

FINAL REPORT

SMM Grants in Aid of Research 2021

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Application of drones to document the impact of whale-watching boats on the behavior of gray whales (*Eschrichtius robustus*) in a nursing lagoon of Baja California

Our study was conducted in the Ojo de Liebre Lagoon, Baja California from March 7th to March 10th, 2023. Utilizing a Mavic Pro and inspire DJI drone, we executed a total of 16 flights above gray whales, capturing more than 4 hours of footage, highlighting the feasibility of collecting large amounts of data in a short amount of time.

Throughout our observations, we documented a remarkable total of 156 gray whales in only 4 days, each displaying a diverse range of behaviors. These behaviors included interactions such as rubbing against boats, spy hopping, breaching, mating, nursing and way more! Notably, we successfully flew the drone above mother-calf pairs, and we are currently in the process of analyzing the collected information.

Furthermore, we took photographs for future identification purposes, and it is worth noting that our collaborators from the GEMM lab at Oregon State University made an intriguing discovery. They identified two matches between the gray whales we encountered and the Pacific Coast Foraging Group! We are really looking forward to continuing with this project!