**KEEP AN EYE ON ME: USING UNDERWATER PHOTOS AND VIDEO FROM CITIZEN SCIENCE TO EVALUATE PREVALENCE OF INJURY PYGMY KILLER WHALES (*FERESA ATTENUATA)* IN HAWAIʻI**

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ABSTRACT:

Assessing injuries and body condition of cetaceans has often been limited by what can be seen from the surface; while photos contributed from the public can help fill gaps in sighting histories, the recent increase in the use of inexpensive high-resolution underwater cameras allow better assessment of an animal’s overall health. Underwater photos and video taken primarily from citizen science contributions off Oʻahu and Hawaiʻi from 2006-2018 were used to examine the origin (anthropogenic or natural), type (using 10 predefined categories), severity (from 1, minor to 4, severe) and prevalence of external injuries in 55 individual pygmy killer whales known to be resident to the islands. Out of 39 encounters with 2,343 good quality underwater photos, 124 injuries were recorded and all individuals had at least one injury (mean=3.2, SD=1.2). Injury severity ranged from 1-3 (mean=1.3*)*, and did not change significantly when re-sighted (mean=1.5*)*. Only 15.8% of injuries recorded underwater were completely visible in encounters with surface photos (n=33), revealing how many injuries may otherwise go undetected. Although naturally occurring, cookie-cutter shark (*Isistius* sp) bite scars (91% of individuals) and conspecific rake marks (85% of individuals) were most frequently observed, while 55% of individuals had deep linear and/or mouthline scars (43%), possibly from interactions with fishing gear. Two individuals with bullet-shaped wounds not visible from the surface, and one with a propeller strike wound, show additional evidence of interactions with humans. Only 8% of the individuals in our photo-ID catalog were evaluated and thus underrepresent the number of individuals with likely anthropogenic injuries. Underwater citizen science contributions, particularly when combined with surface photos often necessary for identification, can increase documentation of injuries otherwise not visible. Obtaining additional underwater and surface imagery would allow for a better assessment of injuries from both natural and anthropogenic sources.