ACOUSTICS2008/3079
Annotated odontocete recordings for developing automated detection and classification methods

David Mellinger, Holger Klinck, Sara Heimlich and Sharon Nieukirk
Oregon State Univ. and NOAA, 2030 SE Marine Science Dr., Newport, OR 97365, USA

A free archive has been developed for research in automatic detection/classification of cetacean sounds. The archive contains many datasets, with each dataset comprising recordings and metadata for a given species and geographic area. This archive differs from other sound archives in three important respects: (1) Recordings are annotated to indicate where in time and frequency the sounds of a given species occur. These annotations are done manually to remove the bias of any automatic detection system. (2) The archive deliberately includes poor-quality recordings, recordings encountered in any realistic detection/classification application. (3) Since performance of detection/classification methods depends heavily on the SNR of target sounds, the archive includes each vocalization's SNR so performance can be effectively represented. Until recently, most recordings in the archive were of baleen whales [Mellinger and Clark, Applied Acoustics 67(11), 2006]. However, datasets for toothed whales and dolphins are now being incorporated. Initial efforts have been focused on beaked whales because of high interest for management and because of the difficulty of visual detection. To date, recordings of Cuvier's, Blainville's, Baird's, and Arnoux's beaked whales have been entered into the archive, as have those of bottlenose whales, pilot whales, and some delphinid species. Further contributions are welcomed.