

## Analysis of Catch Composition Using Lift Net (Anco) Fishing Gear in the Alue Naga River Estuary, Banda Aceh

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### ABSTRACT

The coastal area of Alue Naga, Banda Aceh City, is characterized by high fisheries potential and increasing pressure on estuarine resources due to small-scale fishing activities. One of the fishing gears commonly operated by local fishers is the *anco*, a traditional rectangular lift net deployed in estuarine waters. This study aimed to examine the catch composition, species dominance, and diversity associated with *anco* fishing gear in the Alue Naga River estuary, Banda Aceh. The research applied an experimental fishing approach with direct participation in fishing operations, complemented by the collection of primary and secondary data. Catch composition was assessed based on species abundance and biomass, while fish community structure was evaluated using the Shannon–Wiener diversity index ( $H'$ ) and the Simpson dominance index (C). A total of 18 fish species were recorded during the study period. Greenback mullet (*Chelon subviridis*) was the most abundant species, contributing 60 individuals (0.448%) and a total biomass of 1,651 g (0.631%). In contrast, rabbitfish (*Siganus guttatus*) was the least abundant species, represented by a single individual (0.007%) with a biomass of 4 g (0.002%). The Shannon–Wiener diversity index ( $H' = 2.039$ ) indicated a moderate level of species diversity, whereas the Simpson dominance index ( $C = 0.236$ ) suggested low dominance within the fish assemblage. Overall, the results indicate that *anco* fishing gear captures a relatively diverse fish assemblage with a balanced species composition and no clear dominance by a single species. These findings provide baseline ecological information that may support the development of sustainable management strategies for small-scale estuarine fisheries in the coastal waters of Banda Aceh.

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