

**Developing and testing the efficacy of a relational matching database for
Humpback Whales (*Megaptera novaeangliae*) off NE Vancouver Island**

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Humpback whale (*Megaptera novaeangliae*) populations in the North Pacific Ocean have been steadily increasing over the past 50 years after being hunted to near extinction. Recovery of whale populations presents an opportunity to investigate the methods used to estimate the abundance of cetacean species at risk. Photo identification is a common method used to estimate distribution and abundance of humpback populations. Individuals are identified by the distinct markings on the ventral surface of their tail flukes. The study objective was to produce a digital, efficient method of photo identification for humpback whales seen off Northeastern Vancouver Island. A relational matching database was founded on the catalogue “Humpbacks of Northeastern Vancouver Island” by the Marine Education and Research Society, using FileMaker Pro™ software. A selection of known and unknown whales were supplied to users to match using hand-matching and database-aided methods. Time trials were done to compare the efficacy of completing a random sample of matches using both methods. The average time for completing 12 random matches using database-aided methods was faster than using hand-matching methods with the same 12 individuals. With a larger sample size and further development of the database program, this method could provide an efficient way to expedite the time-consuming process of matching individuals, allowing researchers to spend more time developing informed research questions about the increasing humpback population.