the northern coast of Tasmania and along the eastern coast of New Zealand. All predicted habitat patches fell within the core coastal range for right whales in this region and in several locations the models identified specific bays and inlets known to be active calving habitats. This suggests a high degree of similarity between calving habitats of right whales in the South Pacific and North Atlantic. However, the models failed to detect the southernmost calving grounds, including Auckland Island and the southeast coast of Tasmania. Water temperatures in these areas are colder than what is common on the Atlantic calving grounds, and fall outside the optimal temperature ranges in the models, so it appears that southern right whales easily tolerate cooler waters than are available to their northern counterparts.

Satellite-tagging and photo-ID provide further evidence of multiple island-associated populations of common bottlenose dolphins in the main Hawaiian Islands

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In 2011 the National Marine Fisheries Service recognized four separate island-associated stocks of common bottlenose dolphins within the main Hawaiian Islands, based on photo-identification studies over a 7-year period (2000-2006) as well as genetic analyses of skin biopsy samples. However, uncertainty remains regarding movements outside of the photo-ID study areas due to spatial biases in sampling effort, particularly the general restriction of small-boat based sampling efforts to the leeward sides of the islands. Since these earlier studies, we have obtained an additional seven years of photo-identification data (2007-2013) from among all the island areas, and deployed satellite tags on nine individual bottlenose dolphins from three of the four stocks (Kaua'i/Ni'ihau, 4-islands, Hawai'i Island). Here we assess movements using photo-ID and satellite tag data to ascertain whether these new data sets support or refute the designation of four island-associated stocks. The photo-ID catalog spanning 2000-2013 includes 1,130 identifications of 509 distinctive individuals. Earlier analyses documented no movements among island areas; with the larger sample size, movements of one individual from O'ahu to Moloka'i, across stock boundaries has been documented, although this individual was not observed associating with the main social cluster documented from the 4-island stock. Satellite tagged individuals traveled an average of 1,208 km with average tag attachment durations of 18 days (range 9-34), yet median distance from deployment location was only 21 km (maximum distances from deployment location range = 38.6 to 61.4 km). All tagged individuals remained within their recognized stock boundaries, and individuals used both leeward and windward sides of the islands, suggesting the spatially-biased boat-based efforts sample individuals that use both sides of the islands. Our results support earlier assessments of limited movements among island areas and the existence of multiple island-associated populations of this species in the Hawaiian Archipelago.

First evidence of that marine protected areas can work for marine mammals: Hector's dolphins and the Banks Peninsula Marine Mammal Sanctuary

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Marine Protected Areas (MPAs) have been widely advocated for the protection of threatened marine mammals, but previously there was no empirical evidence that they are effective. In 1988, the Banks Peninsula Marine Mammal Sanctuary was established to reduce gillnet mortalities of Hector's dolphin (*Cephalorhynchus hectori*), an endangered dolphin species endemic to New Zealand. Over 21 years of photo-identification surveys of Hector's dolphins were carried out along standardised transects from small outboard-powered boats, resulting in photographic "capture" of 462 reliably marked individuals. Mean annual survival during the pre-sanctuary and post-sanctuary periods was estimated by applying a Bayesian random effects capture-recapture model to the data. Population growth was estimated from population simulations using a stage-structured matrix model. We estimate a 90% probability that survival has improved between the pre-sanctuary and post-sanctuary periods, with estimates of mean survival probability increasing by 5.4%, (from 0.863 to 0.917). This improvement in survival corresponds to a 6% increase in mean annual population growth (from 0.939 to 0.995). The improved estimate, however, remains < 1, suggesting that protection is insufficient to ensure population recovery. Our results provide evidence that area-based protection measures can be effective for marine mammals. We note that estimating demographic parameters in marine mammals requires many years of data to achieve sufficient precision to detect biologically meaningful change. Therefore Marine Protected Areas should be established with a commitment to long-term monitoring.

Mitochondrial DNA analysis of dolphin populations in Amazonia: do the Madeira River rapids delimit the distribution of *Inia geoffrensis* and *I. boliviensis*?

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The genus *Inia* comprise two freshwater species of cetacean found in the Amazon and Orinoco river basins. *Inia geoffrensis* is widely distributed, while *I. boliviensis* is restricted to the Bolivian portion of the Amazon basin. In Bolivia, it is drained by the Guaporé, Mamoré, Beni, Madre de Dios and Abunã rivers, which upon their confluence form the Madeira river. Immediately after the confluence of these rivers, on the Madeira descends a series of 18 rapids, which are assumed to be an impermeable barrier to the two dolphin species. In this study, we tested if the Madeira River rapids do in fact delimit the distribution of the two dolphin species. We analysed 48 individuals of *I. boliviensis* from upstream, and 75 putative individuals of *I. geoffrensis* from downstream of the rapids for three mitochondrial markers. We found no evidence that the upper Madeira River rapids form a barrier to the distribution of the two species. We report, however, an alternative zone of putative demarcation of the two species near the town of Borba, 870 km downstream of the rapids where both species are present. We also observed that the rapids limit but do not impede gene flow between the upstream and downstream populations of *I. boliviensis*, and that gene flow is not symmetric. Our research highlights the importance of understanding river barriers in conservation planning, particularly in regard to anthropogenic alterations to the hydrodynamic regime and ecology of the river.