

## ABSTRAK

Waste can cause pollution in water areas. One type of waste found is plastic. Plastic waste that enters the sea will eventually fragment into smaller particles, namely microplastics. Microplastics are plastic particles measuring less than 5 mm, some even nanometers. The purpose of this study was to calculate the types of microplastics and analyze the composition of microplastics in the gills of mackerel (*Rastrallinger* sp.) caught in the waters of North Aceh Regency and Lhokseumawe City. This research was conducted in May - June 2024 using the exploration survey method in the waters of North Aceh Regency and Lhokseumawe City. For sample collection in the field using the purposive sampling method. The research procedures carried out were determining observation stations, collecting research samples, measuring fish samples, sampling and separating microplastics from other particles and data analysis. Based on the research results obtained, mackerel (*Rastrallinger* sp.) has different lengths and weights, where the fish with the highest total length was found at Station 3 (26.00 cm) with the highest gill weight (8.80 gr). while the fish with the lowest length was found at Station 1 (19.50 cm) with a gill weight (2.30 gr). There are 5 types of microplastics found in this study, namely fiber, film, fragments, granules and pellets. Among the 5 types of microplastics, the most commonly found are pellet microplastics (283 particles) and fiber (149 particles).

**Keywords: Gill Organs, Microplastics, Pellets, Plastic**