The Marine Mammal Center®

To: Adrienne Thomas, NOAA PRA Officer (NOAA.PRA@noaa.gov)

Re: OMB Control Number 0648-0084

Comment from Dr. Gina Lonati on behalf of The Marine Mammal Center (Sausalito, California):

Regarding the proposed change:

> "…[W]e propose to change the estimating and reporting of takes during uncrewed aircraft system (UAS) operations in MMPA Section 104 permit applications to follow the guidance for vessel or ground-based activities (**within 100 yards for baleen and sperm whales and 50 yards for other cetaceans and pinnipeds**), rather than the current 1,000 feet guidance used for crewed aircraft. This change will include additional guidance in MMPA Section 104 permit application instructions that will improve take number estimates and reporting. The intent is to reduce burden on applicants, improve the reasonableness of take estimates, and increase the accuracy of their subsequent reporting. These proposed changes will be included in all instructions involving Level B harassment of marine mammals in the wild, including MMPA permit applications for scientific research and enhancement, commercial and educational photography, and public display (those authorizing capture in the wild); and MMPA Letters of Intent under the General Authorization for scientific research."

As a drone pilot with >65 hours of flight time over marine mammals (including pinnipeds, odontocetes, and mysticetes), I generally support reducing the distance threshold for a take during UAS operations from the current 1,000 feet. Previous research has demonstrated how the signal strength of UAS noise dissipates underwater and is usually below the auditory threshold of cetaceans (Christiansen et al. 2016). Studies have observed no behavioral changes of southern right whales, gray whales, humpback whales, bowhead whales, and blue whales to UAS operations, including low-altitude flights for blow sampling (reviewed in Afridi et al. 2025; see also Domínguez-Sánchez et al. 2018; Pirotta et al. 2017). Anecdotally, colleagues and I have only occasionally observed whales rolling, accelerating, or turning during UAS operations below 20 m (66 ft) altitude, though these behaviors are difficult to attribute to the UAS versus the nearby vessel or other whales in the area. Approaching whales from behind (rather than from the head) seems to lessen the likelihood that a whale will respond to a UAS. In my opinion, a 100-yard (300 ft) threshold is generous, and I am supportive. Further reducing the threshold to 50 yards (150 ft) could also be appropriate, though perhaps not for more sensitive individuals like mom-calf pairs.

Odontocetes and pinnipeds, however, seem more sensitive to UAS operations and display more pronounced (though variable) behavioral reactions at lower altitudes. It is possible that they respond to the visual stimulus of the UAS as well as the auditory stimulus. Reactions are often context-dependent, with animals in groups or breeding colonies responding more strongly than individuals (Aubin et al. 2023; Giles et al. 2020; Pomeroy et al. 2015). Giles et al. (2020) recommended approach distances of 30-50 m (98-164 ft) to minimize avoidance behaviors of bottlenose dolphins; Pomeroy et al. (2015) observed reactions of gray seals up to 70 m (230 ft) away, depending on breeding status and drone size; Aubin et al. (2023) recommended a lower altitude limit of 25 m (82 ft) for beluga whales. A threshold of 50 yards (150 ft) for a take may be on the border of potential disturbance to these animals, and I suggest increasing it to 100 yards (300 ft), to encompass the variability among species, individuals, and situations.

In summary, I believe that **a 100-yard threshold for a take during UAS operations is appropriate for mysticetes, odontocetes, and pinnipeds**. Having a single limit for all species may be easier for operators and messaging, as well.

Signed:

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Literature Cited:

Afridi, Saadia, Lucie Laporte-Devylder, Jenna M. Kline, Samuel G. Penny, Kasper Hlebowicz, Dylan Cawthorne, and Ulrik Pagh Schultz Lundquist. 2025. “Impact of Drone Disturbances on Wildlife: A Review.”

Aubin, Jaclyn A., Marie-Ana Mikus, Robert Michaud, Dan Mennill, and Valeria Vergara. 2023. “Fly with Care: Belugas Show Evasive Responses to Low Altitude Drone Flights.” *Marine Mammal Science* 39(3):718–39. doi:10.1111/mms.12997.

Christiansen, Fredrik, Laia Rojano-Doñate, Peter T. Madsen, and Lars Bejder. 2016. “Noise Levels of Multi-Rotor Unmanned Aerial Vehicles with Implications for Potential Underwater Impacts on Marine Mammals.” *Frontiers in Marine Science* 3. doi:10.3389/fmars.2016.00277.

Domínguez-Sánchez, Carlos A., Karina A. Acevedo-Whitehouse, and Diane Gendron. 2018. “Effect of Drone-Based Blow Sampling on Blue Whale (*Balaenoptera Musculus*) Behavior.” *Marine Mammal Science* 34(3):841–50. doi:10.1111/mms.12482.

Giles, Anna B., Paul A. Butcher, Andrew P. Colefax, Dan E. Pagendam, Maddison Mayjor, and Brendan P. Kelaher. 2020. “Responses of Bottlenose Dolphins (Tursiops Spp.) to Small Drones.” *Aquatic Conservation: Marine and Freshwater Ecosystems* 2020:1–8. doi:https://doi.org/10.1002/aqc.3440.

Pirotta, Vanessa, Alastair Smith, Martin Ostrowski, Dylan Russell, Ian D. Jonsen, Alana Grech, and Robert Harcourt. 2017. “An Economical Custom-Built Drone for Assessing Whale Health.” *Frontiers in Marine Science* 4:425. doi:10.3389/fmars.2017.00425.

Pomeroy, P., L. O’Connor, and P. Davies. 2015. “Assessing Use of and Reaction to Unmanned Aerial Systems in Gray and Harbor Seals during Breeding and Molt in the UK.” *Journal of Unmanned Vehicle Systems* 3(3):102–13. doi:10.1139/juvs-2015-0013.