## Extended Abstract

# Wildlife Operations During the Cosco Busan Spill: A Political Disaster in a Sea of Discontent

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In response to the devastation wreaked by oil spills such as the *Exxon Valdez*, California legislation passed in 1990 required the state's Department of Fish and Game to establish the Office of Spill Prevention and Response (OSPR) to prevent and protect California's coastline from the impact of such catastrophes. The OSPR was also charged with the establishment of rescue and rehabilitation stations to care for seabirds, sea otters and other marine mammals that might be impacted by such events. The Oiled Wildlife Care Network (OWCN) was established by the OSPR in 1994 to ensure that wildlife exposed to petroleum products in the environment receive the best achievable treatment through access to permanent wildlife facilities and trained personnel that are maintained in a constant state of preparedness for oil spill response. During response, the OWCN receives assistance from many or all of its twenty five participating organizations trained in state-of-the-art skills for wildlife care, and uses one or more of twelve regional facilities either built specifically for, or modified to accommodate, oiled wildlife. Since 1997, the OWCN has been administered by the Wildlife Health Center at the School of Veterinary Medicine - UC Davis, and has since become recognized as the world leader in oil spill response, rescue, and rehabilitation.

In addition to individual animal care during oil spills, the OWCN has spent considerable effort focusing on other issues critical to understanding and preventing the impact of oil on wildlife. Since 1996, the OWCN has led a competitive grants program focused on better understanding the effects of oil on wildlife. This program has funded more than sixty applied and hypothesis-driven research projects that have allocated over $2 million to increase the knowledge of the consequences of oil exposure to wildlife (both at an individual as well as a population level), and to improve the quality of response technology for oil spill response. In addition to fostering research, the OWCN has been a key player in California (as well as internationally) for the development of protocols and procedures aimed at collecting evidence and baseline information both before and during spills – information necessary for the better understanding of the "true" effects of spills at a population level and for any investigations necessary to determine the party responsible for such releases in the marine environment.

An example of the multifaceted impact of oiled wildlife care to overall spill response efforts was seen starting in the Winter of 2007-2008. On November 7th, the OWCN was notified

that the out-bound container ship *M/V Cosco Busan* had struck the San Francisco Bay Bridge at approximately 8:30 a.m., and an estimated 400 gallons of an intermediate grade fuel oil had been released in and around Pier 39. Because of the risk to wildlife in the area, two wildlife reconnaissance teams were rapidly deployed to assess impact on animals and to conduct initial search efforts. Initial reports from the field teams indicated that large numbers of birds and mammals were in the area and that oiled birds were already observed in the region, therefore full-scale deployment of search and collection teams were activated, a stabilization trailer was dispatched to the command post to allow centralized direction of field activities, an Oiled Bird Reporting Hotline was manned, and the OWCN-managed San Francisco Bay Oiled Wildlife Care and Education Center (SFBOWCEC) was readied to begin receiving oiled birds.

In the subsequent days, it was determined that the initial reports of oil release were massively underestimated, which created a sense of distrust by the general public of the response efforts. Overflights using fixed-wing aircraft identified large numbers of birds and mammals in the general vicinity of the spill - migratory waterfowl (primarily scoters and scaup) within the Bay, large groups of pelagic seabirds (grebes and common murres) directly outside the Bay entrance, and pinnipeds (harbor seals and California sea lions) throughout the region. A tremendous number of oiled bird reports were phoned in by the general public from sites throughout the Bay and on the outer coast as far north as the Point Reyes and as far south as Pacifica, prompting the efficient dispatching of search and collection teams. However, an inability to effectively utilize volunteers in field operations due to legal and training requirements also created a sense of distrust within the general public. OWCN search data and collected animals were transported either to the stabilization trailer (relocated to the Berkeley Marina) or to one of the several OWCN participant organizations throughout the Bay area (WildCare, Lindsay Wildlife Museum, Peninsula Humane Society, The Bird Rescue Center of Santa Rosa, Native Animal Rescue, and The Marine Mammal Center). Ultimately, this search effort encompassed personnel from more than 20 agencies or organizations, and included, at a minimum, 12-16 teams per day directly managed by the OWCN. All animals were initially stabilized at their respective site, then transported to either the SFBOWCEC (birds), or The Marine Mammal Center (pinnipeds).

At the SFBOWCEC, each oiled bird began the rehabilitation process according to protocols developed by the OWCN in partnership with the International Bird Rescue Research Center (IBRRC). Briefly, all birds were logged in, photographed, oiled feather samples were collected, temporary identification bands were placed on birds' legs, and a physical examination was performed that included assessment of a blood sample and evaluation of oiling status. After examination, animals with a good prognosis for survival were fed and hydrated up to eight times per day. Once an individual was deemed medically stable (2-5 days after intake on average), birds were cleaned by manually washing each bird in a series of small tubs filled with dilute Dawn® dish detergent and softened water heated to the bird's normal body temperature. After the oil was removed, the "clean" bird was rinsed using water under relatively high pressure. Birds were then dried using commercial pet dryers, then placed in outdoor pools or appropriate caging to allow them to feed and preen their feathers to restore waterproofing. This process can take upwards of 5–14 days if

there is not significant damage to the skin or feathers – much longer if the bird is too sick to preen from exposure to the oil, or if discharge from healing chemical burns recontaminates feathers. Prior to being released, animals in pools were evaluated for waterproofing, ability to maintain body temperature, body condition, species-appropriate behavior, interaction with other individuals, foraging ability, weight, and normal blood values. If the animal met these release criteria, a federal band was placed on its leg for permanent identification, and it was released. This rehabilitation process presents a tremendous challenge when a large number of oiled animals is collected, and requires a huge cadre of staff and volunteers to accomplish. On the most active day of this response, more than 30 staff and 200 volunteers worked at the SFBOWCEC to provide care necessary to the more than 600 birds in house. This was in addition to the large number of professionals in the field and at each of the stabilization sites!

As of January 15th 2008, the OWCN had captured 1,084 live birds and one live mammal (a fur seal pup that ultimately died), and collected 1,858 dead birds and 5 dead mammals (4 raccoons and one harbor seal). Of the live birds collected, 418 were released, giving a release percentage of approximately 40%. During and after this response, many felt the wildlife efforts were seriously flawed due to inadequate preparedness. Immediately following this spill, many local, state and federal investigations were conducted to better ways of responding in the future – including recommendations for wildlife issues. For perspective, since its implementation the OWCN has responded to more than 60 spills and has collected over 7,500 live birds for care. In addition to these spills, countless individual oiled birds have been collected by OWCN participant organizations, rehabilitated, and successfully released without being part of a declared spill event. Successful release rates in California have, on average, ranged from 50 - 75% of all live oiled wildlife collected by the OWCN. The wide margin of release rates is affected by the species impacted, location of spill, season of incident, ambient temperature, type and age of oil spilled, and length of time animals are in the affected environment prior to capture. However, due to the construction of specifically-designed oiled wildlife facilities, extensive training of personnel and volunteers, pre-identification of required supplies and equipment, and development of standardized protocols for optimal animal care, these release rates are significantly higher than reported for similar species outside of California and represent the best achievable care for oil-affected wildlife.

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