

Newman, K. & Markowitz, H. (1993). **Echolocation by killer whales (*Orcinus orca*) while in pursuit of live fish**. Abstract from Marine Mammal Conference. Abstracts of Tenth Biennial Conference on Marine Mammals, Galveston, Texas, USA.

#### **ABSTRACT**

Echolocation use by cetaceans has been postulated to be functional in a natural environment, but might not be used as frequently in a captive setting where the water is clear and the whales are handfed. The object of this study was to see if captive *Orcinus orca* used echolocation when presented with live fish. We fed live coho salmon (*Onchorhynchus klautch*) to two captive killer whales at Marine World Africa, U.S.A., Vallejo, CA. The experiment was videotaped and recorded on a high frequency Racal 4D store four-track tape machine at 30 inches per second. A hydrophone array, consisting of a B&K 8104, a B&K 8105 and a Magnavox, was used to receive the sounds. Recordings of echolocation clicks were slowed down and analyzed with a Kay Elemetrics DSP 5500 Sonagraph and a MacAdios sound analysis program.

Results of this study demonstrate that captive killer whales will pursue, capture, and eat live fish. The whales in this study used echolocation while in pursuit of fish, as well as at other times. Preliminary analyses of echolocation clicks reveal spectral energy up to 80 kilohertz.

(San Francisco State University, San Francisco CA 94132)

---

ADDED NOTE: Orca are females Yaka (Northern Resident, probable daughter of A8, captured 1969/12/12 at estimated age of 1 year) and Vigga (Iceland, captured 1980/11/19 at estimated age of 1 year).

Orca data supplied by Stefan Jacobs (2012/10/16). [www.orcahome.de](http://www.orcahome.de)