Hawaiian False Killer Whale Mouthline and Dorsal Fin Injuries from Fisheries Interactions

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Monitoring bycatch in fisheries is essential for effective conservation and fisheries sustainability. False killer whales (*Pseudorca crassidens*) in Hawai'i are known to interact with both commercial and recreational fisheries, but limited observer coverage obscures the ability to document interactions and assess bycatch rates. Here, we assess fisheries interactions using photographic evidence of dorsal fin and mouthline injuries for three false killer whale stocks that vary in their spatial overlap with fisheries. Photographs from 504 individuals documented from 1999–2021 were scored for injuries to determine their consistency with fishery interactions. For individuals with both dorsal fin and mouthline photos available, the endangered main Hawaiian Islands (MHI) stock had the highest rates of fisheries-related injuries (28.7% of individuals), followed by the pelagic stock (11.7%), while no individuals from the Northwestern Hawaiian Islands stock with both photo types had fisheries-related injuries. Mouthline injury rates were known to be negatively biased, as the median percentage of mouthline visible ranged from 50-60% among stocks. Females were significantly more likely to have fisheries-related injuries to the dorsal fin (17.4%) than males (5.3%), although rates of mouthline injuries were similar (females-17.8%; males-12.2%). Frequency of fisheries-related injuries among social clusters within the MHI stock ranged from 19.4% to 38.2% of individuals. Some individuals from the MHI stock were documented with multiple fisheries-related injuries acquired on different occasions, indicating repeated interactions with fisheries throughout their lives. Individuals with injuries consistent with fishery interactions spanned all age classes; the youngest individuals with injuries were estimated to be two years old. Fisheries-related injuries were acquired throughout the study period, indicating that this is an ongoing issue, and not a legacy of past interactions. Our results suggest that monitoring of fisheries that overlap the range of the MHI stock is needed, particularly given that the stock is endangered and declining.