

# **Marine Mammal Rehabilitation Activities at the Northcoast Marine Mammal Center Between 1988 – 2009**

**Technical Report  
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## **Acknowledgements**

First and foremost, the Northcoast Marine Mammal Center would like to thank all of the volunteers who are responsible for the majority of animal care duties and rescue activities. We would also like to thank the National Oceanic and Atmospheric Administration for providing grant funding to the NMMC for numerous years under the John H. Prescott Marine Mammal Rescue Assistance Program. The NMMC also greatly appreciates the numerous agencies and organizations that have provided assistance to the Center over the past two decades, which includes the United States Coast Guard, California Department of Parks and Recreation, National Marine Fisheries Service, California Department of Fish and Game, Humboldt State University, Oregon State University, The Marine Mammal Center, and the Pacific Marine Mammal Center.

## **Introduction**

The Northcoast Marine Mammal Center's (NMMC) mission is to promote the long-term health of marine mammals along approximately two hundred miles of remote coastline in Humboldt and Del Norte counties in Northern California (Figure 1). The NMMC does this through the rescue and rehabilitation of sick, injured, and/or orphaned marine mammals. The species we most often rehabilitate are pinnipeds: California sea lions (*Zalophus californianus*), Northern elephant seals (*Mirounga angustirostris*), and Pacific harbor seals (*Phoca vitulina*). Less common patients include Northern fur seals (*Callorhinus ursinus*), Guadalupe fur seals (*Arctocephalus townsendi*), and Steller sea lions (*Eumetopias jubatus*). Occasionally, the NMMC aids in the rescue and stabilization of stranded cetaceans before they are transferred to The Marine Mammal Center. An additional goal of the NMMC is to develop and present educational programs that foster an understanding of marine mammals and their environment.

The NMMC was founded in 1984 by our veterinarian, Dr. Dennis Wood. In 1989, the Center received a grant for \$100,000 from oil spill mitigation funds to promote construction of our current rehabilitation facility. The California Conservation Corps completed construction in 1992 and our facility includes a medical treatment room, harbor seal pup room, an isolation room, kitchen for food preparation, administration office, gift shop/information center, nine outside pens, and two outdoor condos for housing animals. The Center is funded primarily through one NOAA/NMFS Grant (Prescott) that we reapply for annually. We also rely largely on revenue obtained through donations, membership, and gift shop sales. All animal rescue and rehabilitation activities are performed by dedicated volunteers.

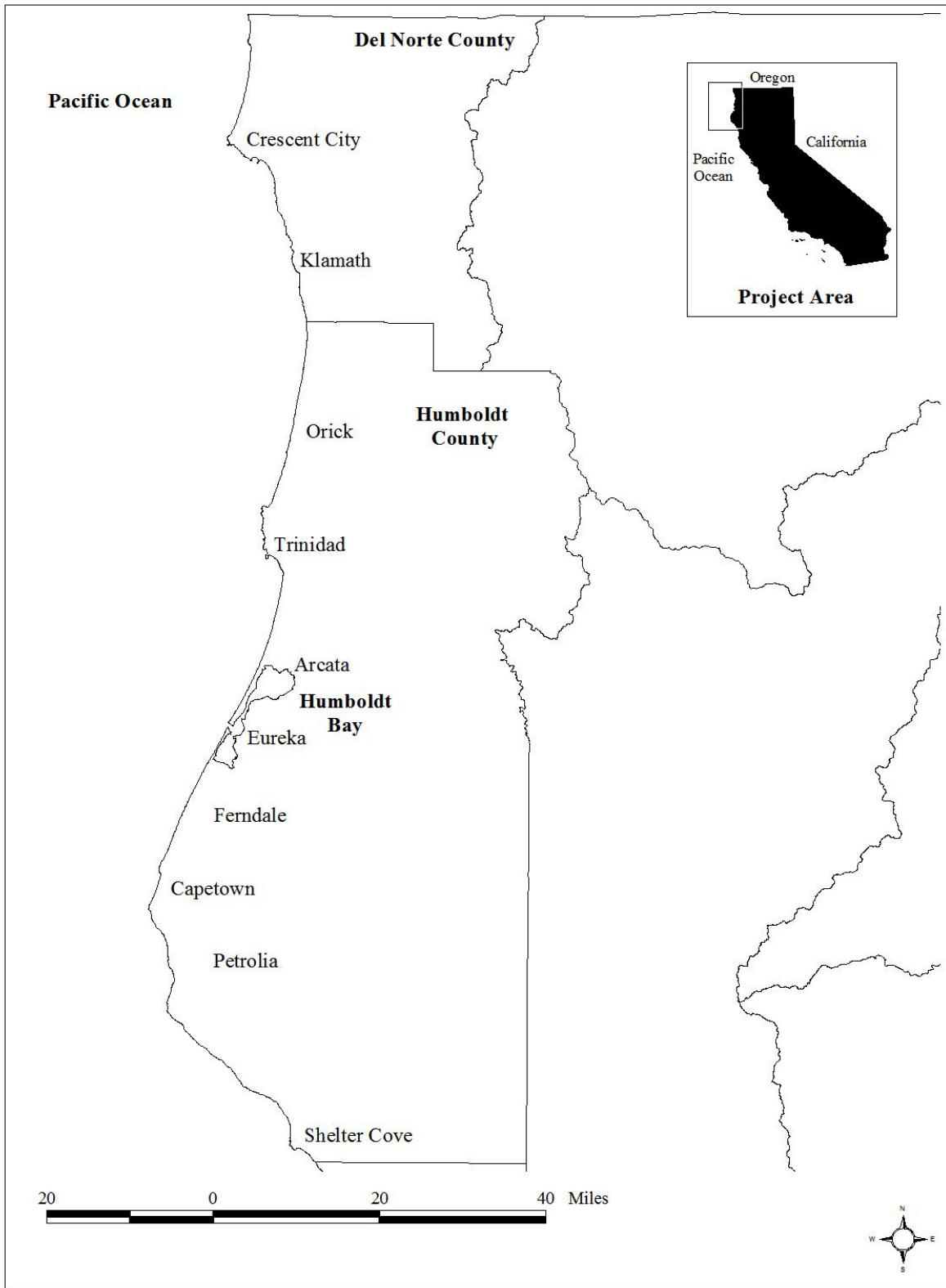


Figure 1. Map of the response area covered by the Northcoast Marine Mammal Center.

## **Rescue and Rehabilitation Activities**

The NMMC rescued 732 marine mammals between 1988 – 2009. The average number of animals admitted into the Center during those 21 years was 33, ranging between 4 animals in 1991 and 116 animals in 2009 (Figure 2). The most common patients at the NMMC are California sea lions, which account for 286 (39.1%) of all rehabilitation patients. Pacific harbor seals have been the second most commonly rescued marine mammal and account for 255 (34.8%) of rehabilitation patients. Northern elephant seals have accounted for 22.8% (167) of marine mammals admitted. Other species that the NMMC has rescued and rehabilitated include Northern fur seals (14 animals; 2%), Steller sea lions (7 animals; 1%), and Guadalupe fur seals (3 animals; <1%). Steller sea lions and Guadalupe fur seals are both listed as “Threatened” under the Endangered Species Act (ESA) and Northern fur seals are designated as “Depleted” under the Marine Mammal Protection Act.

The NMMC has had a very low restrand rate during those 21 years (8 animals, 1.1%). Half of all restrands occurred during 2009, which was an El Niño year during which prey was a limiting factor. Two Northern elephant seals, three California sea lions, two Steller sea lions, and one Pacific harbor seal that were initially rehabilitated by the Northcoast Marine Mammal Center have restranded and either been re-admitted into the NMMC for rehabilitation and later released or deemed unreleasable and placed in a permanent facility (Table 1). The two elephant seals that restranded were unsuccessful weaners that were rehabilitated a second time and re-released. Two of the California sea lions restranded later the same year (2009), both suffering from malnutrition likely due to El Niño conditions. In 2003, a California sea lion that we released restranded three weeks later in Oregon and was permanently placed in a facility due to its propensity to interact with humans. Both Steller sea lion re-stranded were severely emaciated, one was later re-released and the other died shortly after being transferred back to our facility for rehabilitation. The Pacific harbor seal was originally admitted as maternally separated and released, but was re-admitted four months later with a deep laceration and numerous puncture wounds.

**Table 1.** Summary of marine mammals rehabilitated and released by the NMMC that later re-stranded (R = Released, P = Placed, D = Deceased).

Species	Reason for Admission into NMMC	Original Admit Date	Release Date	Restrand Date	Outcome
Northern Elephant Seal	unsuccessful weaner	1/15/1998	5/2/1998	5/25/1998	R
Northern Elephant Seal	unsuccessful weaner	2/3/1998	5/2/1998	6/15/1998	R
California Sea Lion	oil patches, depressed	2/24/2003	2/24/2003	3/14/2003	P
Steller Sea Lion	maternally separated	6/20/2005	5/14/2006	7/24/2006	R
California Sea Lion	emaciated	7/6/2009	9/3/2009	10/13/2009	R
California Sea Lion	emaciated	5/24/2009	7/9/2009	7/22/2009	R
Pacific Harbor Seal	maternally separated	3/9/2009	7/9/2009	8/28/2009	R
Steller Sea Lion	maternally separated	6/19/2009	3/27/2010	5/3/2010	D

In addition to rescuing and rehabilitating pinnipeds, the NMMC has responded to calls about cetaceans and sea turtles. The NMMC rescued 5 Pacific harbor porpoises (*Phocoena phocoena*) between 2005 and 2008: two during 2005 and one each successive year after that through 2008. The Center also rescued one Olive Ridley turtle (*Lepidochelys olivacea*), which are not native to our region and are listed as “Threatened” under the ESA.

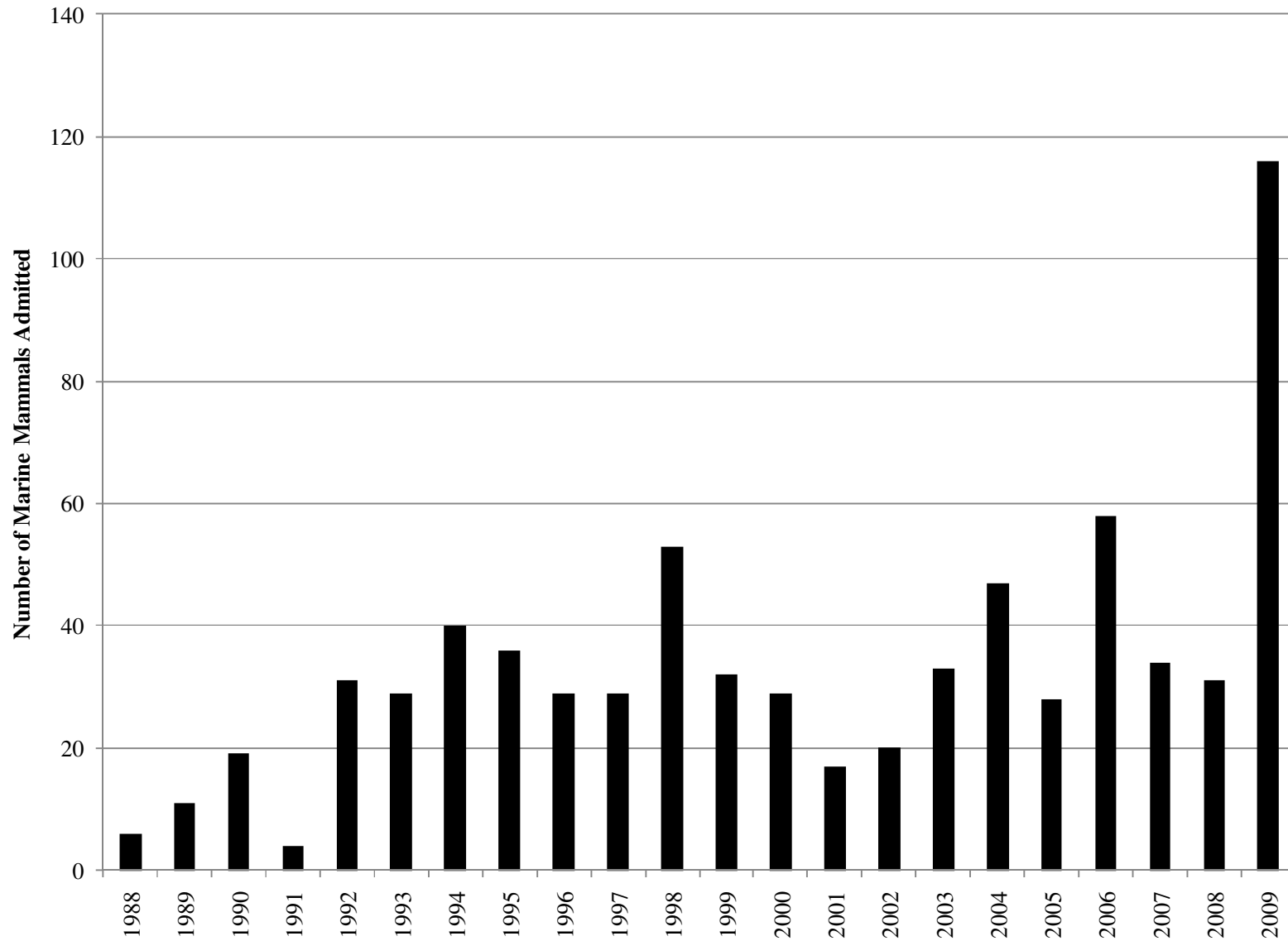


Figure 2. Number of marine mammals admitted into the NMMC annually, 1988 – 2009.

## California Sea Lions

California sea lions are the most commonly admitted species at the NMMC. The number of California sea lions has varied between years, but on average the Center rescues 13 per year. The number admitted has ranged between 0 in 1991 to 95 in 2009 (Figure 3). Over the typical year, the majority of animals have historically (1988 – 2008) been admitted during July, August, and September (Figure 4). However, during 2009 we experienced the result of an El Niño event, which caused a disruption in prey availability and distribution. The majority of the California sea lions admitted during 2009 were emaciated yearlings failing to successfully find prey. This phenomenon was observed throughout the coast of California and into Oregon. Interestingly, we have not witnessed such an increase in strandings in previous El Niño years (1992, 1993, and 1998; Figure 3). The percentage of animals successfully rehabilitated and released has varied annually<sup>1</sup> between 0% in 1999 to 61.5% in 1997 (Figure 5). The average percentage of successfully released California sea lions between 1994 and 2009 was 43.6%. Since 2000<sup>1</sup>, the number of California sea lion rescues was similar between Humboldt and Del Norte counties. The majority of rescues, resulting in 68% of all California sea lion admissions, were from six locations: Clam Beach (7%), Crescent City Harbor (15%), Pebble Beach (19%), Samoa (8%), South Jetty (5%), and Trinidad (14%).

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<sup>1</sup> Location of rescue was not consistently recorded prior to 2000

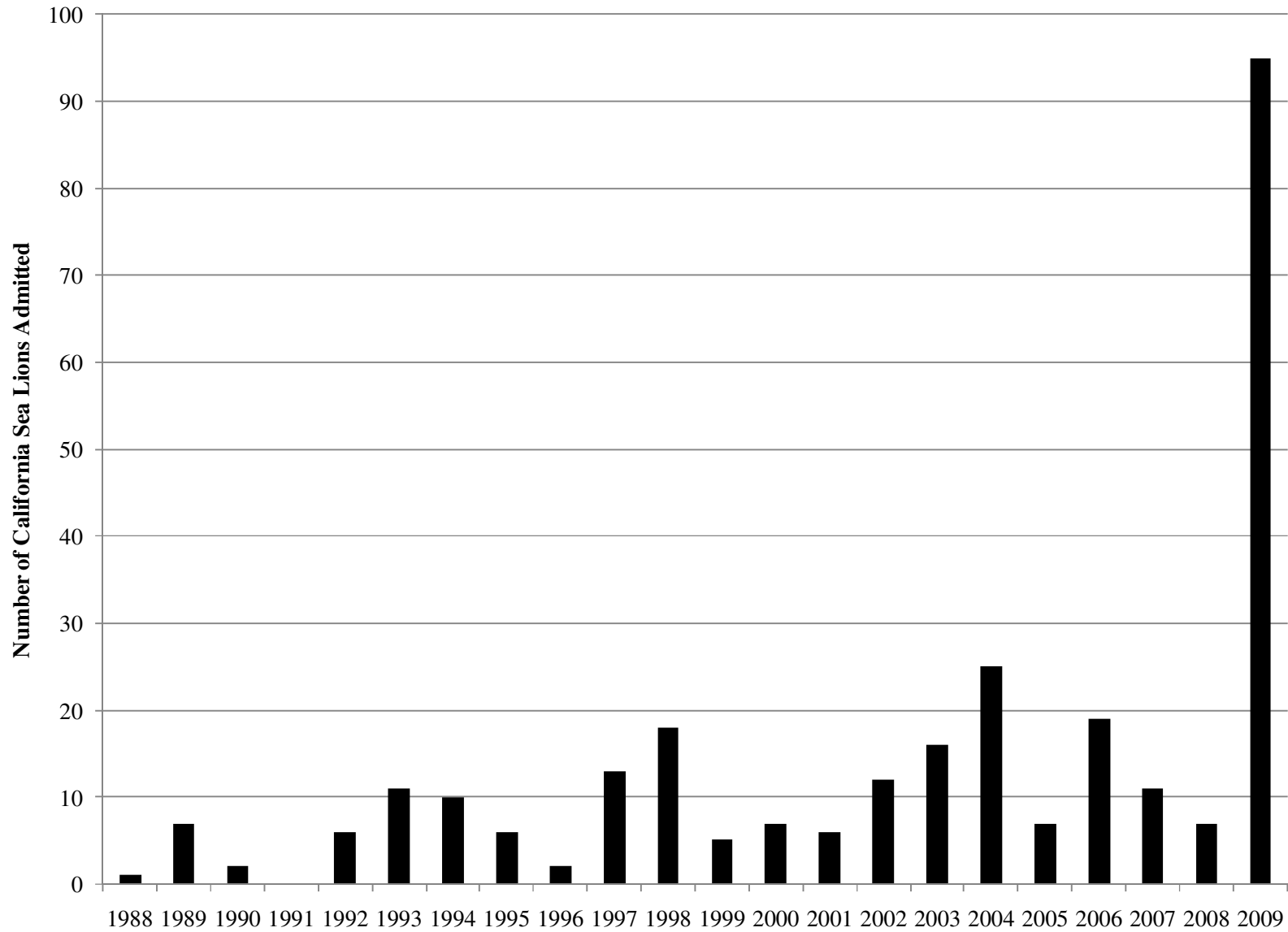


Figure 3. Number of California sea lions admitted into the NMMC annually, 1988 – 2009.

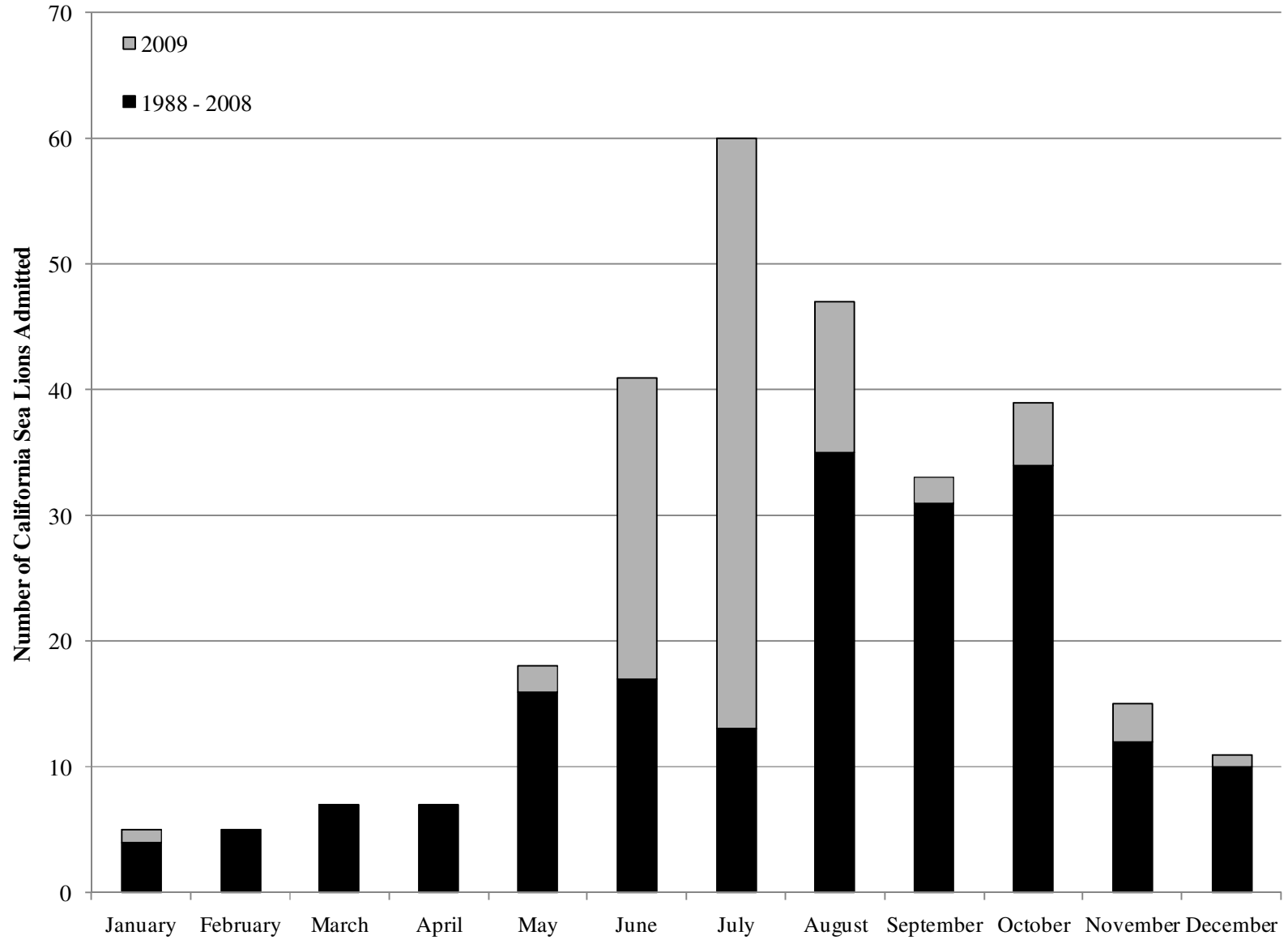


Figure 4. Number of California sea lions admitted by month between 1988 - 2008 (black) and during 2009 (gray).



Figure 5. Percentage of California sea lions successfully rehabilitated and released between 1994 and 2009.

## **Pacific Harbor Seals**

The NMMC admitted 255 Pacific harbor seals between 1988 and 2009. The number admitted has ranged annually between a low of 2 (1991) and high of 26 (2006), but on average the NMMC admits 13 harbor seals per year (Figure 6). The majority of harbor seals are admitted into the NMMC during April, and are rescued due to maternal separation (Figure 7). Pacific harbor seals admitted during summer months are generally the result of injuries due to human interaction. The NMMC has treated harbor seals afflicted with injuries consistent with dog bites, propeller wounds, and encounters with all terrain vehicles (ATVs). The success rate for harbor seals admitted into the NMMC has varied annually between 0% in 1991 and 78% in 1997, but on average was 41.5% between 1990 and 2009 (Figure 8). Since 2001<sup>2</sup>, the majority (73%) of harbor seals were rescued from Humboldt County. The most frequent rescue location has been the mouth of the Mad River (14%), followed by Samoa (12%), Centerville (9%), Trinidad (9%), and the mouth of the Eel River (8%).

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<sup>2</sup> Location of rescue was not consistently recorded prior to 2001

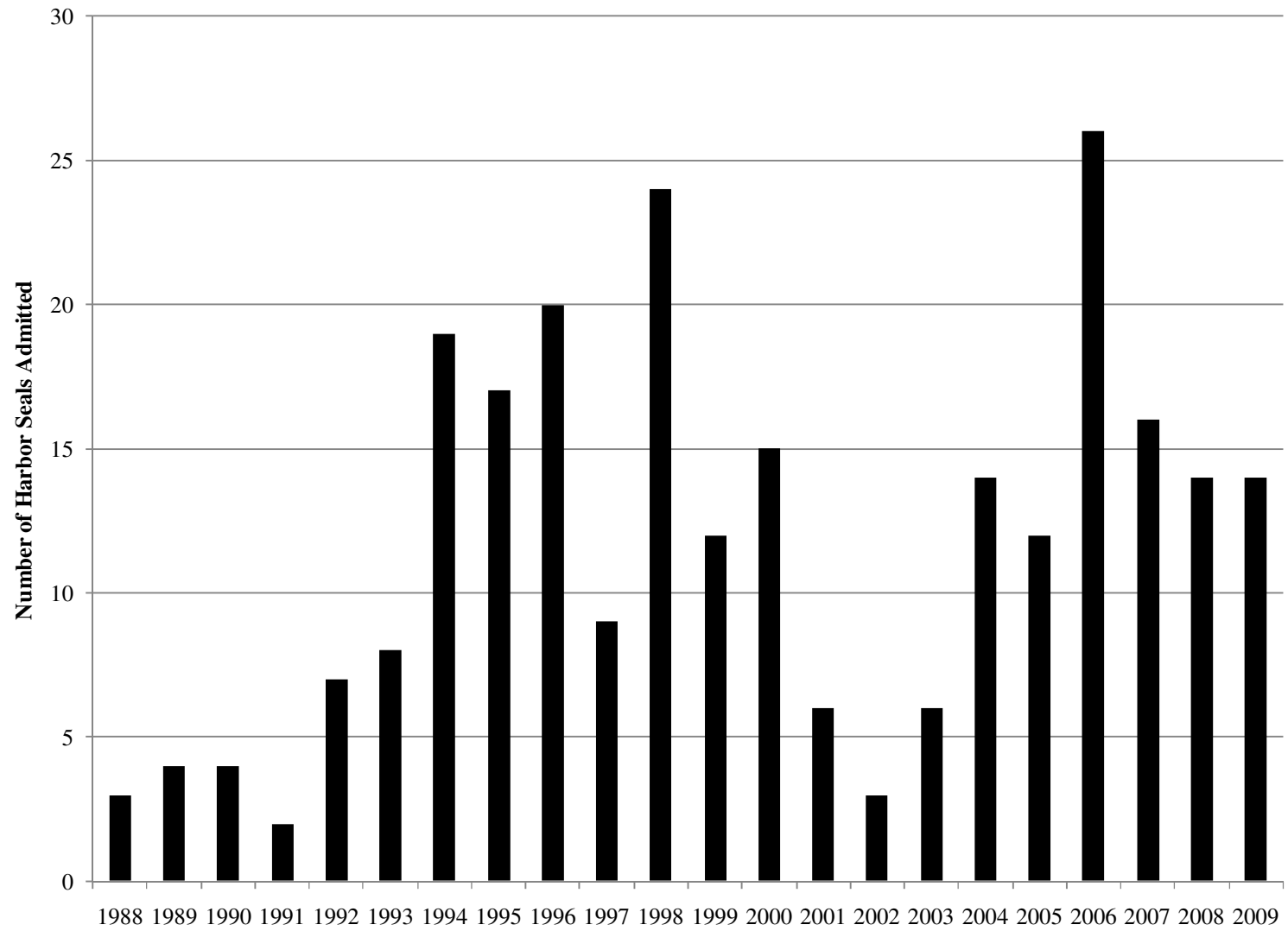


Figure 6. Number of Pacific harbor seals admitted into the NMMC annually, 1988 – 2009.

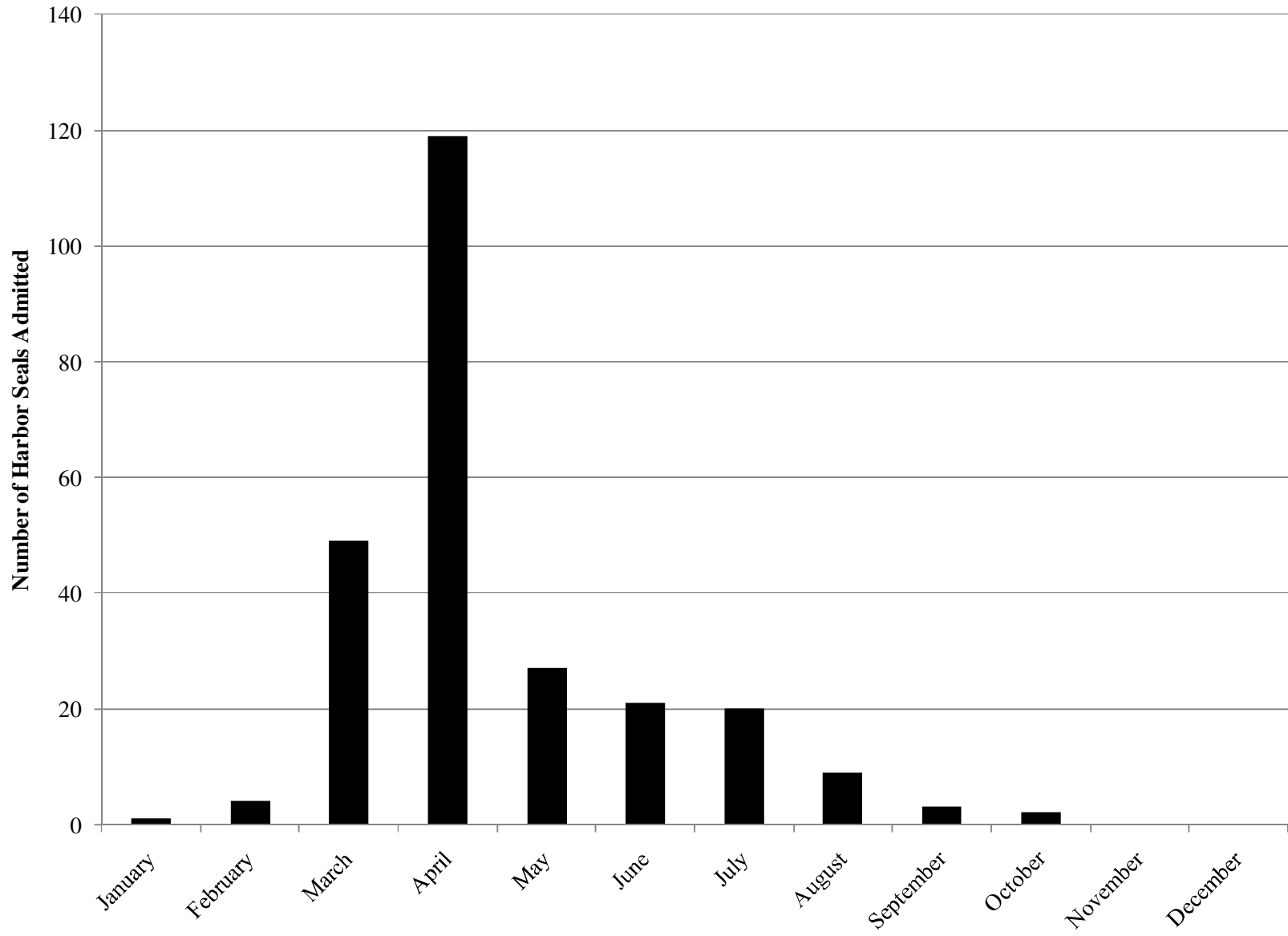


Figure 7. Number of Pacific harbor seals admitted by month between 1988 - 2009.

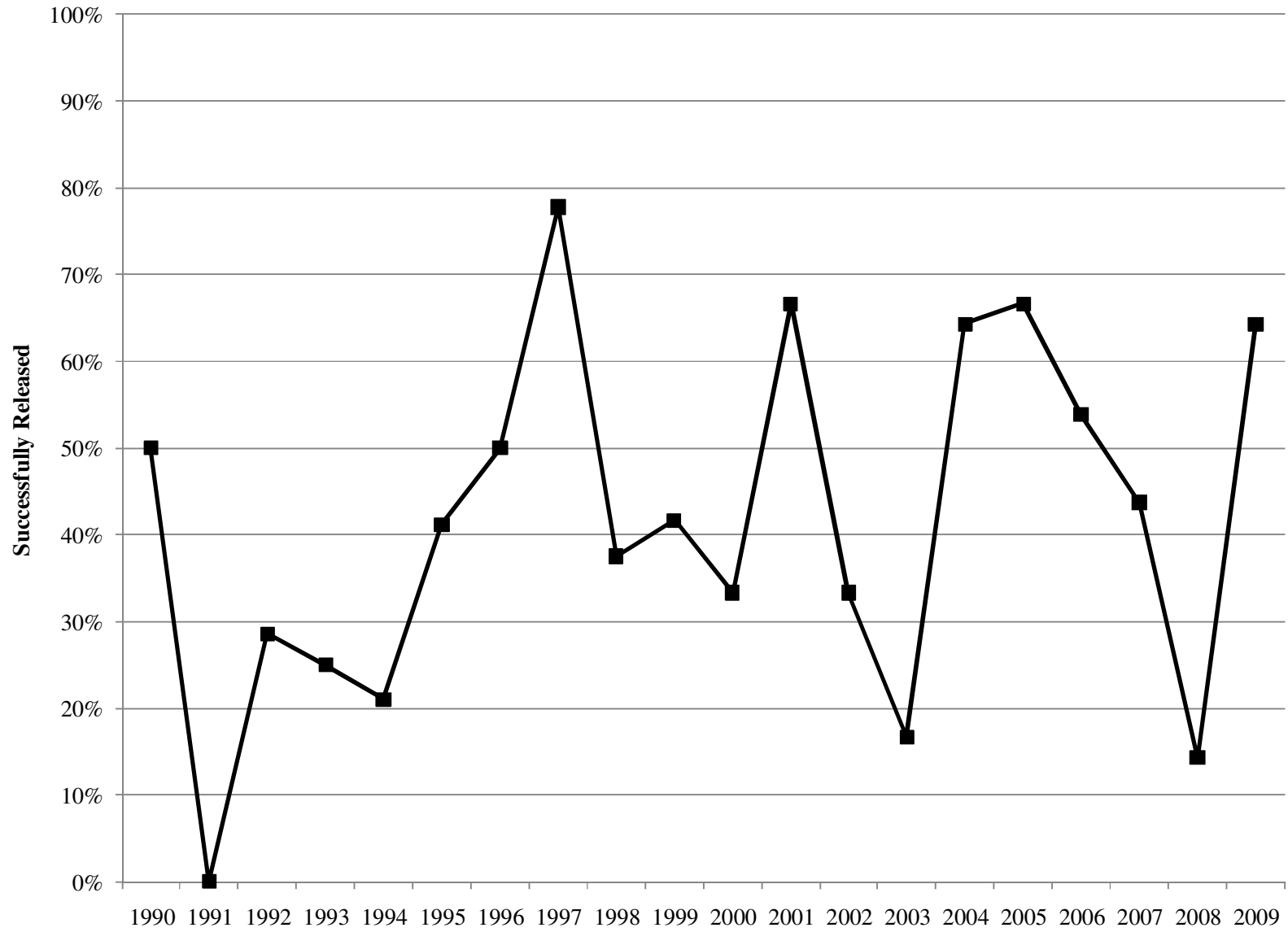


Figure 8. Percentage of Pacific harbor seals successfully rehabilitated and released between 1990 and 2009.

## **Northern Elephant Seals**

A total of 167 Northern elephant seals have been admitted into the NMMC since 1988. The average number admitted per year was 8, ranging between none admitted in 1989 to 18 animals admitted in 1992 (Figure 9). Northern elephant seals are generally admitted to the NMMC due to skin disease, which may occur during molting, or as unsuccessful weaners. Unsuccessful weaners and 'blackcoats' account for over half (51%) of all elephant seals admitted, and are most frequently rescued during April (Figure 10). Elephant seals presenting with skin disease (moderate to severe) have accounted for 22% of all elephant seals rescued. Due to inconsistencies in data recording, the number successfully rehabilitated and released can only be analyzed from 1995 to the present. Average rehabilitation success over those fourteen years was 58.8%, and ranged between 20% in 2001 to 100% in 2007 (Figure 11). Since 1996<sup>3</sup>, 106 Northern elephant seals have been rescued, and the majority (70 animals, 66%) were rescued from Del Norte county. Rescues from five locations account for 56.6% of all elephant seals admitted into the NMMC: Pebble Beach (20.8%), Battery Point (11.3%), Trinidad (9.4%), Smith River (8.5%), and Samoa (6.6%).

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<sup>3</sup> Location of rescue was consistently recorded beginning in 1996

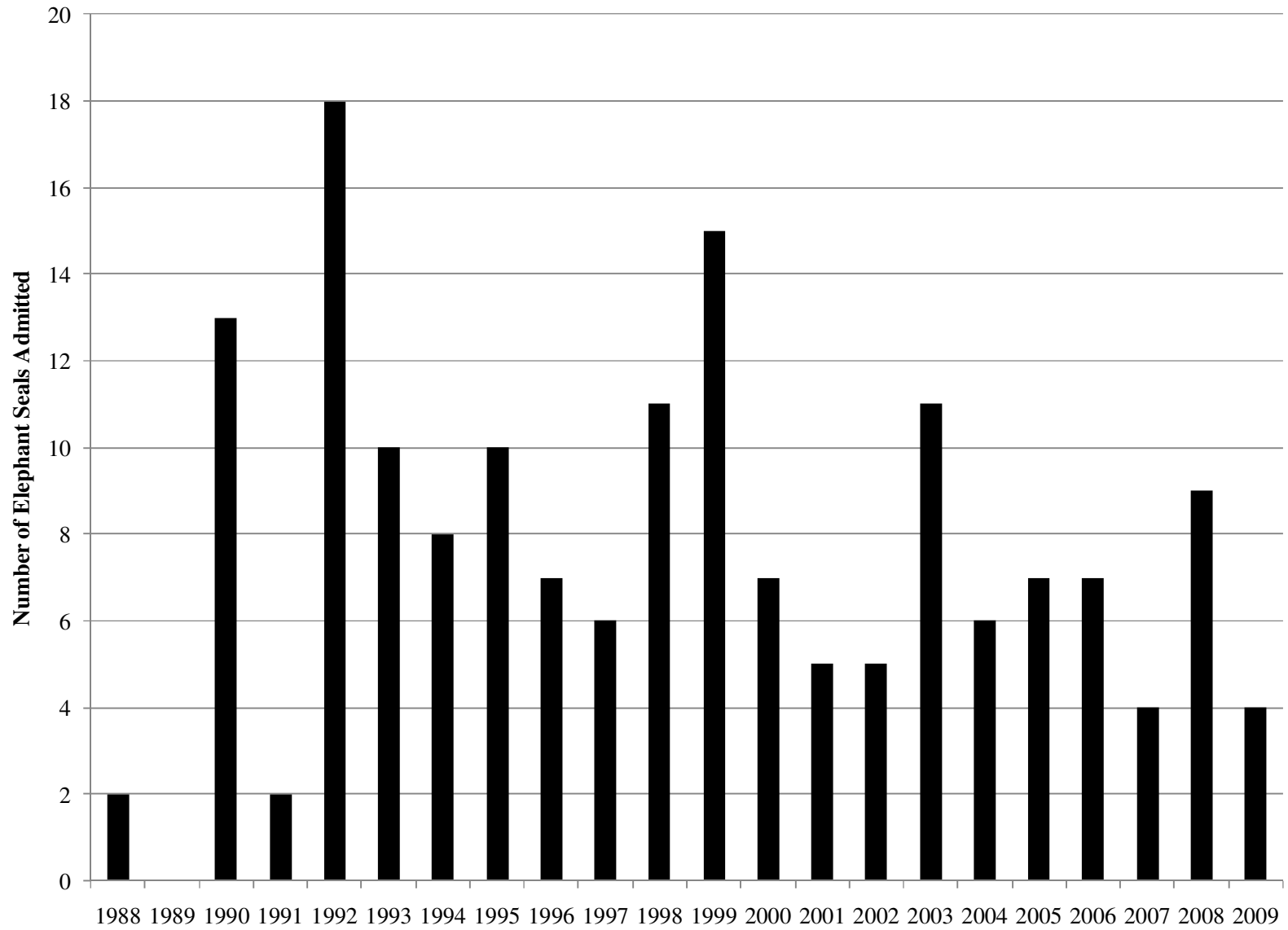


Figure 9. Number of Northern elephant seals admitted into the NMML annually, 1988 – 2009.

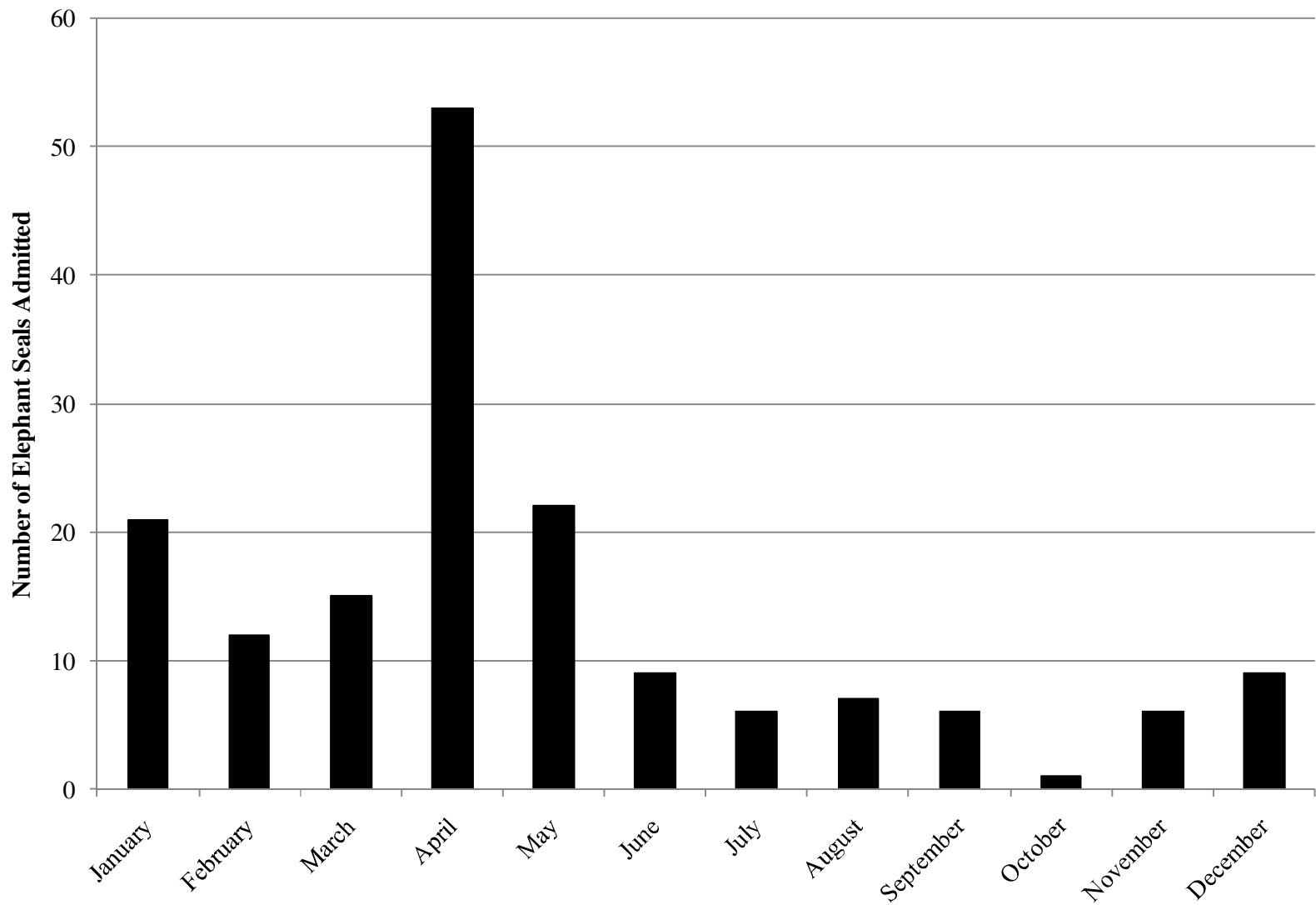


Figure 10. Number of Northern elephant seals admitted by month between 1988 - 2009.



Figure 11. Percentage of Northern elephant seals successfully rehabilitated and released between 1995 and 2009.