

Preliminary Findings on Nest Ecology, Reproductive Parameters, and Anthropogenic Waste in Yellow-legged Gulls (*Larus michahellis*) Breeding on Akliman Gull Island, Sinop

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Abstract

The yellow-legged gull (*Larus michahellis*) is an opportunistic seabird that exhibits high ecological flexibility in its feeding and nest-building behaviours. Owing to these characteristics, it frequently comes into contact with anthropogenic waste in coastal and aquatic habitats, landfill sites, harbour areas, and urban feeding grounds where human influence is intense. In particular, materials such as plastic, paper, string, fishing line, fabric fragments, packaging waste, wet wipes, and similar debris are known to be directly ingested by gulls or used as nesting material. These materials may pose several risks to chicks, including entanglement, injury, restricted mobility, infection, ingestion, impaired development, and, in severe cases, mortality. In addition, the fragmentation of plastics into macroplastics and microplastics under environmental conditions may increase the risk of physical, chemical, and microbial exposure for both adult individuals and chicks. Therefore, the study conducted on Akliman Gull Island aims to evaluate, at the level of preliminary findings, the possible effects of anthropogenic materials found in nests on chick health and nest ecology, together with basic reproductive parameters. Within the scope of the project, observational studies began in mid-February, while systematic field studies started at the end of March, and the study is still ongoing. Based on its habitat characteristics, Gull Island was divided into three main habitat types: wooded, grassy, and rocky areas. By the field survey conducted at the end of May, a total of 154 nests, 368 eggs, and 146 gull chicks had been recorded on the island. In addition, 52 dead eggs were documented. During field observations, cannibalistic behaviour was commonly observed on the island, particularly attacks by neighbouring adult individuals on chicks located in other nests or near nest sites. In this process, the number of detectable dead chicks was determined as 19. As the study continues, these data will be evaluated together in relation to habitat type, nest characteristics including length, width, and depth, egg parameters including width, length, and weight, chick parameters including body weight, and the presence of anthropogenic waste. This project is supported by the Scientific Research Projects Coordination Unit of Sinop University under project code EĞTF-1901-25-010.

Keywords: Gull, Anthropogenic waste, Pollution, Macroplastic, Microplastic, Bird Health

