

## **Temporal patterns of odontocete vocalizations in Onslow Bay, North Carolina**

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Stationary passive acoustic monitoring allows researchers to examine diel, seasonal, and inter-annual trends in vocalization patterns of odontocete cetaceans. We used bottom-mounted High-frequency Acoustic Recording Packages (HARPs; 0.01-100 kHz bandwidth) to examine temporal patterns of odontocete vocalizations in Onslow Bay, NC, over three deployment periods: (1) October 10, 2007 – January 16, 2008 (Site A); (2) May 30 – September 10, 2008 (Site B); and (3) April 24 – August 9, 2009 (Site A). We used Long-Term Spectral Averages (LTSAs) to locate vocal bouts within the HARP datasets and found hundreds of odontocete vocal bouts from several species, including sperm whales (*Physeter macrocephalus*), pilot whales (*Globicephala macrorhynchus*), Risso's dolphins (*Grampus griseus*), and unidentified odontocetes. The daily duration of these vocal bouts increased from mid-October 2007 to mid-January 2008, but we found no discernable pattern from June to September 2008 or from April to August 2009. When all vocal bouts were considered, there was a significant increase at dawn from October to January at Site A (Kruskal-Wallis,  $p < 0.001$ ), an increase at night from June to September at Site B (Kruskal-Wallis,  $p < 0.001$ ), and an increase at night from April to August at Site A (Kruskal-Wallis,  $p < 0.001$ ). These diel differences may represent behavioral differences among species or a seasonal change in vocal behavior within species. In addition, we found a significant nocturnal increase in the occurrence of Risso's dolphin click bouts (Kruskal-Wallis,  $p < 0.001$ ) and sperm whale click bouts (Kruskal-Wallis,  $p < 0.001$ ), perhaps because these species forage on squid that exhibit diel vertical migrations. These time series of acoustic recordings allow us to examine temporal patterns of odontocete vocalizations on monthly and daily time scales. Future deployments will occur year-round in the same locations, providing a more complete picture of the occurrence of vocalizing odontocetes in Onslow Bay.

## **A tribute to Ric Petricig and his research on strand-feeding dolphins in Bull Creek, South Carolina**

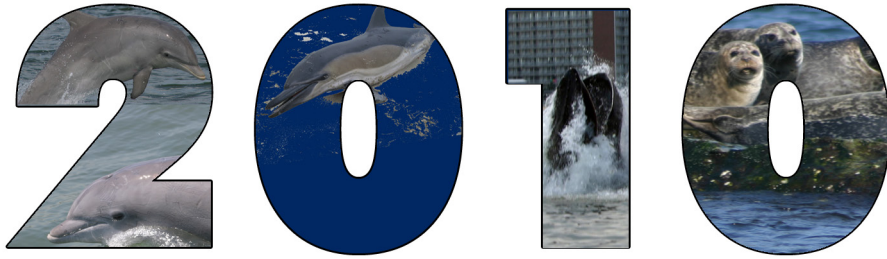
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Dr. Richard Petricig was a founding member of the original Atlantic Coastal Dolphin Conference (ACDC) in 1993, which eventually morphed into the annual SEAMAMMS meeting. Though never published, his 1995 dissertation on strand-feeding dolphins in Bull Creek, South Carolina, is by far the most comprehensive work on this unique and fascinating behavior. This presentation is a review of that excellent work, and a tribute to Ric, who passed away in December of 2009.

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