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Using photo-identification data to investigate movement and occurrence patterns of short-finned pilot whales (*Globicephala macrorhynchus*) in the eastern North Pacific

Photo identification is a widely employed method to estimate population size and identify individual marine mammals. Here, a photo-identification catalog was created for short-finned pilot whales (*Globicephala macrorhynchus*) sighted along the U.S. west coast between 1980 and 2015. This species was effectively gone from the California coast for about a decade after the 1982-1983 El Niño but has recently started to reappear. This study compared individuals recently photo-identified with those identified previously, including some from prior to the 1982-83 El Niño. To create the catalog, high quality images of pilot whales from 20 sightings (1996-2015) and six years of study at Santa Catalina Island (1983-1989) were compiled and used for comparison across sightings. This resulted in the identification of 207 individuals, including 22 short-term and long-term matches between groups sighted off Southern California and groups sighted off Baja California. No matches were found, however, between individuals recently sighted and those identified prior to the El Niño. Large sightings (occasionally as great as 200 whales) suggest that a sizeable portion of this population (estimated at 350 pilot whales (CV=0.48) in 2007) can sometimes be temporarily associated. Continued monitoring will help fill key data gaps on the distribution, occurrence, potential threats and demographic trends of pilot whales in this region.