

ABSTRACT

Indonesia is the second country that contributes plastic waste to the ocean with a percentage of 60 - 80% of the waste in the sea. Over time, plastic waste will degrade and form microplastics. Microplastics are plastic particles whose diameter is < 5 mm. This research aims to determine the type and abundance of microplastics found in sediment and sea water at Pangah Beach, Gandapura District, Bireuen Regency. This research was carried out in April - May 2024. Sampling was carried out at 3 stations, where the first station was close to the estuary, the second station was close to tourist attractions and station 3 was close to residential areas. Identification of microplastics was carried out visually using an Olympus CX21 binocular microscope with a magnification of 10 x 4, while to determine the abundance of microplastics, descriptive data analysis and calculations were carried out using Microsoft Excel. Based on the research results, 5 types of microplastics were found in sediment and sea water, namely granules, fibers, foam, fragments and films. The highest abundance of microplastics at Station 1 was the fiber type with an abundance in sediment of 3,613 particles/kg and an abundance in seawater of 2,128 particles/L. The highest abundance of microplastics at Station 2 was the film type with an abundance in sediment of 2,580 particles/kg and an abundance in seawater of 753 particles/L. The highest abundance of microplastics at Station 3 was the fiber type with an abundance of 2,493 particles/kg in sediment and 1,156 particles/L in water.

Keywords : microplastic, Pangah Beach, seawater, sediment.