



Marin Headlands · 1065 Fort Cronkhite · Sausalito, CA 94965
Tel. 415-289-SEAL · Fax 415-289-7333 · www.marinemammalcenter.org

FOR INFORMATION CONTACT:

Jim Oswald – (415) 289-7341 – oswaldj@tmmc.org

Herpes, Genes and PCBs are Factors in Cancer in California Sea Lions

Dr. Frances Gulland to speak at national scientific symposium

(SAUSALITO, Calif. – February 18, 2006) - Dr. Frances Gulland, Director of Veterinary Science at The Marine Mammal Center in Sausalito, California, will speak at the American Association for the Advancement of Science (AAAS) Annual Meeting in St. Louis, Missouri on February 18. In a symposium entitled: *Marine Mammals on the Front Line: Indicators for Ocean and Human Health*, Dr. Gulland will present a look at cancer in California sea lions and in particular, she will explain how PCB contaminants, herpes and genes play a role in cancer development and how this trio interaction is a model for neoplasia in other marine mammals including humans.

California sea lions are abundant on the Pacific coast and feed high on the marine food web shared by humans. Post mortem examinations conducted by The Marine Mammal Center of adult California sea lions following stranding along the central California coast revealed an 18 percent prevalence of cancerous tissue, which is extremely high for a wild animal. The predominant abnormal growth was a poorly differentiated carcinoma of urogenital origin, occurring in sexually mature animals of both sexes. In addition, tumor tissue samples revealed that there is a direct correlation between the otarine herpesvirus-1 (OtHV-1), genetics and polychlorinated biphenyl.

“What we’ve learned in examining the tumors of these sea lions is that PCBs are one factor that influences carcinoma development and that these PCBs are acquired in the sea lions’ diet – a diet that is similar to humans,” said Dr. Gulland. “This is significant because the sea lions are providing us with an early warning of toxic compounds in our food chain.”

The Center collaborated with researchers from University of St. Andrews, Scotland, National Marine Fisheries Service in Seattle and the Institute of Zoology, London, U.K.

Since 1994, Dr. Gulland has provided medical care for thousands of seals and sea lions at The Marine Mammal Center, has published over 100 peer-reviewed articles, and is coeditor of the *CRC Handbook of Marine Mammal Medicine*. She chaired the working group on Marine Mammal Unusual Mortality Events for six years, sits on Recovery Teams for the Hawaiian monk seal and southern sea otter programs, and is a member of the committee of scientific advisors to the Marine Mammal Commission.

The Marine Mammal Center is a nonprofit hospital headquartered in Sausalito, California. Staff and volunteers are dedicated to the rescue and rehabilitation of ill and injured marine mammals, to research about their health and diseases and to public education about marine mammals. Since 1975, more than 11,000 California sea lions, elephant seals, porpoises, and other marine life have been treated, rescued along 600 miles of coastline from Mendocino County to San Luis Obispo County. Staff and volunteers uniquely combine rehabilitation with scientific discovery and education programs to advance the understanding of marine mammal health, ocean health and conservation.

On the Web: www.marinemammalcenter.org

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