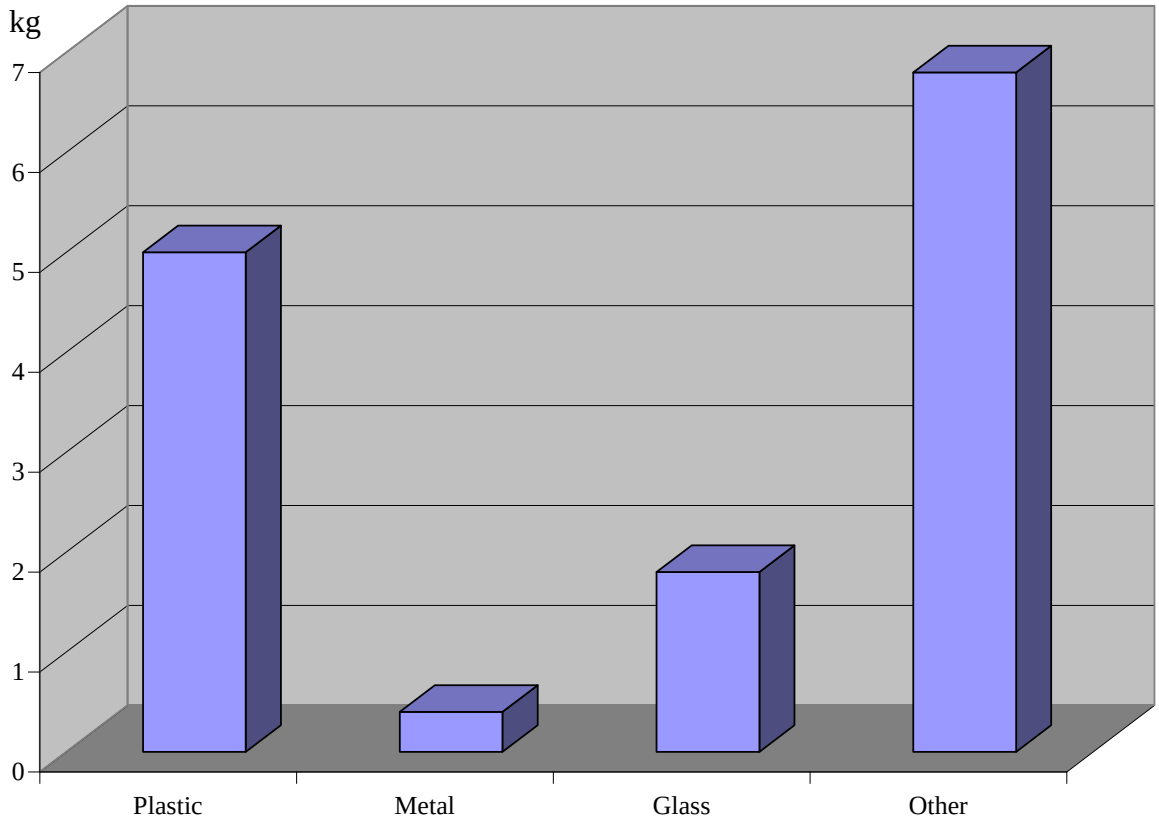

Fig. 13. Percentage of main types of litter collected (Prokhladnoye settlement)

Fig. 14 demonstrates the percentage of litter types, where plastic makes up 36 per cent of the total weight of marine litter, 13 per cent is accounted for by glass, the least weight is that of metal – 3 per cent, 48 per cent is accounted for by other types of marine litter.

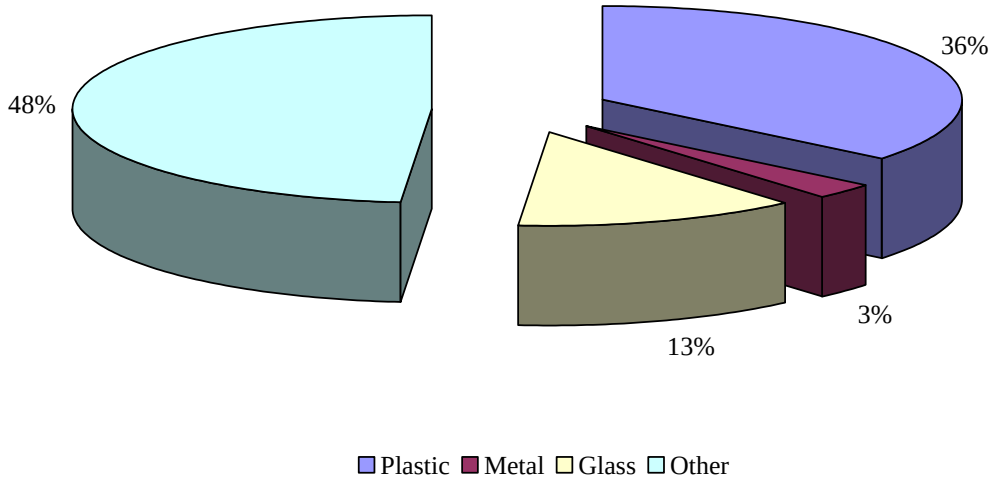

Fig. 14. Percentage of main types of litter collected (by weight) (Prokhladnoye settlement)

ICC Action in Emar Bay (Ussuriysky Gulf). The ICC action in Emar Bay (Ussuriysky Gulf) was carried out on the territory of the *Okean* All-Russia Children's Center. The action was attended by 32 participants (*Okean* students and organizers) (Fig. 15). A plot of the coast of 600sq.m. in area was cleaned up and 3.8kgs of marine litter were collected. It is plastic that dominates in the litter composition. Table 5 shows the data on the litter collected. Percentage of the different types of litter is shown in Fig. 16.

Table 5

Types and quantities of marine litter collected in the Emar Bay (Ussuriysky Bay)

Plastic	**Metal**	**Glass**	**others**	**Total**
kg				
1.7	0.3	0.2	1.6	**3.8**

Fig. 17 demonstrates the percentage of litter types, where plastic makes up 46 per cent of the total weight of marine litter, the least weight is that of glass – 5 per cent, 8 per cent is accounted for by metal, while the other types of marine litter make up 42 per cent.

Fig. 15. ICC action participants in the Emar Bay (Ussuriysky Gulf)

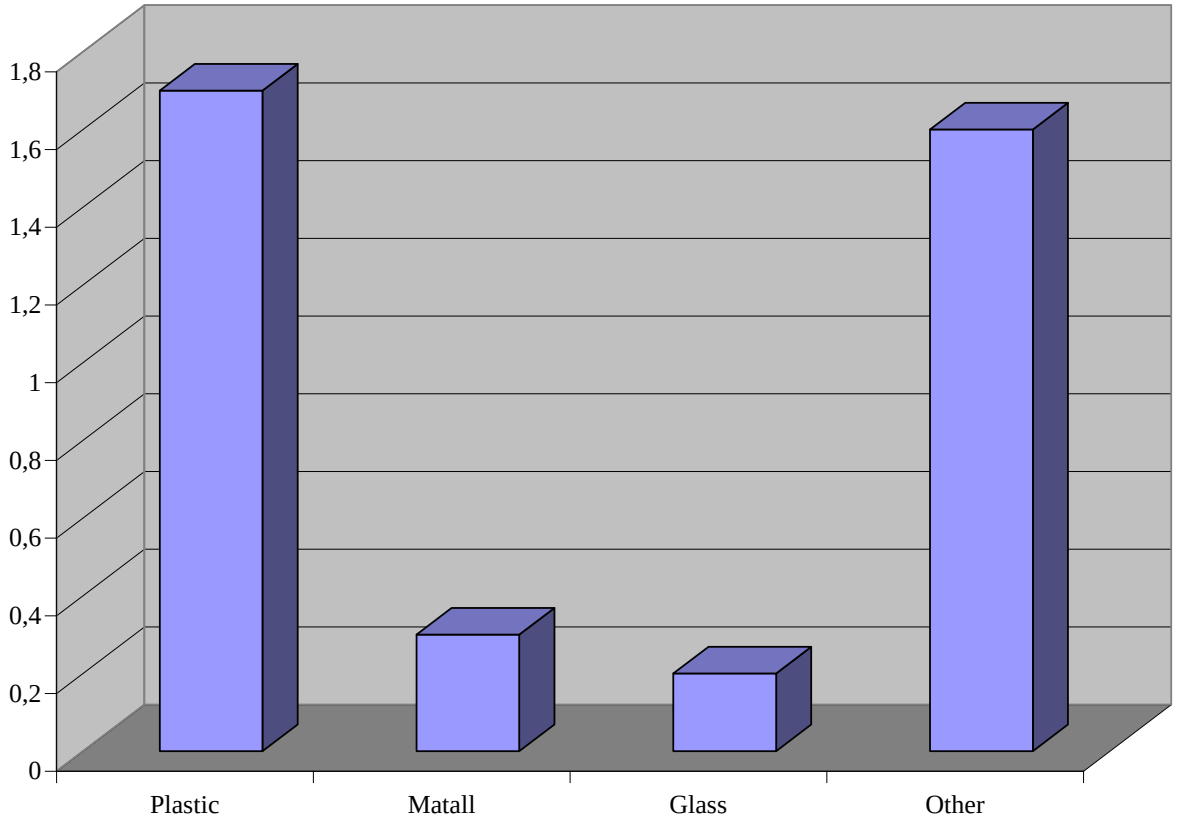

Fig. 16. Percentage of main types of litter (Emar Bay)

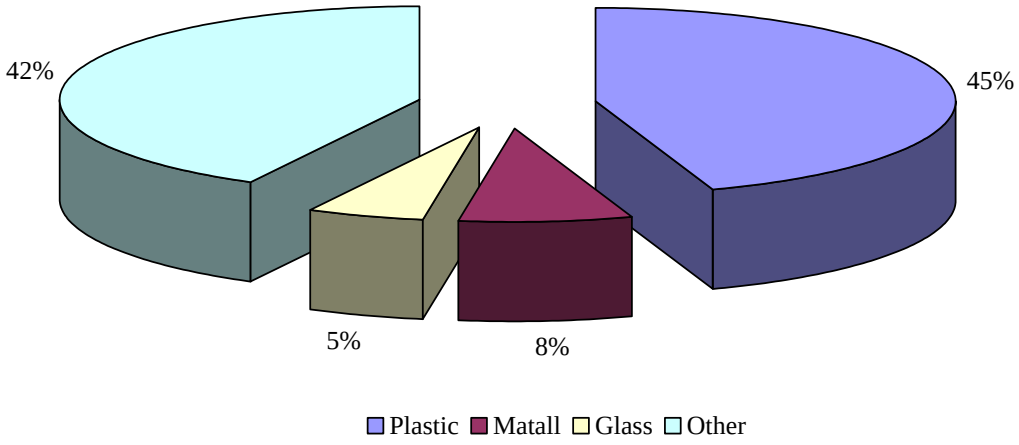

Fig. 17. Percentage of main types of litter (by weight) (Emar Bay)

ICC Action on *Volna* beach (Nakhodka Bay). ICC action on *Volna* beach of Nakhodka Bay was attended by 25 people from among local school students. A plot of coast of 600sq.m. in area was cleaned up and 4.1kgs of marine litter were collected. Again it is plastic that dominates in the litter composition. Table 6 shows the data on the litter collected. Percentage of the marked out litter types is given in Fig. 18.

Table 6

Types and quantities of marine litter collected on *Volna* beach (Nakhodka Bay)

Plastic	Metal	Glass	Others	Total
kg				
1.1	0.1	0.5	2.3	**4.0**

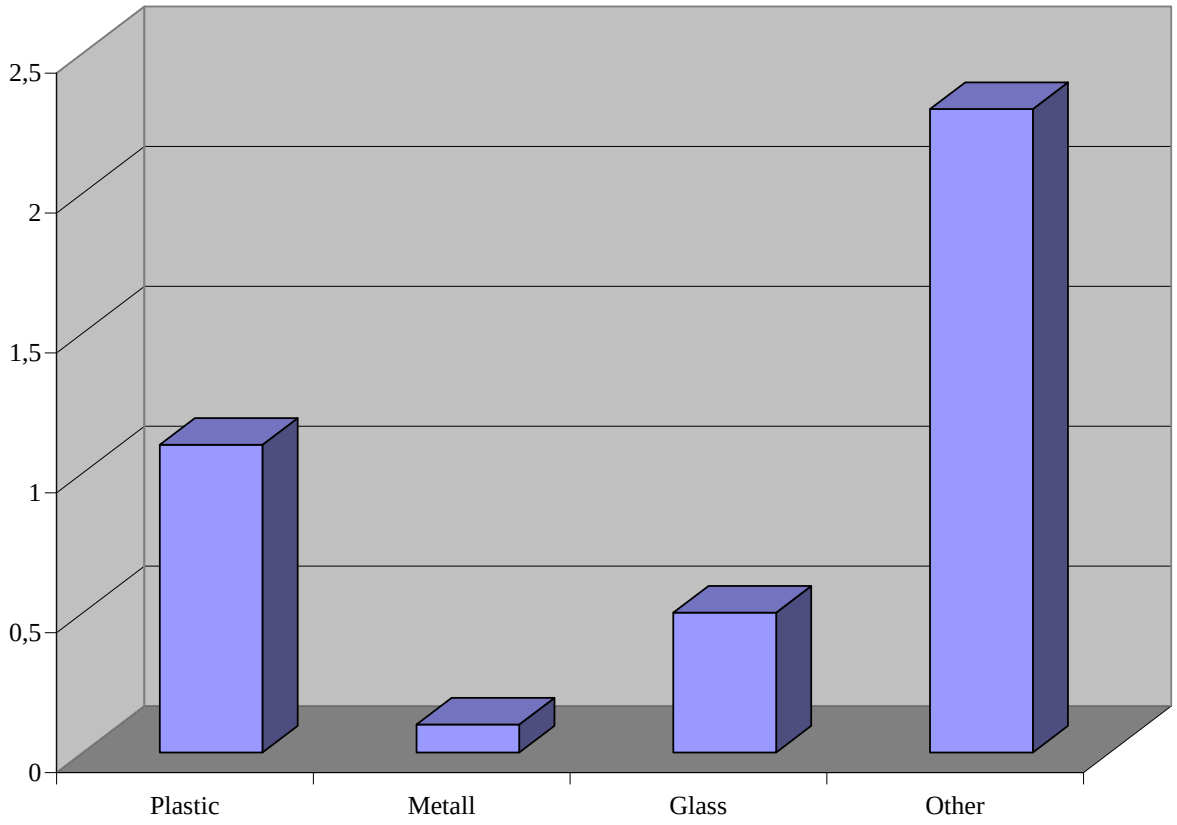

Fig. 18. Percentage of main types of litter (Nakhodka Bay)

Fig. 19 displays percentage of marine litter types, where mixed types of litter dominate – 57 per cent. Plastic accounts for 27 per cent, while metals are of minimum quantity – 3 per cent. Glass makes up 13 per cent of the total weight of marine litter.

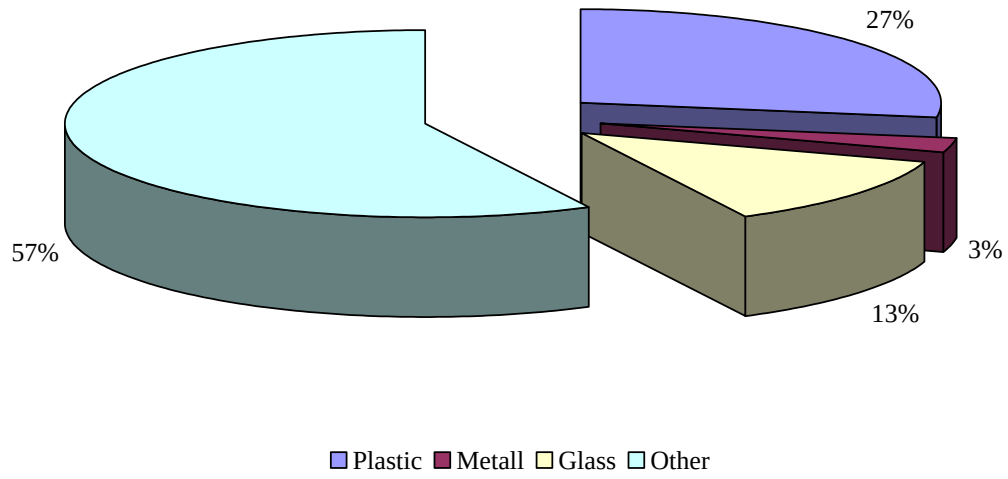

Fig. 19. Percentage of main types of litter (by weight) (Nakhodka Bay)

ICC Action in Pogranichnaya Bay (Popov Island). ICC action held in Pogranichnaya Bay (Popov Island) was attended by 22 people from among local school students. A plot of coast of 600sq.m. in area was cleaned up and 21.8kgs of marine litter were collected. Plastic items predominate in the litter composition there, too. Table 7 shows the data on the litter collected. Percentage of the marked out litter types is given in Fig. 20.

Table 7

Types and quantities of marine litter collected in Pogranichnaya Bay (Popov Island)

Plastic	**Metal**	**Glass**	**Others**	**Total**
kg				
10.4	1.1	3.0	7.3	**21.8**

Fig. 21 shows percentage of litter types, where plastic dominates – 48 per cent. Mixed waste accounts for 33 per cent, glass – 14 per cent, the least weight is that of metal waste – 5 per cent.

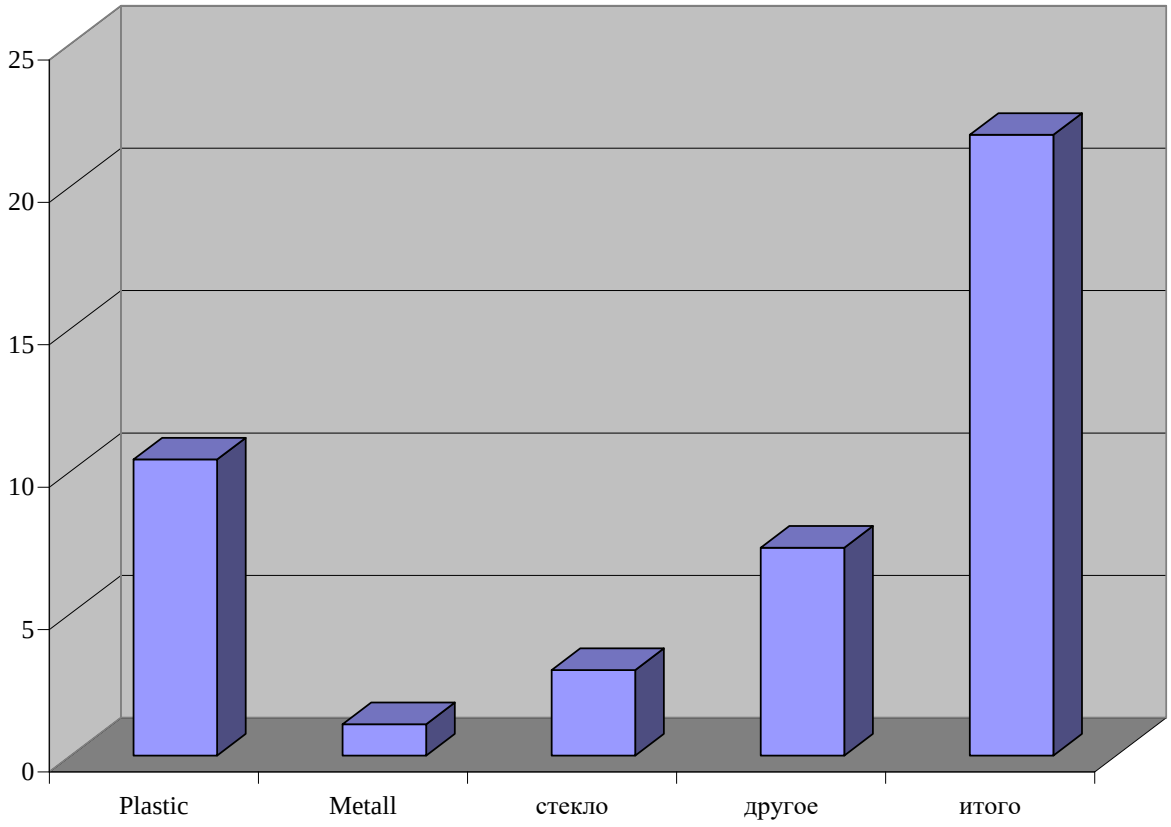

Fig. 20. Percentage of main types of litter (Pogranichnaya Bay)

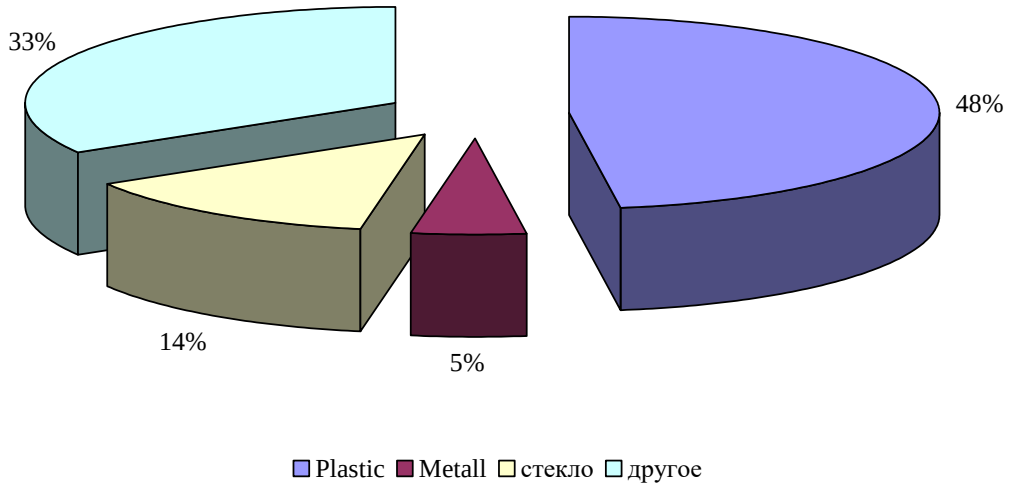

Fig. 21. Percentage of main types of litter (by weight) (Pogranichnaya Bay)