

perspective facilitates descriptive and quantitative analyses of behavior previously little described for typically offshore species: whale calf nursing/back-riding, group cohesion, social affinity/composition, group shape and dimension “envelope”, cues leading to group behavior changes, mixed species interactions, individual whale respiration/dive rates, etc. Behavior differs significantly by species, calf presence, time of day, time of year, subregion, water depth, slope, distance from shore, and presence of other species. For example, Risso’s dolphins were 13 times more likely to rest than common dolphins, and dolphin group size increased significantly with calf presence. As species body size decreases, group size increases and individuals decrease distance between neighbors. We hypothesize that inter-specific differences of spacing and behavior are related to predation pressure, food resources, and communication capabilities/needs that lead to occupation of different niches within the same ecosystem.

**90\* RESOURCE SELECTION FUNCTION ANALYSES: ASSESSING HABITAT USE RELATIVE TO BEHAVIOR AND RESOURCE CHARACTERISTICS/AVAILABILITY FOR FIVE COMMON MARINE MAMMAL SPECIES IN THE SOUTHERN CALIFORNIA BIGHT**

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In 2008-2012, fifteen aerial surveys of systematic line-transects were conducted off Southern California to obtain baseline data on occurrence, distribution, density, abundance and behavior of marine mammals (MM). Site characteristics at MM locations were analyzed by estimating Resource Selection Functions (RSF) to quantify and describe baseline habitat use as a precursor to assessing potential changes in these patterns relative to anthropogenic activities, including U.S. Navy training exercises. For RSF analyses, habitat characteristics at MM locations were contrasted to characteristics at 35,167 randomly selected “available” locations in the study area. RSFs were estimated via the use-availability approach and predicted probability of species occurrence at all locations in the study area as a function of seven covariate habitat variables. Models (n = 60 fin and 40 gray whale groups, 135 Risso’s and 31 bottlenose dolphin groups, 157 California sea lion groups) were fit for three behavior states (mill, rest/slow travel, medium/fast travel) and combined to document behavior/habitat associations. Species differed significantly in habitat use and corresponding habitat associations based on behavior. Medium-fast traveling fin whales were associated with deep water over flat basins/plateaus (p=0.0017). Fin whales also preferred the San Nicolas Basin (p=0.0517). Risso’s dolphins rested/slow traveled more in deep vs. shallow water (p=0.0803). Overall, resulting habitat-use patterns demonstrate fast movement across basins and rest/slow travel over ridges where upwelling is most likely to occur. The RSF approach quantitatively demonstrates the importance of considering behavior and social context in habitat selection and use.

**91 A HITCHHIKER’S GUIDE TO THE SOUTHERN CALIFORNIA BIGHT; ARE SIGHTINGS OF XENOBALANUS GLOBICIPITIS ON THE RISE?**

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The pseudostalked barnacle *Xenobalanus globicipitis* is a cosmopolitan species and an obligate phoretic commensal that attaches itself to cetacean hosts. The species’ distribution includes all of the world’s oceans with a latitudinal range from polar regions to the tropics and 34 documented host species range in size from the blue whale (*Balaenoptera musculus*) to the vaquita (*Phocoena sinus*). An increase in colonization by *X. globicipitis* could be an important indicator of population health as susceptibility has been linked to immune system impairment. Anecdotal observations indicate a dramatic increase in sightings of *X. globicipitis* on several cetacean species in the Southern California Bight. Sets of photos of long-beaked common dolphins (*Delphinus capensis*) obtained opportunistically in the Santa Barbara

**SOUTHERN CALIFORNIA ACADEMY OF SCIENCES**

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**MAY 2-3, 2014**



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