

## ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi jenis dan mengetahui tingkat kelimpahan mikroplastik pada ikan kerapu (*Epinephelus sp.*) di kawasan Waduk Pusong, Kota Lhokseumawe. Metode yang digunakan adalah survei dengan pengambilan sampel ikan secara acak di tiga lokasi yaitu tengah Waduk Pusong, pintu keluar masuk air waduk, dan Muara Krueng Cunda. Deteksi dilakukan melalui pembedahan organ insang, hati, dan usus, dilanjutkan dengan metode destruksi menggunakan larutan KOH 10% dan pengamatan menggunakan mikroskop. Hasil penelitian menunjukkan bahwa terdapat lima bentuk mikroplastik yang terdeteksi yaitu fiber, fragmen, film, foam, dan pellet. Tingkat kelimpahan tertinggi berdasarkan stasiun pengamatan ditemukan di lokasi Muara Krueng Cunda sebesar 17,22 partikel/ikan, sedangkan berdasarkan organ, tingkat akumulasi tertinggi terdapat pada usus sebesar 3,31 partikel. Ukuran mikroplastik yang ditemukan sangat bervariasi dengan kisaran antara 14,0–1182,7  $\mu\text{m}$  dengan dominasi warna hitam yang mencapai persentase 45,99%. Kondisi parameter kualitas air perairan seperti suhu (30,5–34,8°C), pH (8,1–8,9), salinitas (20–25 ppt), dan DO (7,5–15,7 ppm) terpantau masih berada pada tingkat yang mendukung bagi kelangsungan hidup ikan kerapu.

**Kata kunci:** Kelimpahan, Ikan kerapu (*Epinephelus sp.*), Mikroplastik, Waduk Pusong.

## ABSTRACT

This study aims to identify the types and determine the abundance levels of microplastics in grouper fish (*Epinephelus* sp.) within the Pusong Reservoir area, Lhokseumawe City. A survey method was employed, with fish sampling conducted randomly across three locations: the center of the Pusong Reservoir, the reservoir water inlet/outlet, and the Krueng Cunda Estuary. Detection was performed through the dissection of the gills, liver, and intestines, followed by a destruction method using a 10% KOH solution and observation under a microscope. The results showed that five forms of microplastics were detected: fiber, fragment, film, foam, and pellet. The highest abundance level based on observation stations was found in the Krueng Cunda Estuary at 17.22 particles/fish. Based on organs, the highest accumulation level was observed in the intestines at 3.31 particles. The size of the microplastics found varied greatly, ranging from 14.0 to 1182.7  $\mu\text{m}$ , with a dominance of black color reaching a percentage of 45.99%. Water quality parameters, including temperature (30.5–34.8°C), pH (8.1–8.9), salinity (20–25 ppt), and DO (6.9 – 13.4 ppm), were monitored and found to remain at levels that support the survival of grouper fish.

**Keywords:** Abundance, Grouper fish (*Epinephelus* sp.), Microplastics, Pusong Reservoir