

AGENDA

ASSEMBLY BUDGET SUBCOMMITTEE NO. 3 ON RESOURCES AND TRANSPORTATION

ASSEMBLYMEMBER RICHARD BLOOM, CHAIR

WEDNESDAY, MARCH 2, 2016

9:00 AM - STATE CAPITOL ROOM 447

ITEMS TO BE HEARD	
ITEM	DESCRIPTION
INFORMATIONAL ITEM	SEA LION CRISIS: STATE OF STRANDING NETWORK RESPONSE
UPDATE ON SEA LION CRISIS	DR. JEFFREY R. BOEHM, EXECUTIVE DIRECTOR THE MARINE MAMMAL CENTER, SAUSALITO
CASE STUDY OF NETWORK MEMBER	DR. LORRAINE BARBOSA, STAFF VETERINARIAN CALIFORNIA WILDLIFE CENTER, MALIBU
CHANNEL ISLAND FIELD WORK	DR. HENDRIK NOLLENS, LEAD VETERINARIAN SEAWORLD SAN DIEGO'S MARINE ANIMAL RESCUE & REHABILITATION TEAM

Purpose of the Hearing: Last year, the Legislature and the Governor approved \$1 million (General Fund) to the Wildlife Health Center, University of California at Davis, to administer grants to local marine mammal stranding networks to help with the sea lion rescue effort. The purpose of this hearing is to get an update on the sea lion crisis and to learn how these funds were utilized and what on-going needs exist.

Background:

In 2015, against the backdrop of abnormally high sea surface temperatures off the Southern California coast, a heroic effort was underway to rescue and treat an unprecedented and enormous number of stranding California sea lions. Arriving on beaches underweight, starving and prematurely separated from their mothers, the story of these pups begins on the Channel Islands, off of southern California.

A California sea lion pup is typically born in mid-June and is dependent upon his/her mother for several months, approaching a full year. A healthy female California sea lion makes forage trips every several days while nursing to provide for her nutritional needs and to provide adequate nutrition for her pup. The Channel Islands are teeming during the summer months, with tens of thousands of sea lions occupying their shorelines. That's the picture during a typical year. And, sadly, that's not been the case since 2013.

In 2013, the National Oceanic and Atmospheric Administration (NOAA) fisheries declared an unusual mortality event (UME) for California sea lions opening the door to an investigation into its cause. That UME remains open with the years of 2014 and 2015, bringing in striking numbers as well. For the first five months of the year in 2013, 1262 sea lions stranded, followed by 862 in 2014, and a stunning 3340 in 2015. In fact, the number of sea lions that stranded in 2015 during the months of January through May was more than **10 times the average** stranding level for the same 5-month period during 2004 - 2012.

While causes for the mass strandings are still technically under investigation, there is growing consensus that prey availability for nursing females was the primary factor influencing the plight of the pups. Simply put, forage fish such as anchovies, sardines and herring thrive in the cool nutrient-rich waters that upwell along the California coast annually and are lacking when warm waters persist. Heralded in public media as "the blob", a persistent body of warm water stalled along the California coast effectively blocking access to forage fish for nursing mothers for extended periods of time. Being forced to travel further and for longer durations, nursing females would return to the Islands poorly nourished themselves and unable to feed their dependent young. Eventually, these pups would be abandoned outright, or leave the island shores to begin foraging for themselves. Immature, weak, and underweight as they were, they were ill-equipped to sustain themselves and began to appear by the hundreds and then thousands along the Southern and Central California coasts.

Thankfully, there exists a network of centers along the California coast with a shared mission to rescue marine mammals, treat them and release them back to the wild. This work is pursued first and foremost as a humane response to suffering but, undertaken by professionals and guided by science, it offers a first line of information on the state of health of a variety of species, and, indeed, on the state of health of our ocean.

The 2015 season, however, was one for the record books and stressed the network in two primary ways: first, the season began several weeks earlier than is typical and, secondly, with its immense number of patients, the year presented an extraordinary drain on financial and human resources. From San Diego county to Humboldt county, the impact of the UME was felt intensely and each center, large and small, for-profit and not-for-profit, was pushed to accommodate record-setting numbers. Adding insult to injury, unprecedented stranding numbers of Guadalupe fur seals and then Northern fur seals followed their California sea lion kin into centers in the summer and late fall of 2015, faring no better relative, presumably, to forage fish availability.

Now entering its fourth year, the symptoms of the UME continue. Biologists have reported that conditions on the Channel Islands remain dire, with reports of sea lion pups and females being significantly underweight, once again. Stranding network members are currently seeing the beginning of the impact of this new season and have prepared themselves by recruiting and training volunteers, hiring redundant staff, stockpiling equipment, medications and feedfish, and having contingency plans in place for any eventuality.

Panelist Biographies:***Jeff Boehm:***

Dr. Jeffrey R. Boehm joined The Marine Mammal Center as its Executive Director in 2008 from the John G. Shedd Aquarium in Chicago, Illinois where he was the Senior Vice President of Animal Health and Conservation Science, Louis Family Conservation chair, and joint chair for the Great Lakes Conservation Awareness initiative. Dr. Boehm oversees The Marine Mammal Center's Sausalito headquarters and its California-based operations in Monterey, San Luis Obispo, Fort Bragg and its newest facility in Kona, Hawaii. A San Francisco Bay Area native, Dr. Boehm gained his first experience with marine mammals, and was inspired to pursue his ultimate career, when he volunteered as a young adult at The Marine Mammal Center in 1980.

Dr. Boehm is a graduate of the University of California, San Diego, where he received his bachelor's degree, and the University of California, Davis, where he received his degree in veterinary medicine. He is a charter member of the American College of Animal Welfare.

Lorraine Barbosa:

Dr. Lorraine Barbosa first entered the marine mammal field as a research assistant at the Long Marine Lab, where she worked while completing a degree in marine biology at UC Santa Cruz. She went on to obtain her veterinary degree at UC Davis, followed by a Master's in Preventative Veterinary Medicine with a focus on marine mammals. Dr. Barbosa then completed a small animal rotating internship, as well the marine mammal medicine and pathology internship at The Marine Mammal Center in Sausalito. During her career, Dr. Barbosa has also spent time working with marine wildlife in Belize, Argentina, Canada and Chile. She joined California Wildlife Center in June 2015, where she cares for pinnipeds as well as a variety of terrestrial and avian wildlife species.

Hendrik Nollens:

Dr. Hendrik Nollens is the lead veterinarian of SeaWorld San Diego's marine animal rescue and rehabilitation team. Dr. Nollens received his veterinary degree from the University of Gent in Belgium, a master's degree in marine biology from the University of Otago, New Zealand, and a PhD in infectious diseases of marine mammals from the University of Florida. He is a former Clinical Assistant Professor in marine mammal medicine at the University of Florida, and has authored over 30 peer-reviewed papers on various topics of marine animal health and disease. He is a member of the Society for Marine Mammalogy, the International Association for Aquatic Animal Medicine, the American Veterinary Medical Association, the Wildlife Disease Association, and he is the vice chair of the Working Group for Marine Mammal Unusual Mortality Events (UME). He has functioned as the liaison between the biologists, investigators and the Working Group for the California sea lion UME since the start of the UME in 2013.