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**Depth, orientation, and acoustics of sperm whales (*Physeter macrocephalus*) under natural and depredation foraging conditions in the Gulf of Alaska**

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In July 2007 bioacoustic tags were attached to adult sperm whales in the Gulf of Alaska under both natural foraging conditions, and situations wherein the animals were depredating sablefish from commercial longlining vessels. A small Rigid-Hull Inflatable was used to approach and attach a suction-cup acoustic recording tag on 13 occasions and stayed on animals for a total of 168 hours, yielding 80 hours of depth, orientation, and acoustic data. These results, combined with passive acoustic tracking and underwater video-camera data, indicate that sperm whales depredate at depths shallower than 50 m, compared to natural foraging depths of 300-400 m in the area. During depredation the animals demonstrate changes in pitch and roll that are greater when compared with normal foraging behavior. Observations on the acoustic behavior of the animals are noted as well. The fact that these normally deep-diving animals depredate so close to the surface has interesting implications for both depredation-reduction strategies and biosonar research. [Work conducted under the SEASWAP program, supported by the North Pacific Research Board and the National Geographic Society]