

## Comparison of Blue and Fin Whale Behavior and Group Characteristics in the Southern California Bight (SCB) 2008-2012

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Baseline undisturbed behavior and social patterns of blue (*Balaenoptera musculus*) and fin whales (*B. physalus*) are not well described and are needed to identify and understand potential effects of anthropogenic activities in the SCB. In 2008-2012, 72,467 km of aerial line transect and focal-follow effort was conducted in the SCB. Initially observed location, group size, behavior state, heading, and minimum and maximum inter-individual dispersal distance were recorded. Focal groups were circled for 10-60+ minutes and videotaped from outside the plane's sound cone to avoid disturbance. A total of 122 fin whale sightings (208 individuals) and 65 blue whale sightings (104 individuals) were made. Behavior, occurrence and distribution were related to season, location, bathymetry, and time of day. Blue whales were seen only from summer-fall and concentrated primarily close to shore (< 10 km). Fin whales were seen year-round up to 70 km from shore. Both species were associated with steep slopes. During summer, blues (n=61) were more common than fins (n=50); in fall, fins (n=73) were significantly more common than blues (n=4). Mean group size was 1.6 for blues and 1.9 for fins. Blues swam significantly farther apart (12.6 body lengths [BL]) than fins (5.1 BL). Initially observed behavior was usually travel for both blues (80%) and fins (92%). Mill was more common for blues (20%) than fins (7%). Surface-activity was only seen among fins (1%). Both species socialized (touched) in fall but not summer; foraging occurred summer-fall. No significant relationships were found for headings. Dive/respiration/behavioral event rates were also collected. Data represent the most extensive record of systematic undisturbed behavior on these species in and the SCB, including social interactions not previously documented in this region.