

Summary of conclusions:

Auditory evoked potentials (AEP) were measured in four killer whales (Keto, Skyla, Tekoa, Morgan) at Loro Parque in order to test their hearing. The AEP is a voltage produced by the brain when an animal hears a sound. The same sound (a “click”) was played to all of the killer whales using a sound projector that was attached to the lower jaw with a suction cup. The procedure was conducted with the whales resting out of water. Under this condition, a stereotypical AEP was measured from all of the whales except for Morgan. The AEP was not observed in Morgan at the highest levels that could be transmitted by the sound projector. A similar procedure was performed with Morgan and three other whales (Keto, Skyla, and Victoria) in water. The sound was projected to the whales from an underwater projector while they floated at the surface. Again, the AEP was observed in Keto, Skyla, and Victoria. The AEP was not observed in Morgan, even at the highest levels that could be transmitted by the sound equipment. The absolute hearing loss in Morgan cannot be determined with these methods, but it is at least 30 dB worse than the other whales and may be as severe as complete deafness.

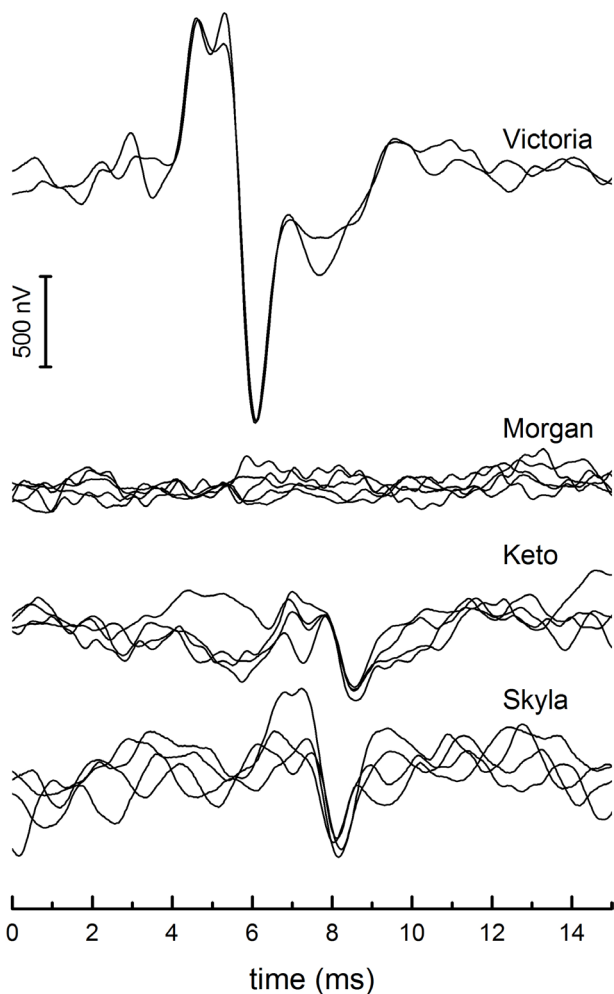


Figure 1.- Results of AEP in water

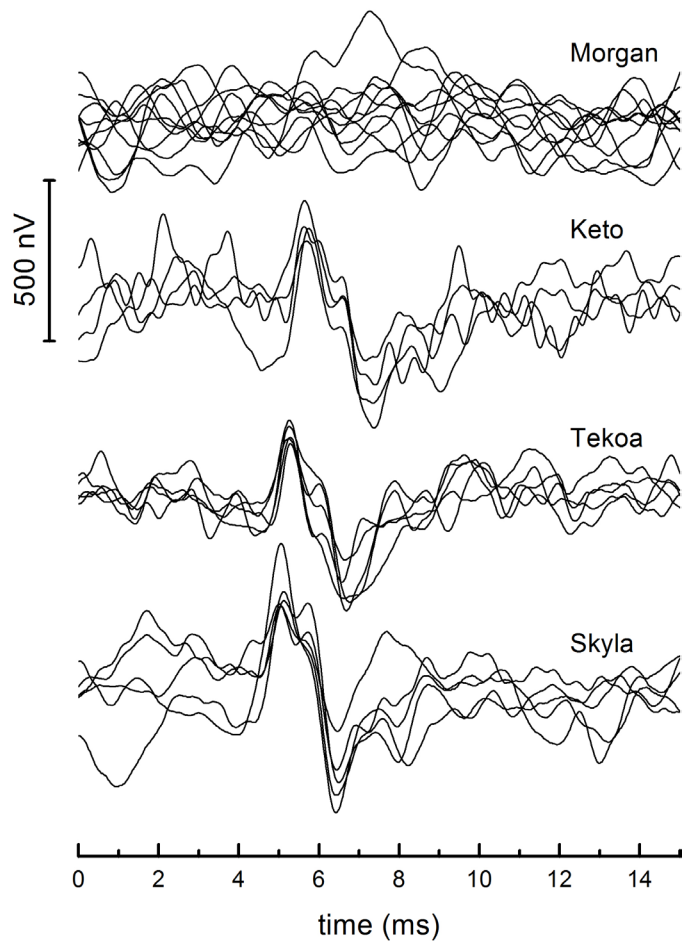


Figure 2.- Results of AEP in air