

were automatically detected using Kerns classifier in CPOD.exe software and only high and moderate quality trains were used in analysis. Species were identified using the existing filters in the software. Both species were detected regularly throughout the bay. Highest abundance for both species was observed in the western part of the bay, mean detection positive hours per day being 4.3 for white-beaked dolphins and 18.0 for harbour porpoises. White-beaked dolphins showed a strong diurnal pattern being present, or acoustically active, almost only during night time and early mornings. Only very few detections were made between 10am and 7pm. Harbour porpoise did not show any clear diurnal patterns. Preliminary analysis also showed possible avoidance between the species; during white-beaked dolphin presence no harbour porpoise detections were made.

'Observer effect' from an aerial platform during marine mammal focal observations on Risso's dolphins, short-beaked common dolphins and killer whales in the Southern California Bight

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We video-documented the behavior of Risso's dolphins, short-beaked common dolphins (SBCD) and killer whales in the Southern California Bight (SCB) (2008-2012) to assess whether the observation aircraft (fixed-wing Partenavia) affected selected behavioral variables. Focal observations were conducted from the aircraft to examine potential changes in group cohesion (minimum and maximum distance between nearest neighbors in body lengths [BL]) and heading reorientation rate, to the plane circling at altitude ~700, 1000, 1500 and 2000 feet (ft). Dependent parameters were selected because previous studies show they are indicative of disturbance to anthropogenic or natural threatening stimuli. Five focal sessions were analyzed: two Risso's dolphins, two SBCD, and one killer whale. A total of 67 minutes (min) was spent observing Risso's dolphins, 65 min SBCD and 29 min killer whales. Focal sessions were pooled by species and data were divided into four plane altitude categories: < 750 ft, 750–1250 ft, 1250–1750 ft, and >1750 ft. Analysis of variance (ANOVA) was used to test the null hypothesis that maximum cohesion and reorientation do not vary significantly based on plane altitude. Results suggest that our small plane circling at radial distance 750-1000 ft and altitude 750-2000 ft did not cause measurable changes in cohesion and reorientation, of the three species (based on small sample size). For cohesion (C) and reorientation (R) no significant effects were found (Risso's dolphin: $p = 0.091$ and 0.258 ; SBC: $p = 0.068$ and 0.847 ; killer whale: $p = 0.270$ and 0.060 [C and R, respectively]). Results suggest that "undisturbed" baseline observations can be made on these species from our aircraft within parameters examined. This is important when using the aircraft to assess baseline marine mammal behavior and potential effects of anthropogenic activities relative to management and conservation needs.

Variation in lipid chemistry of odontocete acoustic fats may affect gas loading during dives

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Managing gas dynamics is a physiological requirement of deep-diving, air-breathing animals. Previously, lung collapse and blood shunting were thought to allow marine mammals to avoid gas-related stresses at depth, but recent studies have shown that

tissues may experience high nitrogen gas loading on a routine basis. Prior research has focused on blubber as a potential sink for nitrogen during a dive, and has demonstrated that lipids with high wax ester (WE) content exhibit higher nitrogen solubilities than those dominated by triacylglycerols (TAG). However, other fat bodies, specifically the cranial acoustic fats, may also be substantial nitrogen sinks due to their proximity to air-filled sinuses and complex vasculature. We aimed to connect lipid chemistry with nitrogen solubility, thereby predicting potential nitrogen storage within blubber, melon and mandibular fats. Samples from five species representing four families (*Stenella frontalis*, *Tursiops truncatus*, *Kogia breviceps*, *Physeter macrocephalus*, *Mesoplodon densirostris*) were analyzed for lipid composition. Although WE was present (>95%) in blubber of only *Kogia*, *Physeter* and *Mesoplodon*, the acoustic fat samples of all species contained WE (5-93%), predicting higher nitrogen solubility in these tissues compared to delphinid blubber. Direct measures of nitrogen solubility will be used to test this hypothesis. Interestingly, there was considerable variation in WE content of acoustic depots within individuals, with the intra-mandibular fat typically containing less WE than melon or extra-mandibular fat. The functional significance of this difference is unknown, but as this inner region is highly vascularized, lower WE content may help protect against high nitrogen loads. As this study expands its phylogenetic breadth, it will link lipid chemistry, diving behavior and gas physiology. Changes in dive patterns in response to underwater noise have been documented, so this information will become important in assessing the impact of altered diving gas dynamics on different species.

How does whale watching influence passenger knowledge and conservation attitudes?

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Whale watching allows a range of people the opportunity to view marine mammals in their natural habitat. These wildlife tours provide passengers with not only an emotional experience, but oftentimes an educational and conservation-oriented one as well. In Juneau, Alaska, whale watching is a major contribution to the tourism industry and attracts hundreds of thousands of tourists during the summer season. During this study, whale watch passengers in Juneau were surveyed after their tour to measure their knowledge of and attitudes towards whales and whale watching, as well as how the whale watch itself impacted them. Surveys were conducted in either a multiple choice written survey or an interview-based survey. There were 96 paper-and-pencil surveys and 24 interviews conducted. The majority of passengers interviewed were from private charter vessels ($n = 90\%$). Sixty percent of passengers reported that the majority of their knowledge on whales came from the whale watch itself. Passengers with previous whale watching experience also had more knowledge on whale watching guidelines ($p < 0.05$). Passengers who felt the importance of seeing whales in the wild were more likely to tell others about what they learned ($p = 0.047$) and join or donate to an environmental organization ($p = 0.015$). Interview results revealed that passengers whom had previously been to a marine park would prefer going on another whale watch rather than visiting a marine park, believing they had a better experience whale watching. This study has implications for understanding the conservation value of whale watching. Further research should involve administering the surveys on a wider variety of whale watching vessels to investigate the attitude of whale watch goers by boat size or number of passengers.

Distribution of ringed seal haul-out sites in Russian part of the Eastern Baltic: outlines for a monitoring.

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