

So you called in a sea otter carcass you found on your beach survey...what happens next?

Attempts are made to recover and examine every stranded sea otter in California. Members of the CA Sea Otter Stranding Network respond to all reported stranded sea otters. The primary response organizations are the CA Dept. of Fish and Wildlife (CDFW), the Monterey Bay Aquarium (MBA), the US Geological Survey (USGS), the Marine Mammal Center (TMMC), and occasionally members of the NOAA/NMFS Marine Mammal Stranding Network. Reports of stranded sea otters generally come in through the general public, beach officials, marine recreation businesses, biologists, and from citizen scientists conducting systematic beach surveys.

Reports of stranded sea otters from BeachCOMBERS volunteers alert us about carcasses that we may not otherwise hear about. Between 2007 and 2016, BeachCOMBERS volunteers reported an average of 19.3 sea otters per year for a total of 193 during that timeframe (Figure 1). Data from earlier years are from Santa Cruz, Monterey and San Luis Obispo Counties, and data from Santa Barbara County were added when that survey program began in late 2012/early 2013.

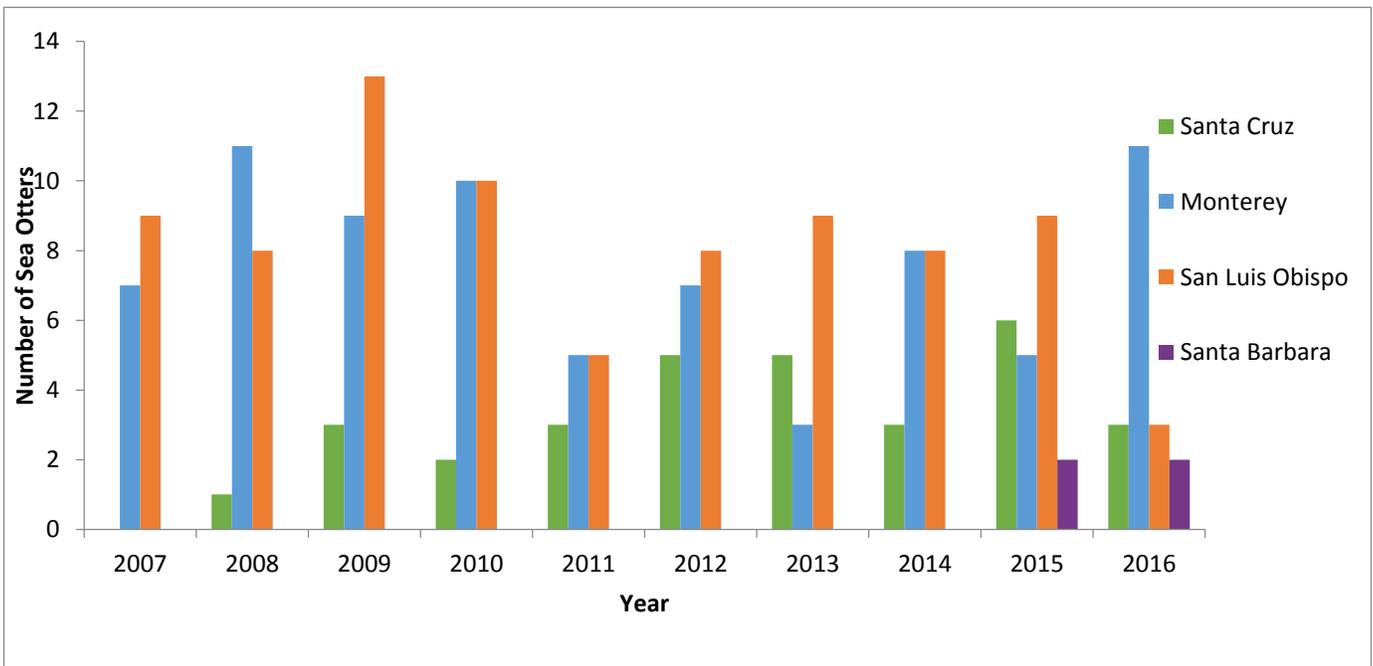


Figure 1. Number of sea otters called in per year for Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties between 2007 and 2016.

The total number of stranded sea otters recovered and examined each year is variable and has steadily increased during the last decade (Figure 2). The percentage of all stranded sea otters that were reported by BeachCOMBERS volunteers averaged 6.1% per year between 2007 and 2016, with a minimum of 3.9% in 2011 and a maximum of 10.8% in 2009 (Figure 2).

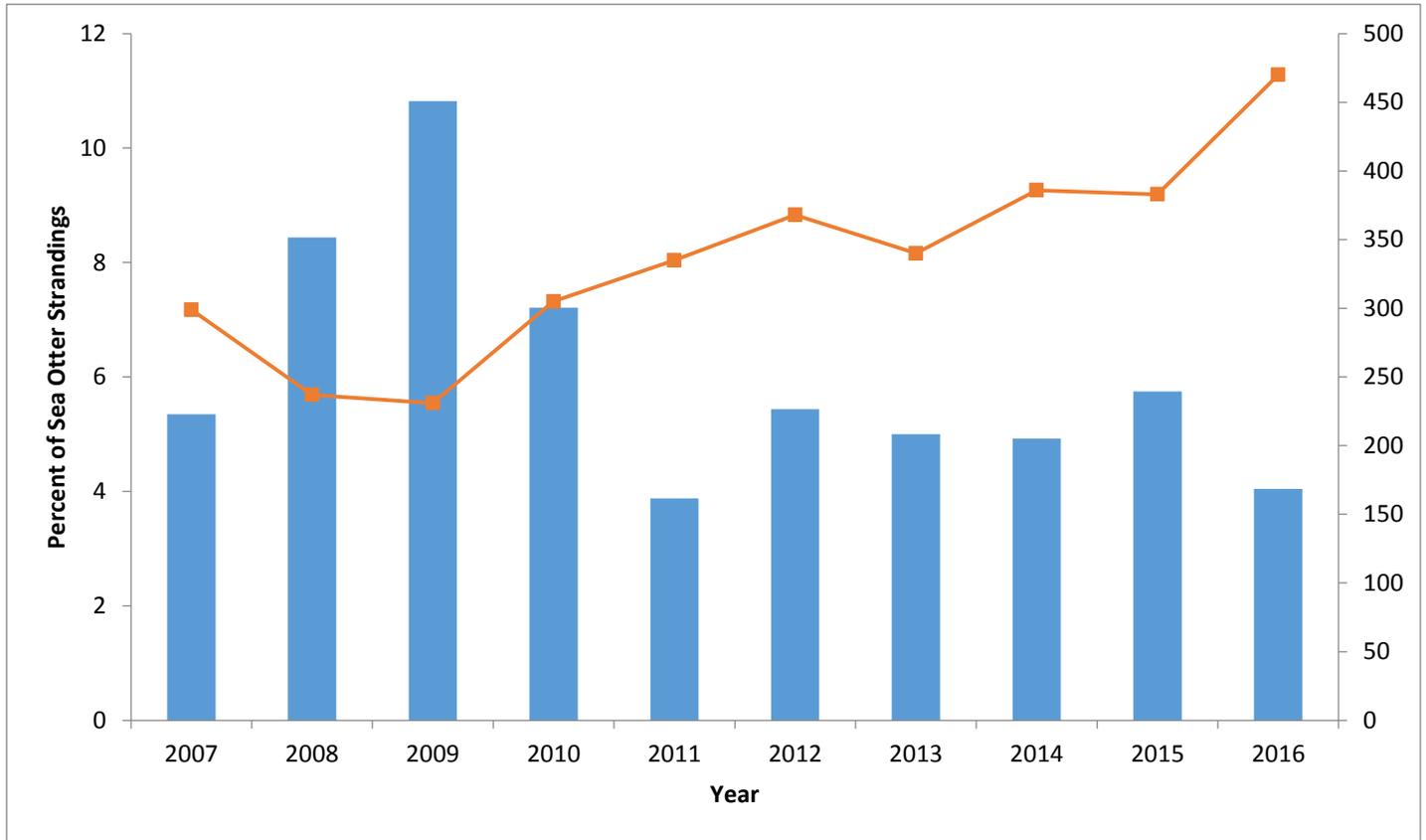


Figure 2. The percentage of all sea otter strandings that were reported by BeachCOMBERS volunteers (Santa Cruz to Santa Barbara Counties; blue bars) and the total number of stranded sea otters (red line) from 2007 to 2016.

Once a report of a stranded sea otter is received, attempts are made to recover and examine the carcass. The condition of the sea otter will determine the extent of the postmortem examination (necropsy) it receives. The majority (81.9%) of sea otters reported by BeachCOMBERS volunteers during the last 10 years were decomposing (moderate decomposition, advanced decomposition, or mummified/ fragmented; Figure 3). These carcasses receive abbreviated necropsies, often conducted at the beach. A small percentage (2.6%) of the sea otters were reported alive (Figure 3). Generally live stranded sea otters are assessed, recovered if necessary/possible, and evaluated for rehabilitation potential. Fresh sea otters generally receive a more detailed necropsy.

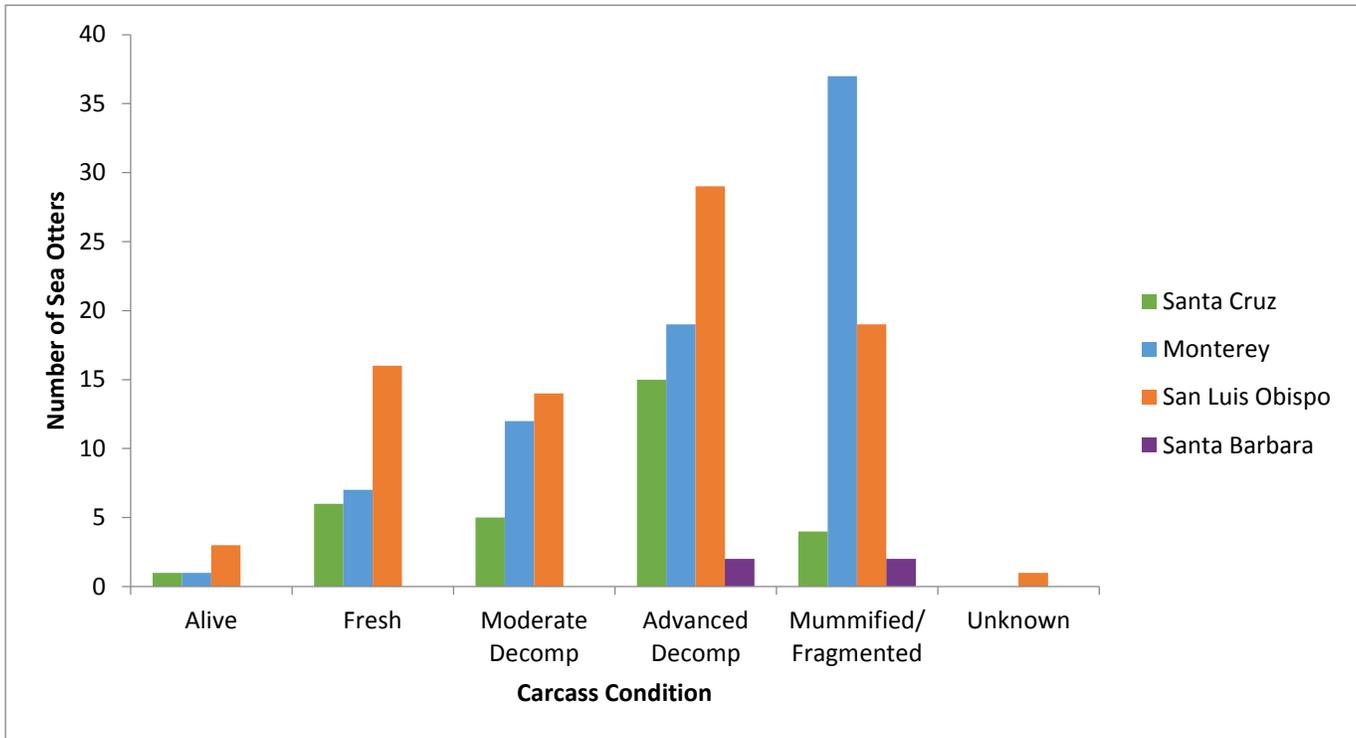


Figure 3. Condition of stranded sea otters reported by BeachCOMBERS volunteers between 2007 and 2016 in Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties.

The cause of death of sea otters can be difficult to determine, especially with the effects of decomposition, and the removal of tissues by scavengers. Causes of death for the 189 sea otters reported by BeachCOMBERS volunteers are listed in Table 1. For the majority of cases, the cause of death was unknown, likely due to decomposition and scavenging. In some cases, generally when the carcasses were fresher, the cause of death was determinable.

Table 1. Causes of death for stranded sea otters reported by BeachCOMBERS volunteers between 2007 and 2016 (Santa Cruz to Santa Barbara Counties).

Cause of Death	Number of cases
Unknown (unknown trauma)	106
Unknown (no trauma)	31
Shark Bite (Suspected)	23
Dependent pup separated from mom	13
Natural Causes	12
Shark Bite (Confirmed)	5
Mating Wounds	1
Unknown (with trauma)	1
Lacerations (unknown cause)	1

Even when the cause of death is unknown, valuable information may still be ascertained, even from the most rotten carcasses. At the very least, age class and sex usually can be determined. The most common age class of sea otters reported by BeachCOMBERS volunteers from 2007 to 2016 was adult (n=74), followed by subadult (n=44), immature (n=24), aged adult (n=22), and pup (n=16; Figure 4). Occasionally the exact age class cannot be determined, in which case they are placed in broader categories (i.e. “pup or immature”).

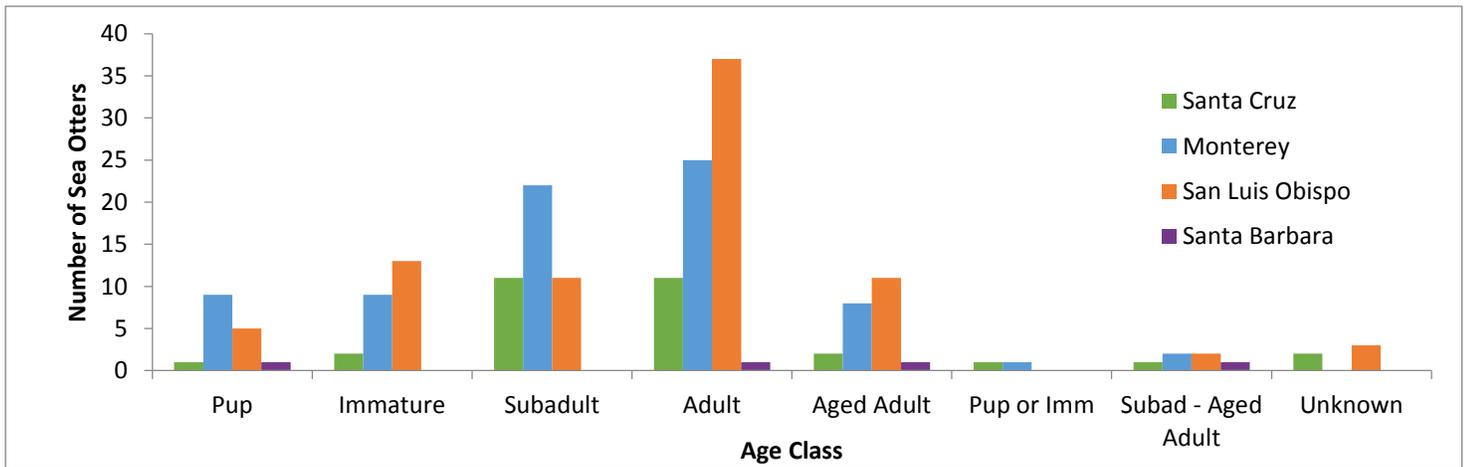


Figure 4. Age classes of stranded sea otters reported by BeachCOMBERS volunteers between 2007 and 2016 in Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties.

Sea otter sex also can usually be determined, even when the carcass is decomposed or heavily scavenged. During the timeframe 2007 to 2016, more males (n=94) than females (n=69) were reported by BeachCOMBERS volunteers (Figure 5). Even in cases where the sex wasn’t obvious, pelvic morphology (Figure 6) was used to confirm the sex (for mature animals only). Sometimes (n=30), the sex could not be determined.

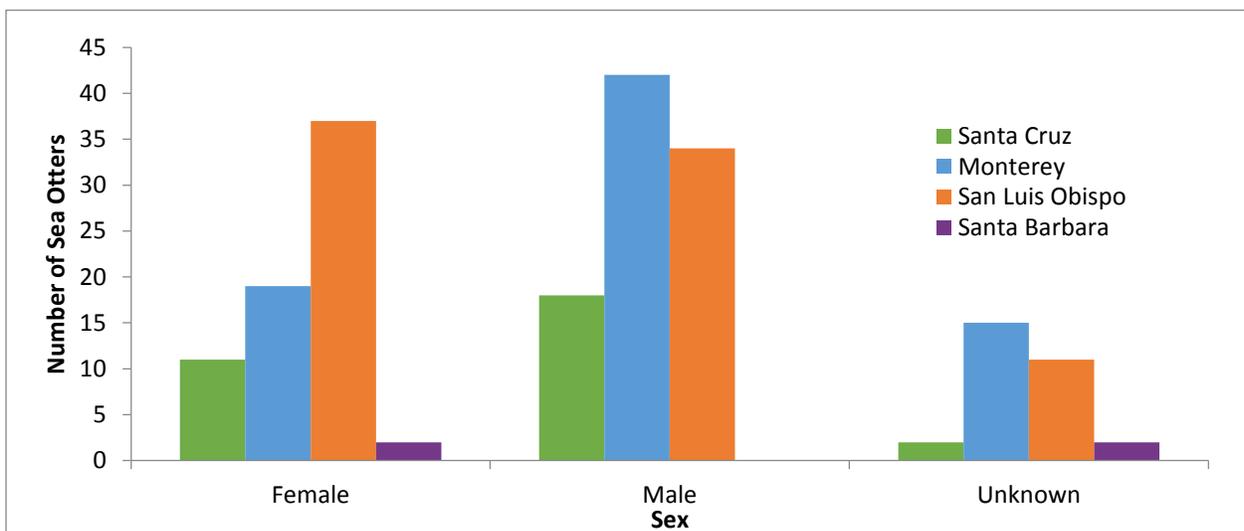


Figure 5. Sexes of stranded sea otters reported by BeachCOMBERS volunteers between 2007 and 2016 in Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties.

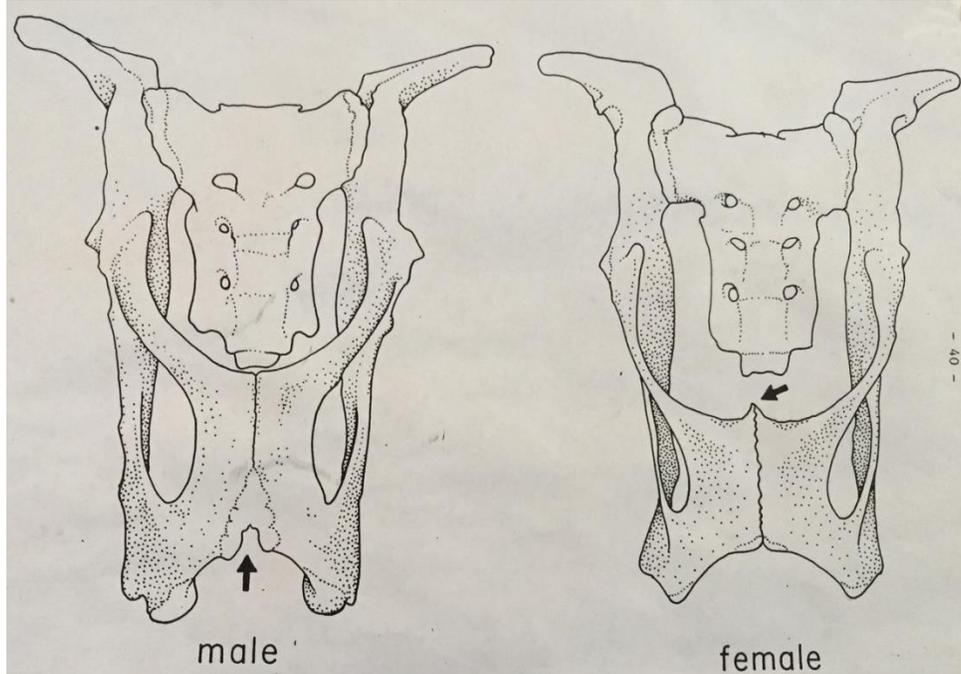


Figure 6. Pelvic morphology of mature male and female sea otters. Arrows point to diagnostic characteristics.

Reports of stranded sea otters by BeachCOMBERS volunteers are critical for achieving the maximum possible response rate. In some years, reports from BeachCOMBERS volunteers accounted for 10% of all stranded sea otters. Reporting by BeachCOMBERS volunteers will continue to facilitate collection and examination of stranded sea otters that otherwise may not be reported. Thank you for your help!

Reporting Phone Numbers

Santa Cruz Co.: Colleen Young, CDFW: 831.212.7010

Monterey Co.: Monterey Bay Aquarium Security Office: 831.648.4840

San Luis Obispo and Santa Barbara Co.: Mike Harris, CDFW: 805.772.1135