

Marine Coastal Management Plan – La Jolla

**City of San Diego
Park and Recreation Department
San Diego, CA 92101**

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by
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Executive Summary

The City of San Diego, Department of Park and Recreation, has commissioned the development of this coastal management plan. This plan is to be ecosystem based to insure the sustainability of the flora and fauna along the shoreline of La Jolla from Scripps Pier to Windansea Beach. The plan is written to be a living document which can be amended and adapt as conditions change. This plan is intended to provide guidance for the City to manage marine mammals especially seals and sea lions (pinnipeds) and also for various sea birds roosting and nesting in the La Jolla area. The City recognizes that final management authority for marine mammals and sea birds rests with the federal government, specifically NOAA/National Marine Fisheries Service (NMFS) for marine mammals and US Fish and Wildlife Service (USFWS) for sea birds. The city seeks to work with these agencies and others that share management interests (*e.g.*, California Department of Fish and Wildlife, California Coastal Commission, County of San Diego) and to insure the well-being of its citizens and visitors from all over the world.

In this plan, the City describes the shoreline habitat of La Jolla, the pinnipeds, and sea birds that frequent these locations. The City uses NMFS Stranding data to present locations pinnipeds have used in the last ten years. This plan describes the status of pinniped and sea bird stocks along with interactions between these animals and the public. The plan also reviews pinniped interactions other cities and marinas have experienced and how they have addressed those interactions. Previous recommendations for ameliorating pinniped interactions in La Jolla are presented. Goals and objectives for this management plan are discussed. The City reviews potential management options that the City may consider for implementation in the La Jolla management area included herein. In conclusion, the City presents action items which the City may propose to implement.

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Introduction

Management of La Jolla Shores, La Jolla Cove, Children’s Pool, and nearby shore areas to Windansea Beach has been challenging and fragmented, with some site-specific management efforts along the La Jolla Shores area within a portion of the California designated Marine Protected Areas: San Diego – Scripps Coastal State Marine Conservation Area (SMCA) and in La Jolla Cove within the Matlahuayl State Marine Reserve (SMR). The City of San Diego realizes that there is need to formulate a coherent, ecosystem-based management plan for these areas with a focus on marine mammals, particularly pinnipeds (seals and sea lions), and their impact on the environment and the public. Sea birds are also an integral part of this habitat and contribute to the odor issues in the area. Working with and understanding that the full management authority for pinnipeds rests with Department of Commerce/National Oceanographic and Aeronautical Administration/National Marine Fisheries Service and for sea birds with Department of the Interior/United States Fish and Wildlife Service. This plan is to be administered in cooperation with these federal, state, and county agencies where authority overlaps. This management plan will define the essential areas used by pinnipeds and sea birds and their interactions with humans from Scripps Pier south to Windansea Beach. It will also provide recommendations that will shape future decision-making as it pertains to resource protection, ensure conservation efforts, while enhancing the public’s enjoyment of this unique area and defining the City’s management of this coastal ecosystem.

1.0 Purpose and Need for Action

By developing this management plan, the City of San Diego recognizes that it shares the environment with marine animals, especially pinnipeds, which are increasing in numbers and consequently are increasingly interacting with the citizens of this coastal city, as well as with visitors from all over the world. In the last two decades, the City has experienced two administrative situations stemming from the expanding pinniped populations on the west coast. These populations have been growing since at least the 1940s when the California legislature passed laws protecting marine mammals and especially since 1972, when the United States Congress passed the Marine Mammal Protection Act (MMPA). Likely these population expansions (plus other marine mammal expansions) are a reflection of the health of the ocean environment including: available food resources (fish and squid), available space to occupy, lack of predators, reduced human interactions, and the absence of major pandemic episodes. The rates of population growth have been estimated in the four to seven percent range (Carretta et al 2015), which means that pinniped populations have nearly doubled every ten years. Consequently, pinnipeds need additional space to occupy on new shoreline sites which accommodates the greater number of animals coming ashore (hauling out). These circumstances pose challenging management efforts for the City as it seeks to protect the ecological integrity from Scripps Pier to Windansea Beach while ensuring opportunities for public enjoyment of all that the shoreline offers.

The purpose of this plan is to provide better understanding of marine mammal use and interactions with humans in and around the La Jolla beaches from Scripps Pier to Windansea Beach. Included are recommended guidelines and actions addressing threats to resources, the community, and our tourist experience. Ultimately the plan addresses opportunities for the City and the community to engage in and enhance the management of pinnipeds and sea birds in these locations. Finally this plan is meant to be a living document which can and should be modified as conditions change.

2.0 Environmental Setting

The project area for this plan is along the La Jolla coastline from the Scripps Institution of Oceanography pier south to Windansea Beach. There are many activities along the shoreline beaches and reefs of La Jolla Shores, La Jolla Cove, Children's Pool, and nearby shore areas to Windansea Beach. This environment is actively used by swimmers; sunbathers; SCUBA divers; snorkelers; shore/surf fishermen; school classes; tide pool explorers; kayakers; surfers; boogie boarders; seal, bird, and nature watchers (especially seabird, seal and sea lion enthusiasts), scientists, professional photographers, plus members of the public that enjoy the environment as a whole. Also enjoying the beautiful La Jolla near-shore environment are power and sail boat enthusiasts, recreational and commercial fishermen.

2.1 La Jolla Shores Beach

This particularly beautiful sand beach stretches for about one mile, from the north at Scripps Pier of Scripps Institution of Oceanography (SIO, lower campus of the University of California, San Diego); it averages about 50 to 75 yards across the sand to the ocean. Above the sand on the north end is the SIO campus, moving southward there are about 25 beachfront homes, followed by two park areas with a low cement wall next to a beach sidewalk and a parking lot beyond, the La Jolla Shores Hotel (AKA, Sea Lodge), the La Jolla Beach and Tennis Club (AKA, Beach Club), Boat Launch area and ending with the Marine Room. Collectively, these areas occupy a portion of the San Diego-Scripps Coastal State Marine Conservation Area and Matlahuayl State Marine Reserve (Appendix I.), which are two of 36 marine protected areas along the California coast adopted by the California Fish and Game Commission in December 2010, as part of California's Marine Life Protection Act (MLPA). The MLPA provides for a collaborative public process to create and manage a statewide network of marine protected areas along California's coastline.

2.2 Marine Room Tide Pools, Devil's Slide, and Sea Caves

The next area south and east is characterized by boulder and shelf beaches with a few pocket sand beaches, below cliffs with private houses above. There is a dirt trail on the bluff (Coast Walk) which continues south to the Cave Store above Emerald Cove where there is a large cave on the north east side. The cave floor has ocean water and waves moving through it. Often sea lions haul out in the cave. These areas are designated protected areas under the Matlahuayl SMR.

2.3 La Jolla Cove

Swimmers beach is very popular with easy access, a recently built lifeguard tower, sidewalks above and grassy areas leading to Scripps Park. Just north of LJ Cove Swimmers Beach is Point La Jolla which is followed westward by Boomers Beach (a boulder and sand beach). California Sea lions occupy beaches, shelves, and rocks throughout this area. Point La Jolla is the southern boundary of the Matlahuayl SMR.

2.4 Rocky Point, Shell Beach, Seal Rock, Children's Pool, South Casa Beach

These sites are a series of boulder beaches and shelf areas interspersed with small pocket sand beaches. Seal Rock is a large somewhat flat topped rock on which harbor seals and a few sea lions haul out during low tides and was designated as a seal reserve by the City Council and the California Coastal Commission in 1997. Children's Pool was created with a sea wall in 1932 to be an area where the public could swim, protected from waves; over the years, the pool has filled

with sand and harbor seals have since been using it as a haulout site and rookery (where they birth their pups). The City has demolished the old lifeguard station and built a new station overlooking Children's Pool and surrounding areas. Just to the south is South Casa Beach where harbor seals also haul out and give birth.

2.5 Coast Boulevard Park

Continuing southward there are onshore reefs, extending out to sea with pocket and large beaches, tide pools, and shelf areas with the park on the bluffs above. All along this coastline there are popular surfing spots depending on tides and swells.

2.6 Windansea Beach

This is the southern extent of areas considered for this management plan. It is a rocky area with intermittent sand or boulder beaches and beach homes above on the cliffs. At lower tides especially in summer, there is a long, wide sand beach for recreational activities. There is good access to the shoreline at several locations including a small parking lot between Nautilus and Bonair Streets. This is the location of the famous "Windansea shack" which was lost to high waves in 2015 and restored in 2016.

3.0 Problem Statement

Management authority for wildlife resources was originally vested with local agencies: states, counties, and cities. Gradually the federal government has assumed much of those powers but because of available personnel, first responders for wildlife and wildlife problems are still the states, counties, and cities in cooperation with federal agencies. Along the coast of La Jolla, pinnipeds (seals, sea lions, and elephant seals) have been somewhat a novelty because they were rarely seen. They were rarely seen because total populations of these animals were at relatively low levels and they occupied areas on the offshore islands where until modern times, there were very few humans or predators. On the mainland there were Native Americans and many different animal predators including cougars, bears, coyotes, bobcats, wolves, and eagles. With settlement along the North American west coast by the Spanish and then the European/colonial decedents in the early 1850s, value was seen in the pinnipeds and they were hunted for meat, hides, oil, and other uses. The pinniped population numbers decreased to very low levels, near extinction (especially for elephant seals) on the mainland and the offshore islands. In the 1940s the State of California passed laws to protect pinnipeds and in 1972 the US Congress passed the Marine Mammal Protection Act, and pinniped populations along with other marine mammals increased. This increase continues today with pinnipeds occupying areas where historically they may not have occupied.

When the United States Congress adopted the MMPA in 1972, management of marine mammals was placed with the Department of Commerce NOAA/NMFS or Department of the Interior, US Fish and Wildlife Service (USFWS). As amended, the MMPA is very explicit about the treatment of and human interactions with marine mammals. There can be no harassment or take except for permitted research, for permitted commercial fishermen incidental to fishing and for protection of gear and catch (non-lethal since 1994), for individuals to protect property (non-lethal), and for states or cities to protect people or the animals themselves.

As seal and sea lion populations have expanded over the past four decades, they have increasingly invaded areas used frequently by people, particularly near La Jolla. The La Jolla coastline is the first on the Southern California mainland where sea lions have hauled out in significant numbers and demonstrated viable birthing and successful nursing of pups. As a marine mammal issue, this area first emerged about 10 -15 years ago; Pacific harbor seals had been hauling on seal rock just east of Children's Pool (CP) and the City established that rock and nearby areas as a seal reserve. Then, the seals started hauling out on the beach at CP. This caused conflict with swimmers and beach users because of harassment issues when the public used the beach or swam in the water and potentially disturbed the seals. There was confusion as to what beach users could do given harassment provisions of the MMPA or whether they could even use the beach. Pro-seal activists adamantly rejected and protested human presence on the CP beach and in the water. Beach users were equally adamant about their right to beach/water access. There was much shouting and posturing by both sides. NMFS and local police were called to enforce the harassment issues of the MMPA. Law suits were filled, people were cited, seals were harassed, and people were harassed.

Finally, a general agreement was unofficially reached to allow people on the beach but only above the high tide line. This was further delineated with a line drawn in the sand across the beach at approximately the high tide line and maintained by seal activists. In 2006, the City installed a more permanent rope across the beach to give additional guidance as to how far down the beach people should go. The installation of this rope also became controversial; thus, in 2010, the City adopted a resolution establishing a Seasonal Shared Use Policy consisting of five adaptive management strategies for Children's Pool Beach. In their collective implementation, they were intended to protect the seals by providing a visual buffer and guideline with a year-round rope barrier that continued to allow shared use of the beach by seals and people; eliminating disturbance from dogs; educating the public on how to respectfully share the beach with the seals with informational signage; providing a qualified expert to specifically oversee further public education and enforcement at Children's Pool; and last, limiting access during pupping season while allowing for public access during non-pupping season (City of San Diego 2014). It was intended that people use the beach and swim when they would not directly disturb the seals. This generally meant entering the water at the south end of CP beach, since the seals tended to stay to the north side. The City council working in conjunction with CCC approved the closure of CP beach during pupping season (December 15 through May 15). The City's ordinance requiring a rope across the upper portion of beach is still in place.

The second marine mammal issue is California sea lions at La Jolla Cove (about 0.7 km east of CP). Within the last 5-10 years, sea lions have started hauling out in larger numbers (100-300) on the beach and other nearby shoreline locations. There has been a general shared beach concept employed there, but there have been conflicts with people approaching the sea lions to pet or take photos close to the animals. It has been reported that sea lions have also bitten a few people and there have been instances of sea lions aggressively keeping swimmers and beach goers from using access stairs or entering and leaving the water. Additionally, sea lions have come up the access stairs to enter the nearby park and to go onto the sidewalks. Another important issue is that sea lions relieve themselves wherever they are and whenever, so there are urine and fecal deposits on the beach, rock substrates, and sidewalks. The smell from this is quite offensive to some people and business owners complain that they are losing customers.

We also note that both the harbor seals and the sea lions are tourist attractions and drawing eco-tourists to La Jolla just to watch them, to be near wild animals, and to take pictures of them and

selfies with them. These tourists and activities likely contribute significantly to business in La Jolla.

The USFWS is responsible for managing migratory bird species and their international conservation. The Migratory Bird Treaty Act of 1918 established seabird management authority and is very explicit about the treatment of and human interactions with migratory birds. The Migratory Bird Treaty makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations ([16 U.S.C. §§ 703–712](#)).

For the City of San Diego, accumulated bird guano and its associated smell along with possible health issues have raised concerns. Sea birds have always occupied and defecated on the cliffs, bluffs and beaches in the La Jolla management plan area. In the past 5- 10 years it has been noted that guano build up on the cliffs and bluffs have caused excessive odors that may be offensive to some people and business owners complain that they are losing customers. These recent complaints likely coincide with drought conditions resulting in the lack of regular rain fall and sea storms that in the past kept the bluffs from guano build up.

Additionally, in the 1960s and 1970s many sea birds had difficulties reproducing due to high levels of DDT and its effects on egg-shell thinning. Due to detrimental effects on so many avian species, the EPA banned the use of certain harmful pesticides in 1972. The banning of these harmful pollutants has allowed sea bird populations to recover from diminished reproductive success resulting in a larger numbers and presence of avian species in their roosting habitats including the recovery of nesting birds at their nesting sites.

Many of the areas within the La Jolla management area are frequented by avid birders and bird photographers. They are attracted to La Jolla Point, which is located on one of the main flyways for migrating sea birds in southern California. Additionally, professional and amateur photographers are attracted to the area seasonally to photograph nesting birds or returning migrants. Specifically, the cliffs and bluffs in La Jolla have supported a small colony of nesting Brandt's cormorants (*Phalacrocorax penicillatus*) and Western gulls (*Larus occidentalis*) since the 1930s and a pair of Peregrine falcons (*Falco peregrinus*) for at least the past 20 years. Thus, La Jolla is a major eco-tourist destination for birding.

3.1 Pinniped Utilization of the Area, Scripps Pier to Windansea Beach

The life history of pinnipeds includes hauling out from the Pacific Ocean daily to spend a portion of their time on the shoreline resting, sleeping, mating (in season), and giving birth (also by season). As the populations have expanded, pinnipeds have occupied more and more shoreline areas likely because of crowding in established haulout sites. Choice of haulout sites is probably related to ease of ocean access, proximity to food resources, protection from waves, and protection from predators. Pinnipeds are documented to occupy natural settings: sandy beaches, rocky beaches, boulder beaches, rocks and pinnacles, mud flats, reefs, fallen trees, and rock shelves. California sea lions (CSL) and rarely Pacific harbor seals also occupy man-made structures (i.e. docks, buoys, landings, breakwaters, boats, barges, and fish ladders).

For the City of San Diego, pinnipeds hauling out and occupying two areas of La Jolla has created conflicts with some in the public who also wish to use the haulout areas: La Jolla Cove

and Children's Pool. Pinnipeds occasionally haul out in other nearby areas (private property, parks, and sidewalks) but usually only when sick, or undernourished. Given the expanding pinniped populations and the numerous beaches along La Jolla, the City recognizes that pinnipeds will start to occupy additional areas. The City is forward focused on potential conflicts, as well as, safety issues when pinnipeds haul out in proximity to people, streets, cars businesses, and residences.

3.2 Sea Bird Utilization of the Area, Scripps Pier to Windansea Beach

The life history of sea birds includes foraging out in the open ocean and roosting on land from the Pacific Ocean daily to spend a portion of their time on the shoreline roosting, sleeping, and in season mating, nest building, egg laying and caring for young. As the populations of various sea birds have recovered from past devastations caused by the pesticide, DDT, sea birds have recolonized areas they previously occupied. Choice of roosting and nesting sites is probably related to ease of ocean access, proximity to food resources, protection from waves and wind, and protection from predators. Additionally, use of roosting or nesting sites are highly dependent on the El Niño–Southern Oscillation which drives ocean water temperatures and circulation patterns within north eastern Pacific Ocean. If sea temperatures rise during an El Niño period, nest building and egg laying may be delayed or in years of extreme or sustained warm water, entire colonies may be abandoned because of the lack of fish forage caused by the warm water. Sea birds are found in these natural settings: sandy beaches, rocky beaches, boulder beaches, rocks and pinnacles, mud flats, reefs, fallen trees, and rock shelves. Various species of sea birds are also known to perch, roost, and nest on man-made structures (i.e. docks, buoys, pilings, landings, breakwaters, boats, barges, and fish ladders).

In La Jolla, sea birds perch, roost, forage and nest on the sheer cliffs, bluffs and on man-made structures adjacent to businesses along La Jolla Boulevard. Western gulls have been reported as nesting on the La Jolla cliffs since 1935 (Unitt 2004). Western gulls have continued to nest on the cliffs and have expanded nesting sites to tops of nearby buildings. Intermittent nesting of Brandt's cormorants occurred on the cliff at the La Jolla Caves since before 1933 (Unitt 2004). Due to human disturbances and climactic events the nest sites of the cormorants have varied in location since the 1930s. During the last couple of years, Brandt's cormorants have established a small nesting colony on the bluffs between the Cave Shell Shop and La Jolla Cove adjacent to La Jolla Boulevard. Cormorants at this nest location have been isolated to a small portion of the southern bluff edge because of increased access and human encroachment allowed by the installation by the City of a gate above the historic nesting location. Brandt's cormorants have recently attempted to nest in the historic location on the Cave cliffs; however, they have either completely abandoned the nest site during nesting (2015) or the nestlings failed to fledge (2016). Lastly, an influx of California brown pelicans on the La Jolla cliffs and bluffs occurs seasonally (typically in summer) when the birds return from their nesting grounds. The City of San Diego is concerned about accumulated bird guano and the associated smell and possible health issue that may be related to the buildup of avian waste on the cliffs and bluffs in La Jolla.

3.3 Panel of Experts

On November 10, 2016, San Diego Department of Park and Recreation coordinated and hosted an expert panel workshop to discuss California sea lions and the implications for La Jolla Cove and surrounding shoreline areas. The workshop was attended in person and conference call by representatives of NOAA/NMFS (Protected Resources and Law Enforcement), Hubbs-Sea

World Research Institute, State of California Department of Fish and Wildlife, *TerraMar* Environmental Research Ltd. Canada, Oregon Department of Fish and Wildlife, Hanan and Associates, Inc., and several departments of the City of San Diego. The panel reviewed the previous study by Hanan & Associates of La Jolla Cove sea lion abundance and behavior. There was extensive discussion of previous seal and sea lion interactions world-wide and attempted solutions to encountered problems. There was also general discussion that sea lions inhabiting and reproducing near a large southern California city is new and certainly rare. Several recommendations were made suggesting expanded education of the public to marine mammals present in close proximity to humans. Concluding remarks covered: 1) the expanding pinniped populations and likelihood of their presence continuing into the future, 2) needs to prioritize which areas would be allowed for people, the animals, and shared areas, 3) public and pinniped safety, 4) water quality and public exposure, 5) educational signage in multiple languages, 6) sea lion behavior warranting the need for constant attention by the City, 6) seeing this situation in La Jolla as an opportunity for the City to be a world leader in wild animal management.

3.4 National Marine Fisheries Service Stranding Records

We obtained stranding records of marine mammals reported to NMFS for the time period January 2006 thru May 2016 for the shoreline areas Scripps Pier to Windansea Beach. NOAA defines stranding as a marine mammal that is dead on shore or unable to return to its natural habitat. A total of 1,111 animals were recorded as those found or reported by citizens, agency employees, or the SeaWorld Animal Rescue Program. Each line of data represents a single animal and included date, physical condition (dead or alive), species, city, locality description, latitude and longitude. Usually the pinnipeds were on the beach or rocks but sometimes inland on streets, sidewalks, under cars, on porches, and in back yards. Those records were checked for accuracy of location and corrected for errors based on the locality description and analyzed using Microsoft Excel. A total of 626 records were usable after corrections, especially when corrected for location (including 7 that could not be identified to species due to advanced decomposition). There is an average of 57 stranded pinnipeds reported per year and of the 626 in this study area, only 51 were reported dead. When separating strandings by year (Table 1) please note the comparatively large numbers recorded in 2015 through May 2016 during a large El Niño event.

Table 1. Total Pinniped Strandings per Year 2006 – 2016.

2006	23
2007	37
2008	36
2009	35
2010	41
2011	17
2012	32
2013	67
2014	61
2015	146
2016	131
Grand Total	626

When separating strandings by species (Table 2), California sea lions represent the largest group recorded (71%).

Table 2. Total Pinnipeds Stranded by Species 2006 – 2016.

Common Name	Count 10+ Years	Proportion of U.S. West Coast Population
Sea lion, California	448	0.0015
Seal, harbor	99	0.0032
Seal, northern elephant	70	0.0004
Seal, Northern fur	1	<0.01
Seal, Guadalupe fur	1	<0.01
Pinniped, unidentified	7	
Grand Total	626	

We have applied all 626 stranding locations to a map of the management plan area (Figure 1). The actual reported stranding locations are accurately placed along the shoreline by latitude and longitude of where the animal was found including a few at sea and a few inland. Strandings are reported along the whole management plan area. Stranded animals occupied most available locations including beaches, reefs, and any other shoreline areas; there are concentrations at La Jolla Cove and Children's Pool.

Figure 1. Geographic Information System image of stranded pinnipeds along the Scripps Pier to Windansea Beach shoreline 2006 – 2016.
Created using Google My Maps.



3.4 Pinniped Species List

Based on these records and our research, the City has compiled this species list of pinnipeds likely to be encountered in the management plan area.

3.4.1 California Sea Lion, *Zalophus californianus*

3.4.1.1 Distribution, Stock Structure, and Migration

California sea lions (CSL) occupy nearshore areas from southern Mexico (including the Gulf of California) to Alaska and feed up to 300 miles offshore. They breed and birth their pups in spring and summer on western Baja California, Gulf of California, and the offshore southern California islands. Adult (up to 800 pounds) and subadult males migrate as far northward as Alaska after breeding season (May-July); while females (up to 250 pounds) and pups tend to stay near the rookeries or the nearshore central and southern mainland. CSL feed on squid and small schooling fish including mackerel, anchovy, and sardine. They feed on larger fish when CSL depredate catch from sport and commercial fisheries and feed naturally on salmon adults and salmon smolt in riverine habitat.

In the La Jolla area, CSLs principally occupy the bluffs and sand beaches on and adjacent to La Jolla Cove. CSLs rest in these areas as they travel along their migration routes. La Jolla Cove mainland hauling sites are the first in recent history to be documented in San Diego County or along the southern California mainland. CSL occupy hauling sites at all the offshore islands of the southern California bight (SCB) (San Clemente, San Nicolas, Santa Barbara, Santa Catalina, Anacapa, Santa Cruz, Santa Rosa, and San Miquel), as well as many rocks and pinnacles both offshore and along the mainland. They also haul out in San Diego Bay and Mission Bay on the bait receivers, buoys, docks, and boats. In 2016, the City documented the first viable CSL births, with three pups being born and cared for in early and mid-June.

3.4.1.2 Reproduction, Fecundity, and Seasonality

CSL are polygynous with large socially dominant bulls holding harems of up to about 30 females. Females and males become sexually mature at 3 and 7 years of age, respectively, although sexually mature males may not be socially mature (able to fight off other bulls and maintain a harem) until about 10 years of age. Males arrive at the breeding beaches in late May or June and about two weeks before the females, which give birth to a single pup within days of arrival. Pups are 20 pounds or less at birth, but gain weight rapidly with the fat-rich milk. They nurse for four months to a year.

3.4.1.3 Natural Mortality

Large sharks and killer whales are their major predators, although some mortality results from interactions with sport and commercial fishing. During El Niño events, mortality increases conspicuously, resulting in the only detectable checks in population growth (Lowry, 1991). This is a consequence of the scarcity of prey items (small schooling fish) during these warm water events. California sea lions can live to about 30 years.

3.4.1.4 Disease

CSL are subject to many different parasites and are subject to viral epizootic events (e.g. San Miguel sea lion virus; Gage et al 1990). Recently, neural toxins (e.g., domoic acid) which is concentrated occasionally by sardines and anchovy consuming toxic algae, and caused brain damage and death in portions of the CSL population (Cook et al 2015).

3.4.1.5 Competition

CSL compete for space on shore with harbor seals and elephant seals with the latter winning in most cases. All three populations are expanding and they seem to prefer the same beaches.

3.4.1.6 Status of the Stocks

They are not “depleted” under the MMPA nor “threatened/endangered” under the Endangered Species Act. In 2014, National Marine Fisheries Services estimated the US west coast population at 296,750 sea lions with an annual growth rate of 5.4% (Carretta et al 2015).

3.4.2 Pacific Harbor Seal, *Phoca vitulina*

3.4.2.1 Distribution, Stock Structure, and Migration

Pacific harbor seals occupy a range from Baja California, Mexico to Alaska, USA, and westward to Japan. They are perhaps the most frequently observed and most readily recognized marine mammal occurring in the nearshore coastal environment. Harbor seals are also common on both sides of the North Atlantic Ocean.

In the La Jolla area, harbor seals principally occupy Seal Rock, South Casa Beach, and Children’s Pool, which was established in 1932 by building a breakwater seawall to create a protected pool for swimming. They also are seen at Point La Jolla, nearby reefs, and rocks mainly at low tide. Harbor seals haul out all year, give birth to single pups, nurse, and molt their pelage (hair). They forage for food and mate in nearby ocean waters. This is one of three mainland harbor seal hauling out and rookery sites in San Diego County (also observed at north end of Torrey Pines beach and in a cave and surrounding rocks on the exposed ocean side of Point Loma). The City has established Children’s Pool as a shared beach for seals and people except during pupping season (15 December-15 May) when the beach has been closed to the public. Swimming and other water activities are allowed as long as there is no direct harassment of the seals.

3.4.2.2 Reproduction, Fecundity, and Seasonality

Harbor seal presence at hauling sites is year-round with seasonal peaks in abundance during their pupping and molting periods. Harbor seals are documented to give birth on La Jolla beaches during January through May (Hanan 2004, Hanan 2015). Pupping and molting periods are first observed to the south and progress northward up the coast with time (e.g. January – May near San Diego, Hanan 2004, Hanan & Associates 2011; April – June in Oregon and Washington; Jeffries 1984; Jeffries 1985; Huber et al 2001). At birth, they weigh less than 25 pounds gaining weight rapidly weaning at 4 -5 weeks. Females grow to 250 pounds; males are slightly larger, up to 300 pounds.

3.4.2.3 *Natural Mortality*

Large sharks and killer whales are the harbor seals' major predators, and increasingly, harbor seals die from interactions with sport and commercial fishing. They live about 30 years.

3.4.2.4 *Disease*

During 1988, in the Atlantic Ocean off northern Europe, an epidemic of phocine distemper virus (a morbillivirus similar to canine distemper) killed over 18,000 harbor seals (Osterhaus and Vedder, 1988). The virus was documented again in 2002, killing thousands more seals (Jensen et al. 2002). In 1997, a minimum of about 100 harbor seals died as a result of a viral infection on the California coast; this recurred in 2000, (Earle et al. 2011).

3.4.2.5 *Competition*

Harbor seals compete for space on shore with California sea lions and elephant seals with the later winning in most cases. All three populations are expanding and they seem to prefer the same beaches. Hanan (1996) showed that elephant seals are displacing harbor seals on many previously harbor seal preferred hauling sites.

3.4.2.6 *Status of the Stocks*

Pacific harbor seals are not "depleted" under the MMPA or "threatened/endangered" under the Endangered Species Act (Carretta et al. 2015). The California population was estimated at 30,968 seals in 2015; Oregon-Washington population at 125,114 in 2014; and Alaska at 152,602 for 2012.

3.4.3 Northern Elephant Seal, *Mirounga angustirostris*

3.4.3.1 *Distribution, Stock Structure, and Migration*

Elephant seals occupy coastal regions to far offshore the tip of Baja California, Mexico, to the Gulf of Alaska, USA (including the western Aleutian Islands; Le Beouf et al. 2000).

To date, only juvenile northern elephant seals have been documented using the sand beaches at La Jolla Cove and Children's Pool. These juveniles are visitors tending to rest on the beaches for a few weeks and then leave.

3.4.3.2 *Reproduction, Fecundity, and Seasonality*

There are at least twelve breeding sites from mid-Baja California to mid-California, including both island and mainland sites. During the winter, males form harems, the females have a single pup (about 75 pounds), nurse the pup for about one month, and breed before returning to sea. In about mid-March, they return to the haulout sites to molt skin and hair.

3.4.3.3 *Natural Mortality*

Elephant seals are subject to predation by killer whales and large sharks. They live 18-22 years. An average of about three individuals die annually in commercial groundfish trawl fishery (Carretta et al 2015).

3.4.3.4 *Disease*

Elephant seals harbor various intestinal parasites, as well as pathogenic bacteria and viruses. There have not been any epizootic events but the lack of genetic diversity puts them at risk

for such (All northern elephant seals are derived from a small remnant population of about 100 animals at Guadalupe Island, Mexico, because they were hunted to near extinction and therefore they are all very closely linked genetically).

3.4.3.5 Competition

There is little competition for hauling space since they are the largest animals onshore. They feed on bottom fish and are a natural part of the ecosystem. Because their population is expanding and has expanded since at least the establishment of the MMPA, they may be experiencing an expanding carrying capacity, indicating ample food resources and space for hauling out and reproduction.

3.4.3.6 Status of the Stocks

Northern elephant seals are not “depleted” under the MMPA or “threatened/endangered” under the Endangered Species Act and are increasing by about 4 % per year (Carretta et al. 2015). Lowry et al. (2014) estimate about 179,000 seals, and about 30% of the population in Mexican waters.

3.4.4 Northern Fur Seal, *Callorhinus ursinus*

3.4.4.1 Distribution, Stock Structure, and Migration

Northern fur seals are found from southern California north to Bering Sea and across the North Pacific Ocean and Bering Sea to Honshu Island, Japan. In La Jolla, northern fur seals are rarely seen. In the last ten years only two (malnourished) pups have been documented on the rock reefs.

3.4.4.2 Reproduction, Fecundity and Seasonality

Most of the breeding and pupping occurs on the Pribilof Islands of Alaska, although the closest rookeries to San Diego are San Miguel Island off Santa Barbara and the Farallon Islands off San Francisco. Bulls attract and defend large harems (about 45 cows) during the summer and late summer; females give birth within a few days of coming ashore. Females nurse their pups for a couple days at a time after at-sea feeding bouts of a week or more and wean the pups at around 4 months.

3.4.4.3 Natural Mortality

Northern fur seals live less than 26 years, have killer whale and large shark predators. In California, the population growth rates, as with California sea lions, are heavily impacted by El Niño events because of the warm water and the scarcity of schooling fishes. Northern fur seal mortality on St. Paul Island, Alaska was estimated for pups: “emaciation (53%), trauma (18%), perinatal mortality (19%), infectious diseases (3%), and miscellaneous causes (7%); and for most adults included bite wounds with cellulitis and secondary infections, pulmonary edema, dystocia, blunt trauma, and neoplasia” (Spraker and Lander 2010).

3.4.4.4 Disease

Northern fur seals are known to harbor hookworm which can cause mortality in pups. The worms are usually passed to the pups in milk when they nurse. They are also infected with various parasitic round and flat worms from their fish diet. However they have low incidence of mortality from disease (Spraker and Lander 2010).

3.4.4.5 *Competition*

They don't seem to compete for space or forage, although there is ongoing investigation into possible competition with commercial fisheries for fish.

3.4.4.6 *Status of the Stocks*

NMFS considers two stocks: the California Stock at 12,844 seals and the eastern stock at 648,534 seals. The California stock is not threatened, endangered, nor depleted. The eastern stock is not threatened or endangered but is considered strategic because it is designated depleted under the MMPA due to current low population levels compared to historic levels (Muto et al 2015).

3.4.5 Guadalupe Fur Seal, *Arctocephalus townsendi*

3.4.5.1 *Distribution, Stock Structure, and Migration*

Guadalupe fur seals were hunted to near extinction by the early 1800s with only a remnant population on Guadalupe Island, off central Baja California, Republic of Mexico. They range in the Pacific Ocean from central Mexico to central California. The population is estimated to be at least 7,500 seals (Gallo 1994; Carretta et al 2015) and increasing by 13.7 % per year. Males are much larger than females at over four hundred pounds and females at just over a hundred pounds. In the last ten years, only five Guadalupe fur seals have been documented in the La Jolla area.

3.4.5.2 *Reproduction, Fecundity, and Seasonality*

Peak birthing is in June through July with females having a single pup and breeding about 10 days later. Adult bulls form small harems up to 12 females in caves rather than on beaches with bulls protecting their harems from the water.

3.4.5.3 *Natural Mortality*

Sharks are the main predators of these seals. Males live to 13 years, while females reach about 23 years.

3.4.5.4 *Competition*

These fur seals are a top predator in the nearshore areas they inhabit, feeding on small schooling fish (including lantern fish) and squid.

3.4.5.6 *Status of the Stocks*

They are listed as threatened and fully protected by the State of California, threatened under ESA, depleted and strategic under MMPA.

3.5 Sea Bird Species List

There are many avian species that utilize the near and off shore waters, sand beaches, rock outcrops, bluffs, cliffs and upland vegetation within the La Jolla management plan area. A species list of birds observed and utilizing the management plan area is provided in Appendix II. For the purposes of this management plan, below the City has identified and describes the avian species that are resident or seasonal visitors that frequently utilize habitat within the management plan

area and may be a species considered for management due to human interactions/disturbances and/or being a possible contributor to guano build up within the management plan area.

3.5.1 Western Gull, *Larus occidentalis*

3.4.1.1 Distribution, Habitat, and Migration

Western gulls are found along the west coast of North America typically along the coast on beaches, bay fronts, estuaries and City wharfs but can also be found inland at rivers, lakes, reservoirs, and ponds. The largest colonies of western gulls occur on islands just off the California coast including Santa Barbara, Anacapa, and the Farallones Islands. In general western gulls do not migrate. Many remain at their nesting sites throughout the year and only travel short distances along the coast or from the islands to the coast (Channel Islands National Park, 2016).

In La Jolla, western gulls are year-round residents that roost, forage, and nest throughout the entire management plan area. Western gulls take advantage of scavenging on the trash and food left by park visitors and beach goers specifically at La Jolla Shores and La Jolla Cove parks and beaches. They are also opportunistic and feed on pinniped waste and spew at Children's Pool within the harbor seal colony and along the bluffs of La Jolla Cove and La Jolla Point within the sea lion colony. The gulls nest on the roof tops of homes, businesses, and outbuildings from Scripps Pier to Windansea. Western gull nests are found on the cliffs and bluffs from the coast trail to Children's Pool. Additionally, in the last three years western gulls have nested on the beach and sea wall at Children's Pool.

3.5.1.2 Breeding and Nesting

Western gulls breed and nest on offshore rocky islands and coastal bluffs from Baja to Washington State. They are colonial nesters that build a ground nest on cliff edges, grassy hillsides and human-built structures. Western gulls have only one brood in April or May that they incubate for 25 to 29 days. Chicks fledge around 42-49 days and disperse around 70 days, occasionally parental care continues beyond this time (Ehrlich et al 1988).

3.5.1.3 Status: Threats and Listing

Although common and adaptable to urban settings, western gulls are vulnerable to human pressures and events due to their restricted range. Unusual events such as oil spills, ocean acidification, and climate change may be affecting their numbers (Channel Islands National Parks 2016). Western Gull numbers are declining, possibly from the increased frequency of El Niño years that decrease or eliminate nest success (Cornell Lab of Ornithology 2016). Additionally, because they do nest near urban developed areas, they are subjected to human disturbances from human foot traffic near or at the nest site.

Some say that the population is stable or increasing. Others claim that the Western Gull is one of the most limited North American Gulls in range and population numbers, and may become a species of concern if the current practice of management decisions favor other species over Western Gulls continues. The North American Waterbird Conservation Plan estimates over 77,000 breeding birds in North America and lists them as a Species of Low Concern. Western Gull is not listed on the 2014 State of the Birds Watch List. Western gulls are protected under the Migratory Breed Treaty Act of 1819 (MBTA) which makes it illegal

for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations (USFWS 1918).

3.5.2 Heermann's Gull, *Larus heermanni*

3.4.2.1 *Distribution, Habitat and Migration*

Heermann's gull is found along the west coast of the United States, breeds in Mexico and migrates north along the Pacific and into Southern British Columbia and south into northern Guatemala. They prefer beaches, rocky shores, lagoons and estuaries. Unlike other gulls, it is rare for them to be found near garbage dumps or fresh water like lakes and ponds (National Audubon Society 2016).

In La Jolla, Heermann's gulls are seen throughout the year with the lowest numbers being observed in spring and highest numbers documented in summer and winter. These numbers coincide with their breeding migration and with those of the brown pelican since Heermann's gulls take fish from foraging brown pelicans (Unitt 2004).

3.5.2.2 *Breeding and Nesting*

Heermann's gulls breed and nest on flat rocky islands in Mexico. They care for one brood on a scraped or grassy cup nest incubating 2- 4 eggs for about 20 days. Little is known about their fledge date.

3.5.2.3 *Status: Threats and Listing*

Due to its isolated nesting location on the Island Raza in Mexico, this gull is very vulnerable to human disturbance and abnormal environmental factors; thus this species is listed on the California birds most at risk from climate change (PRBO 2008). Nesting sites on the Mexico Island are also vulnerable to fishermen that come ashore to collect eggs (National Audubon Society 2016).

The North American Waterbird Conservation Plan estimates 350,000 breeding birds on the continent and lists it as a Species of Moderate Concern. Heermann's gulls are protected under the MBTA which makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations (USFWS 1918).

3.5.3 Ring-billed Gull, *Larus delawarensis*

3.5.3.1 *Distribution, Habitat and Migration*

Ring-billed gulls are commonly found throughout year in the United States and Canada. In winter, some ring-billed gulls migrate to Mexico or Central America (National Audubon Society 2016). Ring-billed gulls occupy coastal and inland areas including beaches, mudflats, estuaries, harbors, rivers lakes and ponds. They are also associated with urban areas where there are landfills and parking lots with trash.

Within the La Jolla management plan area; these gulls are found primarily in the winter; however, non-breeders also utilize the beach and park areas throughout the entire year.

3.5.3.2 Breeding and Nesting

Ring-billed gulls breed across northern Great Plains, and southern Prairie Provinces of Canada; also in Great Lakes region, Canadian Maritimes, and northern New England, and the northwestern half of the United States. They are colonial nesters that typically return to the colony where they were born (National Audubon Society 2016). They rear one brood in a nest among rock or matted vegetation incubating 2-4 eggs for about 21 days and fledge at 4 or 5 weeks (Ehrlich et al. 1988).

3.5.3.3 Status: Threats and Listing

Ring-billed gulls are one of the most abundant gulls throughout North America as it has adapted to human presence and has taken advantage of human landfills and garbage. Although it has persisted it is still susceptible to human disturbance at nest sites and pollutants.

Ring-billed Gull populations increased in most areas between 1966 and 2014, according to the North American Breeding Bird Survey. The North American Waterbird Conservation Plan estimates a continental breeding population of 1.7 million birds. Ring-billed Gull is not on the 2014 State of the Birds Watch List. However, these gulls are protected under the MBTA as migratory birds.

*3.5.4 California Gull, *Larus californicus**

3.5.4.1 Distribution, Habitat and Migration

California gulls are found from California to Manitoba Canada, winter along the west coast, and breed inland in many areas of the western United States. These gulls are found on the coast on beaches, bays, and parks and inland near lakes, rivers, parking lots and landfills.

Like the ringed-billed gull, the California gull is primarily found within the La Jolla management plan area in winter with very few remaining along the coast through the summer. Although they rest on the beaches, at the parks and along the bluffs in La Jolla they are typically seen from La Jolla Point just offshore foraging in large groups.

3.5.4.2 Breeding and Nesting

California gulls typically nest near freshwater along the shores of lakes or rivers crating a saucer nest to support 2-4 eggs that they incubate for 27-28 days. The young fledge around 45-50 days (Ehrlich et al 1988).

3.5.4.3 Status: Threats and Listings

California Gull are relatively common, but populations appear to have declined between 1966 and 2015, according to the North American Breeding Bird Survey. The North American Waterbird Conservation Plan estimates a continental breeding population of over 414,000 breeding birds, and lists it as a species of Moderate Concern. California gulls are protected under the MBTA. They are not on the 2014 State of the Birds Watch List.

3.5.5 Brandt's Cormorant, *Phalacrocorax penicillatus*

3.5.5.1 *Distribution, Habitat and Migration*

Brandt's cormorant is found along the west coast of North America from Mexico in the south to Alaska in the north. Brandt's cormorant's main breeding colonies are located in California on the Channel and Farallon Islands and in Mexico on Los Coronados Islands. They occur in open water just offshore and along the coast on rock outcrops, cliffs, bluffs and in estuaries. The movement of Brandt's cormorants from these areas depends on food availability associated with the California Current in the Brandt's cormorant main populated areas from California to Washington (Evens et. al. 2005).

In La Jolla, Brandt's cormorants use the cliffs, rocks, and bluffs year round to roost. They also nest on the cliffs below the coastal walk, adjacent to Emerald Cove and on the bluffs adjacent to La Jolla swim cove. The colony's nesting locations vary from year to year in response to human presence. They have nested on the La Jolla bluff and cliff areas since before 1933 (Unitt 2007).

3.5.5.2 *Breeding and Nesting*

Brandt's cormorants breed and nest along the seacoasts on rocky cliffs and bluffs. Their nesting behavior and success is highly dependent on the southern oscillation which drives ocean water temperatures and circulation patterns along the California Current. If sea temperatures rise and an El Niño event is observed, a delay in nest building and egg laying is observed. In years of extreme or sustained warm water, entire colonies of Brandt's cormorants may abandon their nests as was seen during the 1983 El Niño, at the South Farallon Island (Evens et al. 2005) and in La Jolla during the 2014 El Niño. Both male and female care for one brood of 3 to 6 eggs and incubate for 25-29 days and chicks fledge at approximately 35-42 days; however they will remain with the colony and still be feed as late as early September. Their nest building in La Jolla varies from season to season and can start as early as mid-December and go into early June (Unitt 2007).

3.5.5.3 *Status: Threats and Listing*

Brandt's Cormorant remains at risk from commercial fishing, pollutants, and disturbance associated with the recreational use of the west coast marine environment, especially in areas where they nest. While diving for food, they face challenges avoiding nets deployed by commercial fishing vessels and can also become entangled in abandoned fishing line.

Although this species is listed on the California birds most at risk from climate change (Point Blue Conservation Science 2008), research suggests that, given good ocean conditions and public access restrictions, Brandt's cormorants can persist even in high-disturbance areas. The population size is large, and hence does not approach the thresholds required for listing as a vulnerable species. For these reasons the species is evaluated as Least Concern in Bird Life International (2011) IUCN Red List for birds. Waterbird Conservation for the Americas estimates that there are 151,200 breeding birds on the continent and list them as a Species of High Concern. They are not on the 2014 State of the Birds Watch List. Brandt's cormorants are among the migratory birds protected by the MBTA.

3.5.6 Double-crested Cormorant, *Phalacrocorax auritus*

3.5.6.1 *Distribution, Habitat and Migration*

Double-crested cormorants are found throughout North America, Mexico and in the Bahamas. This bird is common throughout its range and found in coastal and inland areas near estuaries, bays, lagoons, lakes, ponds, and rivers.

In La Jolla, double-crested cormorants are found mixed in with the larger colony of Brandt's cormorants on the bluffs and cliffs from the La Jolla coast walk to Children's Pool. They also perch in the Torrey pines (*Pinus torreyana*) above the clam caves. They are most abundant in fall and winter with peak numbers in November (Unitt 2007).

3.5.6.2 *Breeding and Nesting*

Double-crested cormorants nest on trees or on the ground and form a large nest made of sticks and rubbish. They are colonial nesters that care for one brood of three to four eggs. Incubation last 25-29 days and chicks fledge at 35-42 days (Ehrlich et al. 1988). In San Diego, double-crested cormorants nest in south San Diego Bay and at the Sweetwater Reservoir.

3.5.6.3 *Status: Threats and Listing*

Double-crested cormorants are sensitive to human disturbance to colonies especially in areas where they nest. They are susceptible to entanglement in abandoned fishing line and drowned in commercial fishing nets. Although the ban of DDT has helped this species to recover it is still at risk from pollutants and disturbance associated with the recreational use of the marine environment, especially in areas where they nest. El Niño events reduce the number of breeding pairs, as well as, the reproductive success of breeders and as a result this species is listed on the California birds most at risk from climate change (Point Blue Conservation Science 2008). Populations increased steadily between 1966 and 2014, according to the North American Breeding bird Survey. The North American Waterbird Conservation Plan estimates a continental population of over 740,000 breeding birds. Double-breasted Cormorant is not on the 2014 State of the Birds Watch List. Double-crested cormorants are protected under the Migratory Bird Treaty Act 1918.

3.5.7 California Brown Pelican, *Pelecanus occidentalis*

3.5.7.1 *Distribution, Habitat and Migration*

The California brown pelican ranges from British Columbia, Canada to Chile. They are associated with beaches, bays, estuaries, lagoons, piers, docks, river inlets, sand spits, breakwaters, jetties, and other man-made structures. Disturbance-free roosting habitat is essential for brown pelicans throughout the year, for drying and maintaining plumage, resting, sleeping, and conserving energy

Brown pelicans are resident birds found in La Jolla throughout the year roosting on the bluffs, cliffs, beaches, and man-made structures from Scripps Pier to Windansea. They roost communally on the Clam Point cliff and south of the Clam Point on the cliffs along Coast Boulevard. From March to May breeders migrate to offshore islands to nest and

return to the mainland in the summer with peak numbers in August and October (Unitt 2007).

3.5.7.2 Breeding and Nesting

Brown pelicans form nesting colonies on offshore islands along the Pacific coast from the Channel Islands to the islands off Nayarit, Mexico. The closest nesting sites to La Jolla are San Clemente Island and Los Coronados Islands. In the Channel Islands they only nest on West Anacapa and Santa Barbara Islands. Brown pelicans nest in trees, shrubs or on bare ground and build their nests out of sticks and grass. They care for one brood and incubate two to four eggs for 28 to 30 days. Chicks fledge somewhere between 71 -88 days (Ehlrich et al. 1988).

3.5.7.3 Status: Threats and Listing

California brown pelican remains at risk from commercial fishing, pollutants, and disturbance associated with the recreational use of the marine environment, especially in areas where they nest. Nesting and roosting birds are very sensitive to human disturbance. Pelicans are also affected by ancillary fishing activities, including the presence of vessels, noise, and lights near roosting and breeding areas (Channel Islands National Park 2016).

The California brown pelican was classified as federally endangered in 1970 and as endangered by the state of California in 1971, but was delisted as a federally listed species in 2009. The Waterbird Conservation for the Americas estimates 191,600-193,700 breeding birds on the continent and lists the species as a Species of Moderate Concern. They are not on the 2014 State of the Birds Watch List. The California brown pelican remains protected under the Migratory Bird Treaty Act and is found on the California birds most at risk from climate change (Point Blue Conservation Science 2008). Brown pelicans are protected under the Migratory Bird Treaty Act 1918.

4.0 History of Coastal Use

From Scripps Pier to Windansea there are two areas designated as marine protected areas, San Diego-Scripps Coastal State Marine Conservation Area (SMCA) and Matlahuayl State Marine Reserve (SMR). These areas fall under the umbrella of the Marine Life Protection Act program Enacted by the State Legislature, signed by the Governor, and adopted by the California Fish and Game Commission which has set forth the following conservation goals:

4.1 Marine Life Protection Act Goals

The goals of the Marine Life Protection Act are to:

- 1) Protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
- 2) Help sustain, conserve, and protect marine life populations, including those of economic value, and to rebuild those that are depleted.

- 3) Improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
- 4) Protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
- 5) Ensure that California’s Marine Protected Areas (MPA) have clearly defined objectives, effective management measures, and adequate enforcement, and that management is based on sound scientific guidelines.
- 6) Ensure that the state’s MPAs are designed and managed, to the extent possible, as a network.

By adopting these management directives for this management plan, the City will be able to implement and maintain a cohesive plan at all of the sites from Scripps Pier to Windansea Beach, which would be consistent with the State MPA program.

4.2 User Groups and Resource Use

The coastal areas of La Jolla (LJ) are very high use areas for residential and community housing; Scripps Institution of Oceanography; commercial businesses, including restaurants, hotels, small businesses; beach use (sun bathing, swimming, surfing), fishing (sport and commercial), kayaking, boating, diving, and many other types of beach and ocean enjoyment. Because weather is generally conducive to outdoor activities during the whole year, these activities are prominent year-round peaking in late summer. The City of San Diego is known as a destination location for tourists from all over the world and LJ is a prominent attraction within the City with beach visitors numbering in the millions each year.

4.2.1 Regulatory History and Management Authority

Marine mammal management was first vested with the State of California, implemented by the Fish and Game Commission; managed by the Department of Fish and Game (recently renamed Department of Fish and Wildlife) and enforced by Fish and Wildlife wardens. In 1972, Congress enacted the Marine Mammal Protection Act (MMPA) which superseded state marine mammal management, moving it under the United States Departments of Interior and Commerce with management authority for most marine mammals assigned to National Oceanographic and Atmospheric Administration, National Marine Fisheries Service. States and municipalities were given authority under section 109 of the MMPA to “take” marine mammals for the protection of the animal, the public, or property:

16 U.S.C. 1372 MMPA

Sec. 109. (h) [TAKING OF MARINE MAMMALS AS PART OF OFFICIAL DUTIES.] —

Nothing in this title or title IV shall prevent a Federal, State, or local government official or employee or a person designated under section 112(c) from taking, in the course of his or her duties as an official, employee, or designee, a marine mammal in a humane manner (including euthanasia) if such taking is for—

- the protection or welfare of the mammal,
- the protection of the public health and welfare, or
- the nonlethal removal of nuisance animals.

Sea birds are protected by the Migratory Bird Treaty Act of 1918 (MBTA), which is managed by the USFWS. Specific provisions include:

16 U.S.C. 703 MTBA

Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird."

16 U.S.C. 704 MTBA

Determination as to when and how migratory birds may be taken, killed, or possessed:

(a) Subject to the provisions and in order to carry out the purposes of the conventions, referred to in section 703 of this title, the Secretary of the Interior is authorized and directed, from time to time, having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, to determine when, to what extent, if at all, and by what means, it is compatible with the terms of the conventions to allow hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any such bird, or any part, nest, or egg thereof, and to adopt suitable regulations permitting and governing the same, in accordance with such determinations, which regulations shall become effective when approved by the President.

(b) It shall be unlawful for any person to—

- (1) take any migratory game bird by the aid of baiting, or on or over any baited area, if the person knows or reasonably should know that the area is a baited area; or*
- (2) place or direct the placement of bait on or adjacent to an area for the purpose of causing, inducing, or allowing any person to take or attempt to take any migratory game bird by the aid of baiting on or over the baited area.*

4.2.2 Non-Regulatory Conservation of Stocks

In the early years of San Diego, pinniped stocks were at much lower levels compared to current abundance, and seals and sea lions were infrequent visitors to the shoreline. However, as their numbers increased along the North American west coast, so did their occurrence in the San Diego and especially the LJ area. By the mid-1980s harbor seals were frequently observed at seal rock between LJ Cove and Children's Pool. The City designated this location as a reserve for harbor seals. Then the seals began hauling out at Children's Pool, especially at night. A volunteer docent program started to unofficially watch over the seals and the number of seals hauled out in the daytime increased. The docents unofficially created a line across the top of the beach and tried to keep beach goers behind that line. This was very contentious with beach bathers and swimmers as they wanted access to the whole beach. Later to protect the seals, the City installed a rope across the beach and encouraged beach goers to stay behind the rope. The City closed the

beach during the seals pupping and nursing season during 2014-15 and 2015-16 with the approval of the California Coastal Commission.

In 2015, the City commissioned a study of the California sea lions utilizing shore locations in and around La Jolla Shores (Hanan 2016). That study investigated sea lion abundance by season, sex, and age class; interactions with the public; and the degree of smell associated with the sea lions. The study concluded that sea lion abundance was increasing and reflected west coast sea lion abundance increases. It recommended further research on sea lion feeding habits and behavior. The report further presented recommendations for the City in dealing with the sea lions and accompanying public interactions (See 6.0 Management Alternatives below).

There has always been a sea bird presence in La Jolla. However, many sea bird species numbers declined dramatically in the 1960s and 1970s owing to pesticides, such as DDT, which had entered the sea from the land. The contaminants accumulated in fish and when sea birds ate the contaminated fish, DDT harmed their reproductive systems. The result was that DDT altered the birds' calcium metabolism causing egg-shell thinning. The eggs were so thin that they broke under the parent's weight resulting in reproductive failure. Since the ban of DDT in 1972, sea bird populations have recovered and in some cases have been increasing.

Nesting sea birds have been documented in La Jolla since before the 1930s. Sea bird nesting behavior and success is highly dependent on climate, which in turn, governs biological productivity. It is the El Niño-southern oscillation (ENSO) that drives ocean water temperatures and circulation patterns along the California Current. This system supports the sea bird food source and thus the birds' reproductive success is linked to the current's movement. When sea temperatures rise, an El Niño effect is observed typically resulting in a delay in nest building and egg laying. In years of extreme or sustained warm water, entire colonies may be abandoned.

In the San Diego County Bird Atlas, the San Diego Natural History Museum recorded yearly avian counts throughout San Diego County from February 1997 to February 2002 and included breeding distribution, nesting habits and schedule, migration, winter distribution, conservation outlook, and taxonomy, if relevant. This information gives a historic overview of sea bird presence within the La Jolla management plan area. More recently, in 2015, the City commissioned a study of the sea bird presence and abundance around La Jolla Cove. That study investigated sea bird abundance by species; nesting activities were documented and interactions with the public and degree of smell associated with the sea birds was noted. The study concluded that sea bird abundance varies seasonally in accordance with nesting and migration. The study also showed that despite continual human disturbance within nesting colonies, successful nesting of Brandt's cormorants and western gulls occurred. Recommendations include continual monitoring of the seabird nesting species due to the isolated nest locations, small local population size and limited range.

5.0 Current Issues to be addressed by this MP

Because the City of San Diego has experienced increasing interactions between pinnipeds and the public, the City has prepared this management plan, which addresses:

1. The public interfering with normal pinniped and sea bird behavior (sleeping, resting, birthing or nesting) to touch, pet, or take pictures next to the animals.
2. Pinnipeds precluding public access and creating public safety issues such as biting and from waste, public exposure to various fungi, bacteria, and parasites.
3. Pinnipeds becoming nuisance animals in parks, streets, and private property.
4. Pinniped and sea bird waste impacting water quality, especially considering rain water runoff and flushing tides (see County of San Diego Beach Water Quality; <http://www.sdbeachinfo.com/> and <https://www.sandiego.gov/water/quality>).
5. Pinniped and sea bird waste creating offensive smell and impacting local businesses.

5.1 Goals and Objectives

1. Develop an adaptive coastal marine management plan.
 - a. Establish consistent and coherent procedures and management techniques for addressing seal, sea lion, and sea birds increasing presence along the LJ shoreline.
 - b. Provide guidance and adequate training to City employees or contractors and designated handlers to maintain certain selected beaches seal and sea lion free, using NMFS approved techniques if warranted.
 - c. Continue to monitor coastal marine animal populations and behavior.
 - d. Develop a three to five year review and amendment process.
2. Ensure coordination and work cooperatively with other managing authorities
 - a. Have City employees inform animal rehabilitation centers and NMFS coordinators of stranded or entangled animals.
 - b. Develop a plan to facilitate disposal of coastal animals should mass strandings or pandemic disease result in large numbers of sick and dying animals onshore.
 - c. Explore the feasibility of actively removing animal waste from beaches if needed.
 - d. Continue enzyme spraying to reduce waste odor.
3. Educate the public on living with and enjoying our wild resources
 - a. Develop a public education or docent program addressing public behavior with pinnipeds and sea birds.
 - b. Encourage universities and colleges to study biology and behavior of local marine mammals and sea birds.
 - c. Implement public awareness and education with informative signage and pamphlets.
 - d. Provide staff knowledgeable of marine mammal and coastal seabird biology and behavior to help educate the public and ensure public and animal safety.

5.2 Authority and Responsibility

Most management plans are developed at the state or federal levels because those agencies have direct authority for the well-being of the associated land and animals. However, because marine mammals are having increased interactions with the public, federal and state officials are

generally less accessible; local agencies such as lifeguards, City officials, and port authorities are usually the first to be contacted regarding those interactions. As seal and sea lion populations have increased, cities along the west coast have had to deal with interactions which include animals hauling out on beaches, piers, landings, floats, and boats. Seals and sea lions can and have been aggressive (even biting) towards the public as they don't leave these locations when the public wants access. The counterpart to this situation is that the public often harasses the seals and sea lions by unknowingly trying to get close for pictures or petting, often putting themselves or others too close to wild animals and in harm's way.

5.2.1 Marine Mammal Protection Act of 1972 (MMPA)

Currently mammal manage authority remains with the federal government.

Because the MMPA does not allow for unauthorized harassment or take of marine mammals, there has been frustration among some groups that are impacted by the expanding pinniped populations (*e.g.* commercial and recreational fishermen losing catch and gear to seals and sea lions; beach users losing beach access; marina and landing customers losing access or use). These citizens have tried various methods to seek resolution starting at the local level extending up to the federal levels of authority. The City of Newport Beach, California, consulted with NMFS and decided to use a preventive strategy prohibiting the feeding of pinnipeds and requiring fencing to keep sea lions off boats, landings, buoys, and other potential hauling areas (Appendix II). The County of Santa Cruz even passed a resolution seeking the removal of seals and sea lions from the MMPA (Appendix III). Pacific Grove, California tried to be proactive by harassing harbor seals off Lover's Point Beach in an effort to prevent seal colonization of the beach by passing a city resolution and then an ordinance to secure this beach for human use (Appendices III and IV). San Diego has generally used the shared beach approach (see 5.3.4 Children's Pool, South Casa Beach).

5.2.2 Migratory Bird Treaty Act of 1918 (MBTA)

This Act is federal law originally enacted between the United States, Britain (on behalf of Canada) and later Mexico, Japan, and Russia. Like the MMPA it overrode state law to protect birds and bird parts of listed species as well as habitat. It is administered in the US by Department of the Interior, Fish and Wildlife Service and has had a positive effect on preserving species that were threatened. Most of the sea birds present in the proposed management plan area are covered by this act and it comes into play frequently with coastal construction projects. The act is administered with regulations specific for each area, but the public and many administrators are not knowledgeable about the act.

5.3 San Diego Management by Area

The six regions described above (2.0 Environmental Setting) are based on physical location and geographic structure. Because the areas are different in many ways, management of the areas has evolved to suit specific needs of the citizens and marine resources.

5.3.1 La Jolla Shores Beach

As part of the San Diego-Scripps Coastal State Marine Conservation Area (SMCA; Appendix I) off La Jolla Shores, there can be no take of any living resources in the reserve except for recreational hook-and-line take of coastal pelagic fish or permitted take for maintenance/scientific collecting. In Matlahuayl SMR no take of any living resources is allowed. Additional protections for this area require that boats are launched and retrieved only in designated areas and can only be anchored within the reserve during daylight hours. Scripps Institute of Oceanography has contributed to improve recreational, educational, and study opportunities provided by marine ecosystems by providing interpretive educational signage along the major access points from Scripps Pier and along the board walk of La Jolla Shores. Signage includes colorful photographs of the common biological resources that can be spotted in the water or on land in that area. They also depict MPA boundaries and provide some local history. In some cases, where there are signs there are also trash and recycle receptacles that are accessible and maintained to further contribute to conservation efforts and messages.

5.3.2 Marine Room Tide Pools, Devil's Slide, and Sea Caves

Starting at the mean high tide line and going offshore, these areas are designated marine protected areas under the Matlahuayl SMR and therefore under current management, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource. Additional SMR protections for this area require that boats be launched and retrieved only in designated areas and can only be anchored within the reserve during daylight hours. These areas cater mostly to the recreational activities of swimmers, kayakers, stand-up paddlers, SCUBA and snorkelers due to the lack of shoreline access, steep cliffs, and private properties. Because the area is less accessible, there have been some scientific studies and coastal restoration efforts for removal of exotic plant species and implementation of native plants along the coast walk trail, but little specific management for nearshore.

5.3.3 La Jolla Cove

La Jolla Point marks the southern boundary of the Matlahuayl SMR so the SMR specifically manages up to the high tide line. This area is highly used for a variety of recreational activities by both the community and visitors. Various wildlife management actions taken in this area have been fragmented and inconsistent, including various efforts to mitigate the smell from wildlife species waste through a cleaning/enzyme spraying program, intermittent, temporary, or no signage regarding rules and regulation in the area. However, recent efforts to increase cleaning maintenance efforts on a consistent basis has occurred by the City, as well as, efforts to collect scientific data on wildlife and human use to help better evaluate and understand this area. Additionally, under state-federal cooperation there has been an intermittent presence of state CDFW wardens for additional enforcement in the area.

5.3.4 Rocky Point, Shell Beach, Seal Rock, Children's Pool, South Casa Beach

These areas are outside of the Marine Protected Areas but have been the subject of management directives due to the presence of harbor seals at Seal Rock, Children's Pool, South Casa Beach, and the surrounding reefs. As previously mentioned management efforts in this area have been extensive including efforts by the City to adopt a resolution

establishing a Seasonal Shared Use Policy consisting of five adaptive management strategies for Children’s Pool Beach that, in their collective implementation, were intended to protect the seals by providing a visual buffer and guideline with a year-round rope barrier that continued to allow shared use of the beach by seals and people; eliminating disturbance from dogs; educating the public on how to respectfully share the beach with the seals with informational signage; providing a qualified expert to specifically oversee further public education and enforcement at Children’s Pool; and last, limiting access during pupping season while allowing for public access during non-pupping season (City of San Diego 2014). Although much effort has been put into these management plans there has been a break down in all five of the strategies. Of the five strategies the year-round rope has been the most consistently maintained and effective. Due to the construction of the new lifeguard station signage in the area was either removed, damaged or destroyed and to date has not been replaced. Currently there is no designated expert or organization in the area to provide sound education to the public. The City is considering the replacement of educational signage.

5.3.5 Coast Boulevard Park

This area is also outside of the MPA. There has not been concentrated management efforts in this area except for the restoration of native upland habitat in the southernmost part of the area (it is not a formally designated park).

5.3.6 Windansea Beach

Management in this area has been limited to the restoration efforts of the palm frond covered Windansea “shack” which is considered a historical site by locals and was designated a historical landmark by the San Diego Historical Resources Board on May 27, 1998.

5.4 Examples of sea lion - seal interactions and subsequent municipality actions

Pinniped populations have increased from very low levels where they were infrequently encountered to levels where they are often encountered and considered nuisance animals. These relatively new encounters are documented in fisheries both recreational and commercial, where catch is lost to depredation and pinnipeds are lost to gear entanglements. Pinnipeds are also encountered when they occupy docks, boats, floats, buoys, and more recently public beaches. Because they can be aggressive and the public gets too close to them, these encounters can and have become a problem. Additionally, sea lions leave their waste products on these man-made structures to create biological hazards and offensive smell. In La Jolla, the City has experienced a relatively new problem as the sea lions are occupying areas that are not man-made but used extensively by the public or are very near businesses affected negatively by the noise and smell. Here the City presents five examples of pinnipeds encroaching on man and how the associated municipalities have managed the circumstance. Finally, the City gives an example of human activities encroaching negatively on two established harbor seal hauling sites.

5.4.1 San Francisco CA Pier 39

Following the Loma Prieta earthquake in 1989, sea lions started hauling out on K-Dock at Pier 39. The numbers hauling out continued to increase reaching over 300 and in 2009 reached approximately 1,700 animals. They precluded use of the walk ways and landing sites for boats. The boats were moved to other landing sites allowing sea lions to occupy all available space, additional floats were added, and the sea lions have become a tourist attraction.



5.4.2 Newport Beach Harbor CA

Sea lions became nuisance animals by hauling out on docks and boats. The problems created were the public's access to their boats and other landing related items, breakage of parts and attachments on the boats, and fouling of the surfaces and interiors



of the boats with sea lion waste products. There was much press and appeals to NMFS for help. The city developed a web site regarding sea lions and passed ordinances requiring boat owners to put up barriers to keep sea lions off their boats and prohibiting feeding sea lions.

OCRegister.com

Newport Beach City announcement:

<http://www.newportbeachca.gov/government/departments/public-works/harbor-resources/sea-lions>

Sea Lions

It is the season for the return of the sea lions. They may be aggressive to humans at certain times and have charged kayaks with adults and children on board.

Their primary focus has been vessels that have easy access or vessels that have no deterrents. Call the Harbor Resources (949-644-3041) or Harbor Patrol (949-723-1002) if you observe any on board a vessel, with the location or mooring number. All mooring and dock owners must check frequently to make sure their deterrent measures are in place, are effective and kept in order at all times (see deterrent measures).

- You can find the complete NOAA ruling [here](#).
- You can find a complete list of the deterrents approved in 2008 [here](#). **Information:**
- [Sea Lion Description](#)
- [Deterrent Measures](#)
- [Municipal Code](#)
- [Other Deterrent Measures](#)

Contractors for Hire for Sea Lion Abatement:

- Seal Stop (949)607-7050 sealstop.com
- South Mooring (949)645-0334



5.4.3 Crescent City CA, Harbor Mole near Chart Room Restaurant

Sea lions had hauled out on a nearshore rocky island just outside the harbor and made occasional forages into the harbor until a landing and walkway were leased by a charter boat. The vessel operator cleaned fish and dumped fish carcasses into the harbor at this site, which attracted sea lions to feed on the carcasses and on crabs which were also attracted to the carcasses. The sea lions started hauling out on the landing and then the walkway to the earth and rock mole and then on the mole and spilled over onto the parking lot above (see attached photos). The sea lions crushed the walkway and kept the landing under water (there were a few harbor seals that hauled out on the landing too). The harbor master eventually moved the vessel to a different landing; the vessel owner stopped dropping fish carcasses into the harbor and the sea lions have stopped hauling out on the landing and the mole.



5.4.4 San Diego Bay, Bait Receiver

This facility is the largest live bait provider in the US and probably the world. There are over 200 10' by 10' bait wells in which to keep sardines and anchovies. Sea lions are attracted to them as a haulout site and source of food. There is spillage of bait when it is supplied to the boxes and a little when sold to fishermen. The sea lions have also learned how to break into the boxes. Because of the loss of fish and damage to the boxes, owner/operators have tried many methods to drive the animals away but they always came back and are still hauling out on and breaking into the boxes.



5.4.5 Pacific Grove CA, Lovers Point Beach

The city of Pacific Grove tried in 2007 by resolution/policy to keep harbor seals from colonizing Lover's Point beach. What they proposed was using City designated volunteers and employees with NMFS approved techniques to scare any adult or juvenile seals off the beach. The concept was that this would prevent pregnant females from pupping there and creating a rookery that NMFS would not approve disturbing. However, in 2013 a female successfully did pup on Lover's Point Beach. According to the 2007 policy and the 2013 ordinance the City was obligated to protect the pair by keeping people off the beach. In the years following, other seals started pupping there and it is now considered a rookery and off limits to the public during pupping season (March through June).



5.4.6 Harbor Seal Site Abandonment

Two harbor seal hauling sites: San Francisco-Oakland Bay Bridge and Strawberry Spit near San Francisco were documented as abandoned due to human interactions (Bartholomew 1949, Risebrough et al. 1979, Allen 1991). However other sites such as Children's Pool in La Jolla are extremely disturbed by the public but the seals are quite habituated to the disturbances including loud noises, human presence, and show no signs of site abandonment (Hanan 2015, Hanan and Hanan, 2014). In summer during peak public use of the beach, the seals haul out mainly at night and early morning thus avoiding people.

6.0 Management Alternatives

This plan is intended to provide the City with management alternatives and direction to help cope with these expanding pinniped and sea bird populations in La Jolla based on the City's experience and in consultation with federal, state and local agencies. The City also commissioned a 2016 Hanan & Associates report, attached, to evaluate California sea lions in the La Jolla area that was evaluated in considering alternatives and formulating the City's action items.

6.1 Alternatives Considered

6.1.1 Alternative A: No Change

The City of San Diego could choose to do little or nothing new in regards to increased seal and sea lion presence beyond what has been done (shared beach at Children's Pool, spraying bacterial enzymes on sea lion wastes, maintain gate to bluff area below Coast Boulevard for public access to LJ Cove bluff area and sea lion habitat). This method would likely lead to loss of public beach areas as pinniped populations increase.

6.1.2 Alternative B: Increase signage, education, interpretive centers, and docents

At a minimum, this educational action would help the public with understanding pinnipeds, sea birds, their role in the ecosystem, and how to conduct themselves near wild animals.

6.1.3 Alternative C: Harass pinnipeds off select beaches and bluffs

This action would require hiring and training City employees or contracting with a company (ies) to perform various forms of NMFS-approved harassment actions to move pinnipeds off areas reserved for the public. Probably the first choice (and experimental location to test techniques) for this management alternative would be LJ Cove swimmers beach. A technique that might be considered is flood lights installed to illuminate the whole beach. Another is designated sea lion specialists available at all hours to drive sea lions off the beach, but especially in the early evening hours when sea lions tend to come ashore at the swimmers beach. With time, sea lions might be kept off this beach, but they would likely become increasingly aggressive towards the specialists harassment techniques, so those performing the harassment would need specific training. To counter sea lion aggressiveness the specialists would need to change harassment techniques frequently and eventually may need to use low voltage cattle prods.

6.1.4 Alternative D: Fencing

If properly installed, fencing is very effective keeping pinnipeds off man-made structures (*i.e.* boats, docks, and landings) and is expected to keep them out of or off natural areas (bluffs and dirt slopes) where they are not wanted. Fencing requires maintenance, can add to erosion, and can detract from the inherent beauty of shoreline areas. It may require California Coastal Commission approval.

6.1.5 Alternative E: Livestock fencing

Low voltage livestock fencing has been very effective at keeping sea lions off and away from bait receivers (large floating containers in which small fish/squid are kept and sold for fishing bait). The technique could be effective at keeping sea lions off and away from the shelf areas and cliff face directly east of swimmer's beach and below Coast Boulevard, where sea lion waste generates the most frequent and strongest offensive smells, about which LJ restaurant and hotel operators complain.

6.1.6 Alternative F: Preferred Alternative

A mix of selected management measures described above:

- 1) Implement expanded signage and docents to educate the public regarding pinnipeds and pinniped behavior.
- 2) Use the NMFS approved harassment techniques to try and keep sea lions off LJ Cove beach and any other selected haulout areas. First test and then if this appears to work, use the technique at other sites chosen for public use.

7.0 Action Items

The City will continue to implement an aggressive educational safety program to develop public awareness regarding the biology and behavior of seals and sea lions and expected public behavior with seals and sea lions occurring in the La Jolla area. This program will include: increased and informative signage, brochures, education, interpretive centers, and a trained docent program.

1. The City has decided to move forward to protect pinnipeds and the public by placing gates on the base of beach access stairs to prevent sea lions from coming up beyond the beaches and thus prevent problems associated with pinnipeds in urban areas.
2. The City will continue the enzyme spraying program to reduce waste build up and offensive odors.
3. The City may hire and equip additional rangers to increase City presence and education within the plan area.
4. The City will periodically review this plan and amend as necessary.
5. The City will continue to monitor pinniped presence and behavior at all sites within the plan area.

The City may consider at a later date NMFS approved procedures to move sea lions from certain beaches should the beaches become unusable or unavailable because of pinniped incursion. In the event the City elects to take additional actions in the implementation of this operational plan, the City will comply with all applicable federal and state rules and regulations.

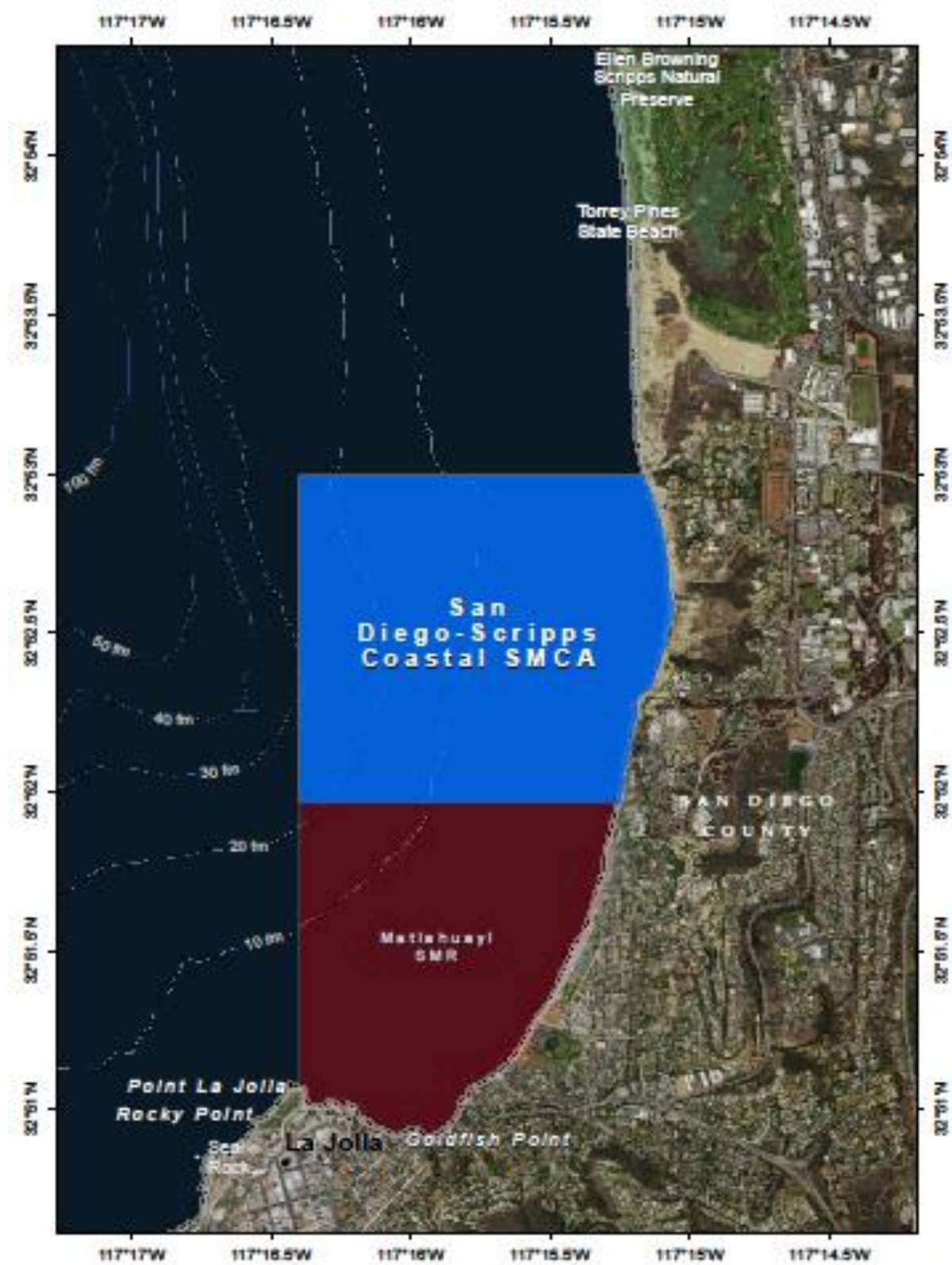
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Appendix I. San Diego-Scripps Coastal SMCA and Matlahuayl SMR. From California Department of Fish and Wildlife (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=117323&inline>)



Appendix II. Avian Species List, Scripps to Windansea

Seasonal or Temporal Status

Y = Year-round Resident

S = Spring/summer Resident

W = Winter Visitor

M = Seasonal Migrant

V = Irregular Visitor

N=Nests in La Jolla

Relative Abundance:

- A - Abundant: Almost always encountered in moderate to large numbers in suitable habitat and the indicated season.
- C - Common: Usually encountered in proper habitat at the given season.
- U - Uncommon: Infrequently detected in suitable habitat. May occur in small numbers or only locally in the given season.
- O- Occasional infrequently observed or encountered.
- R - Rare: Unusual out of range or habitat
- X- Accidental: Very unusual. Far outside of range or habitat.

* = denotes introduced species

Common Name	Scientific Name	Seasonal/ Temporal Status	Relative Abundance	
Gaviidae (Loons)				
	common loon	<i>Gavia immer</i>	C	M, W
Podicipedidae (Grebes)				
	pied-billed grebe	<i>Podilymbus podiceps</i>	C	Y
	horned grebe	<i>Podiceps auritus</i>	U	W
	eared grebe	<i>Podiceps nigricollis</i>	C	M, W
	western grebe	<i>Aechmophorus occidentalis</i>	C	M, W
	Clark's grebe	<i>Aechmophorus clarkia</i>	C	M, W
Procellariidae (Shearwater)				
	sooty shearwater	<i>Puffinus griseus</i>	R	M
Hydrobatidae (Storm-petrels)				
	ashy storm-petrel	<i>Oceanodroma homochroa</i>	R	M
	black storm-petrel	<i>Oceanodroma melania</i>	R	M
	least storm-petrel	<i>Oceanodroma microsoma</i>	R	M
Sulidae (Boobies)				
	brown booby	<i>Sula leucogaster</i>	U	V
Pelecanidae (Pelicans)				
	American white pelican	<i>Pelecanus erythrorhynchos</i>	U	M, W
	brown pelican	<i>Pelecanus occidentalis</i>	C	Y
Phalacrocoracidae (Cormorants)				
	Brandt's cormorant	<i>Phalacrocorax penicillatus</i>	C	Y
	pelagic cormorant	<i>Phalacrocorax pelagicus</i>	U	W
	double-crested cormorant	<i>Phalacrocorax auritus</i>	C	Y
Fregatidae (Frigatebirds)				

	magnificent frigatebird	<i>Fregata magnificens</i>	R	V
Ardeidae (Hérons and Bitterns)				
	great blue heron	<i>Ardea herodias</i>	C	Y
	great egret	<i>Ardea alba</i>	C	Y
	snowy egret	<i>Egretta thula</i>	C	Y
	green heron	<i>Butorides virescens</i>	C	Y
	black-crowned night heron	<i>Nycticorax nycticorax</i>	C	Y
	yellow-crowned night heron	<i>Nyctanassa violacea</i>	R	V
Anatidae (Swans, Geese, and Ducks)				
	Canada goose	<i>Branta canadensis</i>	R	M
	brant	<i>Branta bernicla</i>	U	W
	mallard	<i>Anas platyrhynchos</i>	C	Y
	gadwall	<i>Anas strepera</i>	X	M
	American wigeon	<i>Anas americana</i>	O	M
	northern shoveler	<i>Anas clypeata</i>	R	M
	blue-winged teal	<i>Anas discors</i>	X	M
	cinnamon teal	<i>Anas cyanoptera</i>	R	M
	green-winged teal	<i>Anas crecca</i>	R	M
	lesser scaup	<i>Aythya affinis</i>	C	M, W
	greater scaup	<i>Aythya marila</i>	R	M, W
	canvasback	<i>Aythya valisineria</i>	X	M
	redhead	<i>Aythya americana</i>	X	M
	surf scoter	<i>Melanitta perspicillata</i>	C	M, W
	white-winged scoter	<i>Melanitta fusca</i>	O	M, W
	common goldeneye	<i>Bucephala clangula</i>	R	M, W
	bufflehead	<i>Bucephala albeola</i>	C	M, W
	common merganser	<i>Mergus merganser</i>	X	M, W
	red-breasted merganser	<i>Mergus serrator</i>	U	M, W
	ruddy duck	<i>Oxyura jamaicensis</i>	O	M, W
Cathartidae (American Vultures)				
	turkey vulture	<i>Cathartes aura</i>	R	M
Pandionidae (Osprey)				
	osprey	<i>Pandion haliaetus</i>	C	Y
Accipitridae (Hawks and Harriers)				
	Cooper's hawk	<i>Accipiter cooperii</i>	C	N, Y
	sharp-shinned hawk	<i>Accipiter striatus</i>	U	W, M
	red-tailed hawk	<i>Buteo jamaicensis</i>	C	Y
Falconidae (Caracaras and Falcons)				
	American kestrel	<i>Falco sparverius</i>	C	Y
	peregrine falcon	<i>Falco peregrinus</i>	C	N, Y
Rallidae (Rails, Gallinules, and Coots)				
	American coot	<i>Fulica americana</i>	U	M, W
Charadriidae (Plovers and Relatives)				
	black-bellied plover	<i>Pluvialis squatarola</i>	U	M, W
	semipalmated plover	<i>Charadrius semipalmatus</i>	U	M, W
	western snowy plover	<i>Charadrius alexandrinus nivosus</i>	U	M, W
	killdeer	<i>Charadrius vociferous</i>	U	M, W
Haemtopodidae (Oystercatchers)				
	American oystercatcher	<i>Haematopus palliatus</i>	R	W
	black oystercatcher	<i>Haematopus bachmani</i>	O	Y

Scolopacidae (Sandpipers and Relatives)

greater yellowlegs	<i>Tringa melanoleuca</i>	O	M, W
solitary sandpiper	<i>Tringa solitaria</i>	X	M
spotted sandpiper	<i>Actitis macularius</i>	C	M, W
whimbrel	<i>Numenius phaeopus</i>	C	M, W
long-billed curlew	<i>Numenius americanus</i>	O	M, W
marbled godwit	<i>Limosa fedoa</i>	U	M, W
willet	<i>Tringa semipalmata</i>	C	M, W
wandering tattler	<i>Tringa incana</i>	C	M, W
surfbird	<i>Aphriza virgata</i>	U	M, W
ruddy turnstone	<i>Arenaria interpres</i>	C	M, W
black turnstone	<i>Arenaria melanocephala</i>	C	M, W
sanderling	<i>Calidris alba</i>	C	M, W
western sandpiper	<i>Calidris mauri</i>	O	M, W
least sandpiper	<i>Calidris minutilla</i>	O	M, W

Laridae (Gulls and Terns)

Pomarine jaeger	<i>Stercorarius pomarinus</i>	O	M, W
Parasitic jaeger	<i>Stercorarius parasiticus</i>	U	M, W
Bonaparte's Gull	<i>Chroicocephalus philadelphia</i>	C	W
mew gull	<i>Larus canus</i>	U	W
ring-billed gull	<i>Larus delawarensis</i>	C	W
California gull	<i>Larus californicus</i>	A	W
herring gull	<i>Larus argentatus</i>	U	W
Thayer's gull	<i>Larus thayeri</i>	R	W
glaucous-winged gull	<i>Larus glaucescens</i>	O	W
western gull	<i>Larus occidentalis</i>	A	Y, N
Heermann's gull	<i>Larus heermanni</i>	A	Y
Black-legged Kittiwake	<i>Rissa tridactyla</i>	O	W
California least tern	<i>Sternula antillarum browni</i>	O	S
Caspian tern	<i>Hydroprogne caspia</i>	U	S
gull-billed tern	<i>Gelochelidon nilotica</i>	U	S
royal tern	<i>Thalasseus maximus</i>	C	Y
elegant tern	<i>Thalasseus elegans</i>	C	M, S
Forster's tern	<i>Sterna forsteri</i>	C	Y
black skimmer	<i>Rynchops niger</i>	C	Y

Alcidae (Auks, Murres, and Puffins)

pigeon Guillemot	<i>Cepphus columba</i>	X	V
Xantus' murrelet	<i>Synthliboramphus hypoleucus</i>	O	W
Ancient murrelet	<i>Synthliboramphus antiquus</i>	C	W
Cassin's murrelet	<i>Ptychoramphus aleuticus</i>	R	W
rhinoceros auklet	<i>Cerorhinca monocerata</i>	R	W

Columbidae (Pigeons and Doves)

rock pigeon	<i>Columba livia</i>	A	Y, N
mourning dove	<i>Zenaida macroura</i>	C	Y, N

Psittacidae (Parrots)

red-crowned parrot	<i>Amazona viridigenalis</i>	U	Y
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Tytonidae (Barn Owls)

barn owl	<i>Tyto alba</i>	R	Y
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Strigidae (Typical Owls)

great horned owl	<i>Bubo virginianus</i>	C	Y
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Apodidae (Swifts)	white-throated swift	<i>Aeronautes saxatalis</i>	U	Y
	black swift	<i>Cypseloides niger</i>	R	M
Trochilidae (Hummingbirds)	Anna's hummingbird	<i>Calypte anna</i>	C	Y, N
	Costa's hummingbird	<i>Calypte costae</i>	C	Y, N
	rufous hummingbird	<i>Selasphorus rufus</i>	C	M
	Allen's hummingbird	<i>Selasphorus sasin</i>	U	M, W
Alcedinidae (Kingfishers)	belted kingfisher	<i>Megaceryl alcyon</i>	C	M, W, Y
Picidae (Woodpeckers and Wrynecks)	northern flicker	<i>Colaptes auratus</i>	U	M, W, Y
	Nuttall's woodpecker	<i>Picoides nuttallii</i>	U	Y
Tyrannidae (Tyrant Flycatchers)	dusky flycatcher	<i>Emphidonax oberholseri</i>	O	M
	Pacific-slope flycatcher	<i>Emphidonax difficilis</i>	C	M
	black phoebe	<i>Sayornis nigricans</i>	C	Y, N
	Say's phoebe	<i>Sayornis saya</i>	C	W, M
	ash-throated flycatcher	<i>Myiarchus cinerascens</i>	C	M, S
	Cassin's kingbird	<i>Tyrannus vociferans</i>	C	Y, M, N
	western kingbird	<i>Tyrannus verticalis</i>	C	M
Vireonidae (Typical Vireos)	warbling vireo	<i>Vireo gilvus</i>	C	M
Corvidae (Jays, Magpies, and Crows)	western scrub-jay	<i>Aphelocoma californica</i>	C	Y, N
	American crow	<i>Corvus brachyrhynchos</i>	A	Y, N
	common raven	<i>Corvus corax</i>	C	Y, N
Hirundinidae (Swallows)	northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	U	M, S
	barn swallow	<i>Hirundo rustica</i>	U	M, W, S
	cliff swallow	<i>Petrochelidon pyrrhonota</i>	U	M, S
Aegithalidae (Bushtit)	bushtit	<i>Psaltriparus minimus</i>	C	Y, N
Troglodytidae (Wrens)	Bewick's wren	<i>Thryomanes bewickii</i>	C	Y
	house wren	<i>Troglodytes aedon</i>	C	M, W, S
Regulidae (Kinglets)	ruby-crowned kinglet	<i>Regulus calendula</i>	C	M, W
Sylviidae (Sylviid Warblers and Gnatcatchers)	coastal California gnatcatcher	<i>Poliopitila californica californica</i>	U	Y
	wrentit	<i>Chamaea fasciata</i>	C	Y
Turdidae (Bluebirds and Thrushes)	western bluebird	<i>Sialia mexicana</i>	C	Y, W
	American robin	<i>Turdus migratorius</i>	U	Y, M, W
	Swainson's thrush	<i>Catharus ustulatus</i>	U	M
	hermit thrush	<i>Catharus guttatus</i>	U	M, W
Mimidae (Mockingbirds and Thrashers)	northern mockingbird	<i>Mimus polyglottos</i>	C	Y, N
	California thrasher	<i>Toxostoma redivivum</i>	U	Y

Motacillidae (Pipits and Wagtails)	American pipit	<i>Anthus rebuscens</i>	U	W
Ptilonotidae (Silky Flycatchers)	phainopepla	<i>Phainopepla nitens</i>	U	M
Bombycillidae (Waxwings)	cedar waxwing	<i>Bombycilla cedrorum</i>	U	M, W
Sturnidae (Starlings)	European starling	<i>Sturnus vulgaris</i>	A	Y, N
Parulidae (Warblers)	orange-crowned warbler	<i>Oreothlypis celata</i>	C	M, W, S, N
	yellow warbler	<i>Dendroica petechia</i>	U	M
	Townsend's warbler	<i>Dendroica townsendi</i>	C	M, W
	yellow-rumped warbler	<i>Dendroica coronata</i>	A	M, W, S
	common yellowthroat	<i>Geothlypis trichas</i>	O	M, Y
	Wilson's warbler	<i>Wilsonia pusilla</i>	C	M
Thraupidae (Tanagers)	western tanager	<i>Piranga ludoviciana</i>	O	M, W
	summer tanager	<i>Piranga rubra</i>	O	M, W
Cardinalidae (Grosbeaks, Buntings, and Relatives)	lazuli bunting	<i>Passerina amoena</i>	U	M
	black-headed grosbeak	<i>Pheucticus melanocephalus</i>	C	M, S
Emberizidae (Sparrows, Blackbirds and Relatives)	spotted towhee	<i>Pipilo maculatus</i>	C	Y
	California towhee	<i>Melospiza crissalis</i>	C	Y
	fox sparrow	<i>Passerella iliaca</i>	U	W
	song sparrow	<i>Melospiza melodia</i>	A	Y, N
	Lincoln's sparrow	<i>Melospiza lincolnii</i>	U	M, W
	dark-eyed junco	<i>Junco hyemalis</i>	C	M, W
	white-crowned sparrow	<i>Zonotrichia leucophrys</i>	A	M, W
	golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	U	M, W
Icteridae (Blackbirds, Meadowlarks, Orioles, and Relatives)	hooded oriole	<i>Icterus cucullatus</i>	C	M, S, N
	Bullock's oriole	<i>Icterus bullockii</i>	C	W, S, N
	Brewer's blackbird	<i>Euphagus cyanocephalus</i>	U	Y, M, W
	brown-headed cowbird	<i>Molothrus ater</i>	C	S, M
Fringillidae (Finches)	house finch	<i>Carpodacus mexicanus</i>	A	Y, N
	lesser goldfinch	<i>Spinus psaltria</i>	C	M, Y, N
	American goldfinch	<i>Spinus tristis</i>	U	M
Passeridae (Weaver Finches)	*house sparrow	<i>Passer domesticus</i>	A	Y, N

Appendix III. Santa Cruz Resolution.



County of Santa Cruz

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060 (831)
454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123

ALVIN D. JAMES, DIRECTOR

November 23, 1999

AGENDA: December 7, 1999

Board of
Supervisors
County of Santa
Cruz 701 Ocean
Street Santa
Cruz, CA 95060

**RESOLUTION REQUESTING DELETION OF CALIFORNIA SEA LIONS AND PACIFIC
HARBOR SEALS FROM THE MARINE MAMMAL PROTECTION ACT**

Members of the Board:

The Santa Cruz County Fish and Game Advisory Commission (Commission) has long been concerned with the increase in the populations of California sea lions and Pacific harbor seals. This concern stems from the many interactions between the human fishing population and these species on the Monterey Bay, and concerns that these species may be retarding the recovery of local "threatened" or "endangered" fish stocks (steelhead and coho salmon). On October 7, 1999 the Commission voted unanimously to approve the draft resolution and recommend its adoption by your Board. The Commission also directed staff to include supporting studies and information, copies of which are on file at the Clerk of the Board.

The Commission has been concerned with sea mammal/fisheries interactions for the past seven years and has discussed the issue at many Commission meetings, The Commission advised the Board of their concern in a letter of 12/01/94 (Attachment 2). The Commission has also been active in advocating the study of the issue, as evidenced by the recommendation to your Board to partially fund a study being done by the Moss Landing Marine Laboratories (Attachment 4) that will assess the various interactions and conflicts between sea lions/seals and humans. Your Board has authorized three grants totaling \$14,000 for this study.

In February 1999, the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, and the National Marine Fisheries Service completed their Report to Congress: "Impacts of California Sea Lions and Pacific Harbor Seals on Salmonids and West Coast Ecosystems" (Report to Congress, Attachment 3). The Report to Congress concludes that:

- populations of California Sea Lions and Pacific harbor seals are "abundant, increasing, and widely distributed on the West Coast"

- "many salmonid populations, which are declining due to a host of factors, are being preyed upon by pinnipeds."

- conflicts exist with commercial and recreational fishing, including damage to docks and boats, human safety issues

The Report concluded that because pinnipeds are protected under the Marine Mammal Protection Act, State resource management agencies are unable to resolve many otherwise routine wildlife problems that involve pinnipeds.

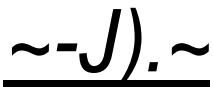
The recommendations of the Report to Congress include:

- site-specific management of California sea lions and Pacific harbor seals, including lethal take under specific situations, such as those involving predation on 'listed' salmonids
- the development of safe, effective non-lethal deterrents
- selective reinstatement of the authority for lethal take by commercial fishers to protect gear and catch
- further studies to better evaluate and monitor impacts on fisheries and coastal ecosystems, including river specific studies of salmonid populations and pinniped predation and socioeconomic impacts of pinniped predation on various commercial and recreational fisheries

In addition to requesting the Board's support for the recommendations of the Report to Congress, the Santa Cruz County Fish and Game Advisory Commission also recommends that your Board support the deletion of California sea lions and Pacific harbor seals from the Marine Mammal Protection Act, as one means to assist the recovery of the coho salmon and steelhead fishery.


It is, therefore, RECOMMENDED that your Board consider adoption of the attached Resolution, as recommended by the Fish and Game Advisory Commission.

Sincerely,



ALVIND.J.

Planning Director

RECOMMENDED: 
SUSAN A. MAURIELLO
County Administrative Officer

Attachments: 1. Resolution Requesting Deletion of California Sea Lions and Pacific Harbor Seals From the Marine Mammal Protection Act.

2. Letter to the Board of Supervisors from the Fish and Game Advisory Commission dated

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12/1/1994

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3. Report to Congress: Impacts of California Sea Lions and Pacific Harbor Seals on Salmonids and West Coast Ecosystems, February 10, 1999.

4. Report by Moss Landing Marine Laboratories: Food Habits of California Sea Lions and Their Impact On Salmonid Fisheries in Monterey Bay, California, February 1999.

5. Agenda and Minutes of 10/7 /99 Fish and Game Advisory Commission Meeting.

(the following attachments are on file with the Clerk of the Board)

6. Prevalence of Marine-Mammal Tooth Claw Abrasions on Adult Anadromous Salmonids Returning to the Snake River, North American Journal of Fisheries Management, August 1994.

7. Review and Evaluation of Pinniped Predation on Salmonids In the Columbia River Basin, National Marine Fisheries Service, June 1993.

8. Impact of Sea Lions and Seals on Pacific Coast Salmonids, NOAA-NWFSC Tech Memo-28

9. San Jose Mercury News, March 29, 1997.

10. Pinniped Populations, Eastern North Pacific: Status, Trends and Issues, A Symposium of the American Fisheries Society 127th Annual Meeting, August 28, 1997.

11. Monterey Bay Salmon and Trout Project 1994-1995 Coho Surveys.

12. Pros and Cons of Pinniped Management Along the North American Coast to Abet Fish Stocks, NOAA, NMFS, 1992.

cc: Santa Cruz Fish and Game Advisory Commission

Appendix IV. City of Newport Beach Municipal Code

From Newport Mooring Association website:

In February 2006, the Newport Beach City Council adopted these ordinances relating to sea lion deterrence and wildlife feeding in Newport Bay (NBMC 17.22.150, 17.24.085 and 7.30).

Click to [Newport Beach Municipal Code](#), or read sea lion-related sections below

Chapter 7.30.010 - *Feeding of Non-Domesticated Animals Prohibited.*

It is unlawful for any person to feed or provide food to any non-domesticated animal. (Ord. 2006-4 § 1 (part), 2006)

Chapter 7.30.020 - *Feeding of Non-Domesticated Animals—Exceptions.*

It shall not be a violation of Section 7.30.010 of this chapter for a person to feed or provide food to a non-domesticated animal when the non-domesticated animal is maintained, treated or fed pursuant to a valid certificate or permit issued by the County of Orange, the State of California, or an agency of the United States Government. (Ord. 2006-4 § 1 (part), 2006)

Chapter 7.30.030 - *Depositing of Food, Refuse, Fish or Fish Parts Prohibited.*

A. It is unlawful for any person to deposit, put, place, drop, dump or throw or cause to be deposited, put, placed, dropped, dumped or thrown any food, refuse, fish, or fish parts into the waters of Newport Bay including, but not limited to, washing down a vessel or dock containing fish parts, bait or food into the waters of Newport Bay; or pumping live or dead bait out of holding tanks of a vessel or a dock into the waters of Newport Bay.

B. It is unlawful for any person to deposit, put, place, drop, dump or throw or cause to be deposited, put, placed, dropped, dumped or thrown any food, refuse, fish, or fish parts on to any public pier, except in containers provided therefore. (Ord. 2006-4 § 1 (part), 2006)

Chapter 7.30.040 - *Notification of the Public Required*

Any person who engages in the business of: chartering vessels including, but not limited to, chartering fishing, harbor tour, and passenger vessels; or renting day-use boats, shall keep a copy of Chapter 7.30 posted in a conspicuous place on the vessel or boat and upon the premises where such business is conducted and shall notify all persons using the vessel or boat of the provisions of this Chapter.

Chapter 17.24.085 - *Securing of Structures; subsequently enumerated*
17.50.100

A. If, based upon an inspection by the City or Orange County Harbor Patrol or other facts, the Harbor Resources Director determines that a sea lion has boarded a permitted structure and/or any vessel or other appurtenances attached to the structure, the Harbor Resources Director shall provide the permittee with a notice of determination and the permittee shall take any and all necessary action to employ appropriate measures to deter sea lions from boarding the structure and/or any vessel or other appurtenances attached to the structure, within thirty (30) days (**soon to change to 7 days -ed.**) of the mailing of the notice of determination. If the Harbor Resources Director determines that appropriate deterrent measures have not been taken within thirty (30) days of the mailing of the notice of determination, the Harbor Resources Director shall provide the permittee with a second notice of determination and the permittee shall take any and all necessary action to employ appropriate sea lion deterrent measures within seven days of the mailing of the second notice of determination. Appropriate deterrent measures shall be defined as the latest methodology permitted by National Marine Fisheries Service (and published on the City of Newport Beach Harbor Resources Website -ed.) to minimize sea lion boarding of a permitted structure and/or any vessel or other appurtenances attached to the structure.

B. In addition to any criminal, civil, administrative or other legal remedy that may be available to enforce violations of the Municipal Code or applicable State Codes, violations of this section may be enforced in accordance with the provisions contained in Chapter 1.05 of this code.

C. The determinations of the Harbor Resources Director under this section may be appealed in accordance with the provisions contained in Chapter 17.42 of this title. (Ord. 2006-5 § 2, 2006)

Appendix V. City of Pacific Grove Resolution



CITY OF PACIFIC GROVE
300 Forest Avenue, Pacific Grove, California 93950

AGENDA REPORT

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HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: Celia Perez Martinez, Business Manager

MEETING DATE: December 19, 2007

SUBJECT: Consider a Resolution to Establish a City Council Policy – Program to Prevent Harbor Seals from Establishing Habitat at Lovers Point Beach and Harbor Seal Mother and Pup Protection at Lovers Point Beach.

RECOMMENDATION :

Receive report and approve a resolution to establish a policy to deter seal harbors from establishing habitat on Lovers Point and to establish protection procedures in the event of seal births at Lovers Point Beach.

DISCUSSION:

History:

Seals crowd the west beach of Hopkins Marine Station. In 2006, a few mother seals used the next beach west at the base of 5th Street to bear their pups. The small beach was closed and temporary protective fencing and signage was erected to protect the seals. In 2007, more harbor seals used the beach for pupping. Given the small size of the beach and increased use, docents and marine staffs from local agencies have considered the possibility of the seals moving onward in a westerly direction to Lovers Point Beach. The docents asked the City through the Beautification and Natural Resources Commission (BNRC) to draft a policy and ask the City Council to establish this policy should seals try to habitat and give birth at Lovers Point.

In general, the experts believe that the “humanness” of Lovers Point Beach will deter the seals from establishing themselves there for a pupping season. Marine biologists believe that the human odors and activity at Lovers Point Beach will deter the seals from establishing habitat.

Current:

The BNRC invited experts from National Oceanic and Atmospheric Administration, (NOAA), the National Marine Fisheries Service (NMFS), and the Marine Mammal Rescue Center to its September meeting. In addition, a local marine biologist who has studied the local population for 20 years attended. The concern was presented and discussed. Consensus by these experts was that the City should not allow the seals to establish at Lovers Point Beach, and that should pupping occur, the mammals should be protected until the time the pups are able to swim away with their mothers, and, that they be discouraged from returning.

NOAA law enforcement and the regional director for the National Marine Fisheries Service strongly recommended that the City establish a plan to prevent the establishment of seals on Lovers Point Beach.

It was pointed out to the committee that San Diego failed to take action when they had a similar phenomenon occurred at a popular beach called Children's Pool. The City did not have a policy in place nor intent for management of the situation on that particular beach. As a result, the conflict plays out in court.

Based on the discussion at the September meeting, a sub-committee was formed. It was comprised of Bill Kampe, Thom Akeman, who is a docent, and Roger Phillips, of the Monterey Bay Aquarium. NOAA law enforcement provided federal law citations discussing that the seal are protected by federal law. In addition, they provided the provisions that allow state and local officials to take action to protect the seals or public health and welfare. The methods allowed by law to discourage what is known as "hauls outs", when seals literally haul themselves out of the water to the land. The methods are varied and range from non-aggressive to aggressive. All the methods are approved by NOAA. The committee has made recommendations for the policy that includes an action plan and the methods of deterrent.

FISCAL IMPACT:

None

ATTACHMENTS:

Policy Guidelines, BNRC report, Resolution

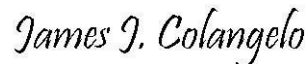
RESPECTFULLY SUBMITTED:



Celia Perez Martinez
BUSINESS MANAGER

REVIEWED

BY:



Digitally signed: I have reviewed this document

James J. Colangelo
CITY MANAGER



CITY OF PACIFIC GROVE

Public Works Department

Policy for Mitigation Measures to for Prevention of Seal Haul Outs at Lovers Point Beach December 19, 2007

Policy:

The City of Pacific Grove intends to discourage seal haul outs at Lovers Point Beach. The City will use selective proactive measures to achieve this goal. No action will be taken for sporadic seal presence at other beaches outside of the pupping season.

If seal pups are delivered on any beach in the city, the city will temporarily close the beach to public uses and provide fencing and signage to protect the seals and their pups for the season, February through May. In this area the season traditionally runs March to June.

Action Plan:

For Haul Outs at Lovers Point.

1. Notify interested agencies and organizations of the plan and actions that will be taken
 - a. Prepare process
2. Designate "first responders", who may be city employees. They will be trained as to methods that can be used to deter the seals from coming onto the shore.
3. In the event of haul outs, first response will be to take direct action to deter the seals off the beach
Techniques will be those acceptable by National Oceanic and Atmospheric Administration.(NOAA)
(there are several techniques acceptable by NOAA that the BNRC does not recommend)
Activities Recommended
 - a. Human presence

- b. Acoustic devices such as pots and pans noisemakers
- c. Noise makers that dispense noise periodically
- d. (Digital Audio Repellers).
- e. Sonic Repellers
- f. Scarecrows

Activities Recommended Against

- a. Barriers, likely unworkable and ineffective for our beaches
 - b. Excessive or continuous noises
 - c. Direct physical contact with the seals, such as poking with dowels or tossing lightweight items at them.
4. The City will also have the option to solicit and train volunteers maintain visual diligence. Volunteers may come from beach goers, surfers, and local rental operators.
 5. Contact local NOAA offices to ensure collaboration in executing the plan.
 6. Initiate reporting activities and reporting to National Marine Fisheries Service (NMFS).
 - a. Prepare reporting forms and document process.

Pups delivered on a city beach including Lovers Point:

1. In the event there is a birth(s) at a city beach the deterrent activities shall change to protection for the pupping season.
2. Protection of seals with pups will include:
 - a. Fencing off the beach are and posting No Trespassing signs as provided by NOAA
 - b. Enlist in NOAA's help in posting at low tide where necessary.
 - c. Use docents to explain the pupping viewing sites and the nature of the mothers and their pups. This is currently done at the other sites.
3. Should Lovers Point Beach be a pupping site the next activity should be to encourage the seals from the beach so that the mother seals and their new offspring do not become habituated to the beach.
 - a. Methods used will be the same as the haul out prevention methods.
 - b. NOAA and the NMFS will provide the guidelines for when it is appropriate to begin this activity.

KAMPE, AND ROGER PHILLIPS

Pacific Grove
Beautification and Natural Resources Committee
Harbor Seal Policy – Findings and Recommendations
Tuesday, October 23, 2007

Summary Recommendation:

Establish a Pacific Grove policy to: 1) deter harbor seals from Lovers Point beach, and; 2) protect harbor seal mothers and pups if birthing occurs on any Pacific Grove beach.

This recommendation is consistent with the suggestions of several experts and federal law enforcement officials who shared their knowledge of the applicable laws and their experiences with us.

Issue:

Seals now crowd the west beach of Hopkins Marine Station. In 2006 a few mother seals used the next beach west at 5th Street to bear their pups. The result is that the beach was closed and temporary fences were erected to protect the seals from the public. More harbor seals used the 5th Street beach for pupping in 2007. The concern that prompted our discussion is that seals may continue to migrate westward if crowding continues. The next beach west is Lovers Point, a popular human destination for thousands who sunbathe, swim, surf, scuba dive, and kayak.

Factors:

At the September 25 BNRC meeting, invited experts from National Oceanic and Atmospheric Administration (NOAA), the National Marine Fisheries Service (NMFS), and the Marine Mammal Rescue Center were invited to describe their perspectives on this possibility. Additional background was provided by a marine biologist who has studied the local harbor seal population for 20 years. We heard the following:

1. Pacific harbor seals are protected by federal law, as are all marine mammals.
2. The shoreline of Pacific Grove is a protected marine sanctuary.
3. In general, the protections of seals prohibit any actions that harass the animals with the effect of causing the seals to change their behavior or causing injury to the seals.
4. Nevertheless, there is an exception to this restriction. State and local officials may take action to protect either the seals or public health and welfare. The local officials include city employees and may include designated volunteers who receive proper training.
5. If a city employee should take action that influences the behavior of a seal, the action must be performed in a humane manner and it must return the seal to its native environment. Further, an annual report must be filed with NOAA/National Marine Fisheries Service describing each action and result.
6. **The strong recommendation by NOAA law enforcement and the representative of the National Marine Fisheries Service was that the City of Pacific Grove establish a plan to try to prevent the establishment of seals on Lovers Point.**
7. San Diego now encounters great controversy as a result of seals on a beach called Children's Pool. Part of the difficulty is that San Diego did not have a clear plan and intent for management of the situation on that beach. The conflicts now play out in court.

Elements of a Response Plan

Based on BNRC discussion, a subcommittee was appointed to develop a response plan to recommend a policy and actions by the City of Pacific Grove in the event of seal "haul outs" beyond the Hopkins Marine Station. The recommendation includes a Seal Policy and an Action Plan:

Seal Policy

1. The City of Pacific Grove intends to discourage seals at Lovers Point and will use selective proactive measures to achieve this goal. No action will be taken for sporadic seal presence at other beaches outside of the pupping season.
2. However, if seals pups are delivered on any beach in the city, including Lovers Point, the city will temporarily close that beach to public uses and provide fencing to protect the seals and their pups during the pupping season.

Action Plan

1. In preparation for the possibility of seals on Lovers Point, the city will
 - a. Designate the “first responders”, who may be city employees, and provide training in advance of need, so that the city can execute the plan quickly if required.
 - b. Prepare the reporting forms and process, so that there would be no delay if action is necessary
 - c. Notify interested agencies and organizations of the plan, explaining the reasons and rationale, so any activation will not be a surprise.
2. If seals are discovered on Lovers Point, the first response is to take direct action to encourage them to go elsewhere.
 - a. Apply selected permissible techniques as suggested by NOAA:
 - i. Use human presence and activity, acoustic devices acceptable to NOAA, and manual noise makers such as clanging of pots and pans.
 - ii. The BNRC recommends against
 1. Barriers and exclusion, which are likely to be unworkable and ineffective for our beaches
 2. Other listed visual repellants
 3. Excessive and continuous noise, which would be disruptive to residents and visitors
 4. Direct physical contact with seals
 - b. Solicit and train additional volunteers to maintain continual diligence. Potential volunteers may come from regular users of the beach, such as surfers, dive shops, and kayaking operators.
 - c. Initiate record keeping activities and reporting to NMFS
 - d. Contact local NOAA officials to ensure effective collaboration in executing the plan
3. However, if pups are delivered on any city beach, the situation now changes to a phase of protection during the pupping season. The pupping season typically runs from early April into June. At this point, any action to drive away adult seals could and would most likely result in abandonment of pups. The pups would starve without the mothers’ care.
4. Protection of seals with pups will include:
 - a. Fencing off the beach and prohibiting trespassing onto the beach.
 - b. Enlisting the aid of NOAA enforcement to post signs in low tides areas that might allow access to the beach areas occupied by the seals.
 - c. Possibly using docents to explain the pupping that can be witnessed on the beach.
5. Following the pupping season, if it occurs at Lovers Point, the action shifts again to encourage seals to move from the beach, so that mother seals and their new offspring do not become habituated to the beach. This phase could require some period of sustained effort to cause seals to move to another location.

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF PACIFIC GROVE ESTABLISHING
COUNCIL POLICY NO. _____ PROGRAM TO PREVENT HARBOR SEALS FROM
ESTABLISHING HABITAT AT LOVERS POINT BEACH AND HARBOR SEAL
MOTHER AND PUP PROTECTION AT LOVERS POINT BEACH

WHEREAS, Pacific Harbor Seals are a marine mammal protected by federal law yet there are provisions that allow state and local officials to take action to protect the seals or public health and welfare; and

WHEREAS, the local seal population uses the Hopkins Marine Beach and the 5th Street P Beach and could possible outgrow these sites and expand to other sites west; and

WHEREAS, marine docents, law enforcement from the National Oceanic and Atmospheric Administration, the regional director from the National Marine Fisheries Service, as well as local biologists who specialize in the local harbor seal population believe that the City of Pacific Grove should not allow the seals to establish themselves at Lovers Point Beach

NOW THEREFORE, THE COUNCIL OF THE CITY OF PACIFIC GROVE DOES RESOLVE AS FOLLOWS:

Adopt Council Policy No. _____ Program
to Prevent Harbor Seals From Establishing Habitat at Loves Point Beach and Harbor Seal
Mother and Pup Protection at Lovers Point Beach

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF PACIFIC GROVE this 19th day of December, 2007, by the following vote:

YES:

NOES:

ABSENT:

APPROVED:

DANIEL E. CORT, Mayor

ATTEST:

CHARLENE WISEMAN, City Clerk
APPROVED AS TO FROM:

DAVID C. LAREDO, City Attorney

Appendix VI. City of Pacific Grove Ordinance

Lover's Point Marine Refuge Chapter 14.04

14.04.010 Established.

All the waterfront of the city, together with those certain submerged lands in the Bay of Monterey contiguous thereto, as set forth and particularly described in that certain act of the Legislature of the State of California entitled, "An act granting to the City of Pacific Grove the title to the waterfront of said City together with certain submerged lands in the Bay of Monterey contiguous thereto," approved by the Governor June 9, 1931, are hereby established as a refuge for the protection of certain kinds of marine life hereinafter mentioned and as a marine garden of the city and reference is hereby made to said act of the Legislature for a particular description of said waterfront and said submerged lands. [Ord. 13-018 § 3, 2013; Ord. 210 N.S. § 5-401(1), 1952].

14.04.020 Unlawful acts.

Anyone taking specimens of marine plant life, or who willfully disturbs, injures or destroys marine animal habitats or who removes sand, gravel, or rocks therefrom shall be guilty of a misdemeanor, and may be prosecuted pursuant to Chapter [1.16](#) PGMC. [Ord. 13-018 § 3, 2013; Ord. 08-006 § 47, 2008; Ord. 1004 N.S. § 1, 1978; Ord. 210 N.S. § 5-401(2), 1952].

14.04.030 Removal of certain material permitted.

Notwithstanding the provisions of PGMC [14.04.020](#), nonliving animals or portions thereof, detached plants, pebbles, flotsam and jetsam may be removed for noncommercial purposes and reduced to possession, but the quantity of nonliving animals and pebbles that may be taken shall not exceed the possession of one handful. The marine refuge shall not be subject to habitat destruction by the relocation and repositioning of large rocks. The city manager or his or her delegated authority may issue permits for scientific collecting of specific organisms or objects in specific quantities within the marine preserve of the city of Pacific Grove. [Ord. 13-018 § 3, 2013; Ord. 349 N.S., 1960; Ord. 210 N.S. § 5-401(3)].

14.04.040 Protection of harbor seals during the pupping season.

It is the policy of the city of Pacific Grove to protect harbor seal mothers and pups if birthing occurs on any Pacific Grove beach, and to deter long-term habitation at Lovers Point Beach. No action will be taken for sporadic seal presence at other beaches outside of the pupping season. [Ord. 13-018 § 3, 2013].

14.04.050 Protection activities and beach closures during the harbor seal pupping season.

If harbor seal pups are delivered on any beach in the city, the city will temporarily close the beach to public uses and provide temporary fencing and signage to protect

the seals and their pups for the pupping season through weaning. Protection of seals with pups will include:

- (a) Placing temporary fencing off the beach or a barrier at least 50 feet from the location of the pup, using materials such as a mesh fencing;
- (b) Posting “No Trespassing” signs;
- (c) Enlisting assistance from federal/NOAA enforcement where they have jurisdiction at low tide and where necessary;
- (d) Coordinating with volunteer docent programs on public outreach to explain the pupping viewing sites and the nature of the mothers and their pups;
- (e) Should Lovers Point Beach become a pupping site, the city, in consultation with NOAA and NMFS officials, may encourage the seals to move off the beach after the pup has been weaned, or at a point where it will not harm the mother or pup, so that the mother seals and their new offspring do not become habituated to the beach.

Methods that may be used are described in PGMC [14.04.060](#). NOAA’s Office of Law Enforcement and the NMFS will provide guidance to the city for when it is appropriate to begin these activities. [Ord. 13-018 § 3, 2013].

14.04.060 Protection of Lovers Point Beach from adult and/or weaned harbor seals. In the event of juvenile or adult haul outs at Lovers Point Beach, city staff, and other state and federal agencies with jurisdiction, may take direct action to encourage the seals to move off the beach. The city will coordinate with interested agencies and organizations as to the plan and actions that will be taken.

(a) Actions that may be taken to encourage harbor seals to move from Lovers Point Beach include, but are not limited to:

- (1) Human presence;
- (2) Acoustic devices and/or noise makers that dispense noise periodically;
- (3) Sonic repellents;
- (4) Visual deterrents such as scarecrows or false predators; or
- (5) Techniques acceptable by National Oceanic and Atmospheric Administration (NOAA) and/or recommended in the federal Marine Mammal Protection Act.

(b) Actions that are discouraged to deter harbor seals at Lovers Point Beach are:

- (1) Barriers to deter harbor seals the beach, unless pupping has occurred;
- (2) Excessive or continuous noises; and
- (3) Direct physical contact with the seals. [Ord. 13-018 § 3, 2013].

14.04.070 Coordination with state and federal agencies during the harbor seal pupping season.

Prior to and during the harbor seal pupping season, the city will coordinate with local NOAA offices and initiate reporting activities and reporting to National Marine Fisheries Service (NMFS) to ensure collaboration in executing procedures at Lovers Point Beach and a protection plan at all other city beaches. [Ord. 13-018 § 3, 2013].

14.04.080 Unlawful acts during the harbor seal pupping season.

Anyone who interferes with activities taken in accord with this chapter to protect harbor seals during the pupping season, or to encourage seals to move off the beach, including but not limited to trespassing, protective fencing, removing signage, or other acts that may be detrimental to the seals and their pups shall be guilty of a misdemeanor, and may be prosecuted pursuant to Chapter [1.16](#) PGMC. [Ord. 13-018 § 3, 2013].

Appendix VII. Hanan, D.A. 2016. Final Report. California Sea Lion Observations at La Jolla Cove Initial Investigation of Abundance and Behavior with Recommendations/Options



by
Dr. Doyle A. Hanan
Hanan & Associates, Inc.

June 28, 2016

Submitted to
City of San Diego
Park and Recreation Department
San Diego, CA 92101

P.O. #4500062579

EXECUTIVE SUMMARY

Hanan & Associates, Inc. performed California sea lion counts and enumeration by age and sex in the La Jolla Cove area during the period March 11, 2015 to March 19, 2016. Behavioral observations were made at all hours of the day and night. On the United States west coast, these pinnipeds are abundant and not listed as endangered or threatened, and as a result, the population is expanding and occupying new territory. This expansion has increased interactions with people and property. The current El Niño event has impacted their general health and reproductive capacity, but is not likely to cause a long-term population decline.

California sea lions haul out and occupy at least ten different areas in and around La Jolla Cove near San Diego, California. They haul out year round and at all times of day and night in locations that are heavily utilized by the La Jolla community, visitors, and tourists. We observed all sea lion age and sex classes in the La Jolla Cove vicinity at all ten hauling areas. People and sea lions have caused or are starting to cause erosional issues along the bluff and cliff areas, which with continued use is likely to cause further damage to the natural and managed landscapes around La Jolla Cove. Sea lions have shown some aggression towards swimmers and beach users and to people that have tried to interact too closely with them (petting, selfies, pictures). Sea lions have been documented above and inland from beach areas near streets and in the park which creates health and safety issues for both the sea lions and the public. Sea lions urinate, defecate, and spew (coughing or regurgitating) while hauled out, resulting in strong odors from the waste which are offensive to some people.

Further research and management options are presented to address sea lion presence, interactions, and potential issues.

1 INTRODUCTION

La Jolla Cove, California (LJC) is a picturesque beach community destination and a nationally recognized tourist attraction with its unique landscape of small pockets of beaches, coves, sea cliffs, caves, and wildlife. The location is heavily utilized for recreational purposes and hosts numerous annual community events. Human foot traffic on the beaches and rocky areas is constant throughout the year and at all times of the day and night.

In recent years, California sea lions (CSL) have expanded use of the rocky terraces and beaches at LJC resulting in increased interaction with the public and significant animal waste build up. The accumulation of animal waste in close proximity to urbanized and frequently used space raises concerns for public health and welfare, and for the safety of people and wild animals in close proximity to one another.

Hanan & Associates, Inc. (H&A) was contracted by the City of San Diego to observe California sea lions (*Zalophus californianus*) in the vicinity of LJC. The project estimated numbers of California sea lions by age and sex during a one-year period. H&A also monitored CSL behavior and interactions with humans and was asked to identify management options that might reduce or eliminate direct and indirect interactions. In the La Jolla vicinity, previous CSL research has focused on sport and commercial fisheries interactions (Miller et al. 1983; Hanan et al. 1989; Hanan and Fluharty, 1997; Jefferson and Curry, 1994; NMFS-PSMFC, 1997), but has neither considered nor investigated CSL hauling (climbing or jumping out of the ocean) behavior because there have not been any significant mainland hauling sites along the southern California bight. Previously, CSL have only hauled out on buoys, docks, boats, bait barges, exposed rocks and pinnacles. These LJC mainland hauling sites are the first in recent history to be documented in San Diego County or along the southern California mainland. CSL occupy hauling sites at all the offshore islands of the southern California bight (SCB) (San Clemente, San Nicolas, Santa Barbara, Santa Catalina, Anacapa, Santa Cruz, Santa Rosa, and San Miquel), as well as many rocks and pinnacles both offshore and along the mainland. In 2003, Mark Lowry (National Marine Fisheries Service (NMFS)) and Octavio Maravilla-Chavez (Instituto Nacional de Ecologia) estimated the CSL population in the Republic of Mexico and the United States to be 344,000 to 359,000 CSL with 9% in the Gulf of California, 22-24% in western Baja California, and 67-69% on the U.S. west coast (Lowry and Maravilla-Chavez, 2003).

1.1 Regulatory Aspects

California sea lions are managed under the Marine Mammal Protection Act of 1972, as amended (MMPA) and they are protected from all forms of harassment and take (MMPA defines “**take**” to mean “to hunt, harass, capture, or kill” any **marine mammal** or attempt to do so). CSL are not listed as Endangered or threatened under the Endangered Species Act, nor as depleted under the MMPA (Lowry, et. al. 1992; Carretta et al. 2015). They are not considered a strategic stock under the MMPA because total human-caused mortality (331 fishery-related mortalities plus 291 from other sources) is less than Potential Biological Removal (9,200 CSL) a value similar to a sustainable removal level.

The MMPA preempted all state and local authority to manage marine mammals and placed that authority with NMFS and the US Fish and Wildlife Service. NMFS has management authority for all pinnipeds. Although not required, the City may perform certain actions under authority of the federal MMPA:

The Marine Mammal Protection Act of 1972 as Amended Findings and Declaration of Policy 16 U.S.C. 1361

Sec. 109. (h) [TAKING OF MARINE MAMMALS AS PART OF OFFICIAL DUTIES.] —

(1) Nothing in this title or title IV shall prevent a Federal, State, or local government official or employee or a person designated under section 112(c) from taking, in the course of his or her

duties as an official, employee, or designee, a marine mammal in a humane manner (including euthanasia) if such taking is for—

- (A) the protection or welfare of the mammal,
- (B) the protection of the public health and welfare, or
- (C) the nonlethal removal of nuisance animals.

Because the City is concerned for the well-being of the public and CSL, the City commissioned this study to identify problems and understand options available regarding CSL at LJC with the full understanding that management authority rests with NMFS. However, certain aspects of CSL biology and behavior are not and likely will not be addressed by NMFS, therefore this action to obtain available options, review public recommendations, and possibly to address specific problems at LJC using NMFS approved methods.

1.2 Initial Assessment

CSL haul out of the Pacific Ocean by going ashore on beaches, rocks, and pinnacles or climbing onto man-made objects large enough to support their weight. CSL haul out individually or in large groups for a variety of reasons including rest, sleep, sub-adult males mock fighting, females nursing their pups, and in some cases because they are ill or injured. CSL urinate, defecate, and spew (coughing and throwing up) while hauled out. This is a potential health and safety problem when these sites are also used by the public, as these areas can become dangerous because of CSL biting, and waste becoming a slipping hazard, exposure to the bacteria *Escherichia coli* (abbreviated *E. coli*), and additional health-related issues, along with the aesthetic issue of the offensive smell.

H&A observed LJC areas where CSL haul out and CSL behavior associated with various hauling activities. Since that documentation in the spring of 2015 and through date of this report, the eastern Pacific Ocean has experienced a major El Niño event, which has had significant impacts on the local environment including higher ocean temperatures, movements of fish, birds, and squid out of the area with influxes of fish and bird species normally found much further south, off Mexico and beyond. Those changes appear to have impacted CSL in that they likely could not find normal prey items or could not find sufficient quantity (market squid, anchovy, mackerel, sardine, and other fish). Squid fishermen and bait haulers have reported a diminished availability of these fish and squid during the last two years. Female CSL have been in poor physical condition with marine mammal rehabilitation centers reporting unusual numbers of female CSL being taken in for care and treatment. H&A observed a number of females having still births of pups in various developmental stages during the spring of 2015 and 2016, presumably because of their poor physical condition (Dr. Robert DeLong, NMFS sea lion expert, 2015 pers. comm. April 13). CSL young-of-the-year/pups have also been in very poor physical condition during 2015-16 and they too have been captured for rehabilitation in numbers far greater than previous years. These conditions likely have greatly influenced the number of CSL, health and behavior around La Jolla during this project, but we expect our study represents a

reasonable view of hauling behavior, and is a reasonable portrayal of CSL use of the LJC area.

1.2.1 Initial Assessment — Goals

The goals of the Phase 1 initial assessment were:

1. To document CSL hauling sites;
2. To designate hauling sites for observations;

1.3 Monitoring Sea Lion Numbers & Behavior

H&A documented CSL numbers by age and sex class in the LJC areas to better understand the dynamics of CSL behavior and interactions with humans. Since federal protection started with the MMPA in 1972, the west coast CSL population has increased about 4 - 6% per year (Carretta et al. 2015), and in turn, CSL that previously used LJC area as a temporary resting location are now present year round. They are represented by all age and sex classes demonstrating some typical behaviors including: resting and sleeping, sub-adult males mock fighting, females nursing pups, and two documentations of viable births (nursing for a few days with the second birth) as well as, a few other nursing pups assumed born on the offshore islands. With continued presence, there have been increasing conflicts with the public beach users and swimmers. Those conflicts are two-fold and have included aggressive CSL actions towards humans trying to cross the beach; while CSL have been harassed by humans as they try to rest or sleep on the beach or rocks. Another source of contention has been the odor from CSL feces, urine, and spewing. These odors are frequently very strong, eliciting revulsion or nauseous sensations in some people. Hotel and restaurant owners near LJC report loss of business due to CSL noise and smell.

1.3.1 Monitoring Sea Lion Numbers & Behavior — Goals

The goals of the second phase of initial assessment were:

1. To document CSL numbers by age, sex, and season;
2. To observe CSL behaviors and interactions, as well as, human behaviors with CSL;
3. To subjectively assess smells on a relative scale at each monitoring area. 2.0

4. PHYSICAL LOCATIONS

For monitoring, we divided LJC into ten observation or monitoring areas based on location and substrate (Figure 1). The areas were not of equal size but did reflect CSL usage as hauling sites:

Figure 1. La Jolla Cove Sea Lion Monitoring Areas (shown with yellow pins).



1) Area One is north of the LJC Bridge Club from the green gazebo to the eastern edge of Point La Jolla and is made up of a sand and boulder beach (Boomer's) and a sandstone shelf. There is public access including cement and wood steps from the sidewalk down to the sandstone shelf.

2) Area Two, extends southward to LJC swimmer's beach and includes the boulders at the north end of the beach where people can access at low tide.



3) Area Three, La Jolla Cove Beach includes all of the sand beach. There is direct public access to the sand beach via two cement stair cases on the southwest side and north end of the beach.

4) Area Four represents the top of the sand stone shelf adjacent to the vegetation, the



white fence, and the sidewalk next to Coast Boulevard and includes a pathway down to the sandstone shelf areas below. The white gate is a spring loaded, latch gate that can be opened by hand and serves as the entrance for the public to Areas 4, 5, and 6.

5) Area Five is the wash rock rubble and boulders at water's edge below the sandstone shelf south east of the LJC beach and below Area 6.



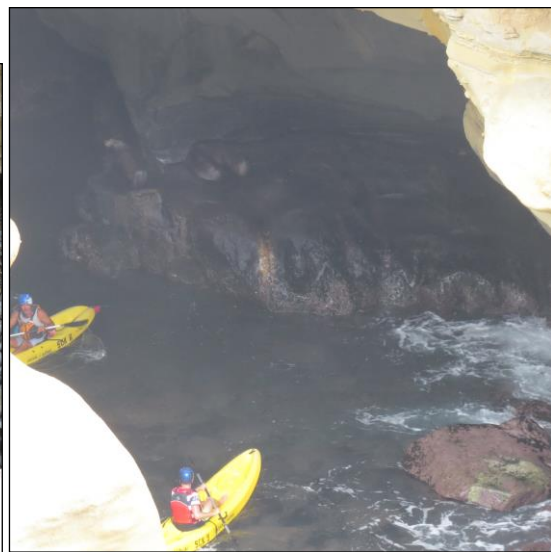
6) Area Six is a large sandstone shelf and boulder section below the wooden white fence and sidewalk of Coast Boulevard it is where the largest concentrations of sea lions haul out and sea birds roost. It is also the area sprayed by the City to reduce CSL waste build up and associated smell.

7) Area Seven is a very steep cliff east of Area 6 just beyond the fencing with rock shelving and boulders at the base and water's edge. It extends southward above a small embayment. There is limited public access to this area due to the sheerness of the cliff; however the public does access



the area by climbing over the white fence. This cliff is mainly occupied by large numbers of western sea gulls, brown pelicans, and Brant's cormorants, with a few sea lions at the base of the cliff.

8) Area Eight is the boulder beach below the Cave Store; it is at the end of the embayment (known as Emerald Cove) and includes the cave on the east side. A sheer sandstone cliff encompasses the rock beach from the top of Coast Boulevard; therefore, only allowing public entry from the ocean; there is no land based public access to this area.



9) Area Nine is a cliff and lower rocky area which extends from the mouth of the cave to Gold Fish Point (referred to as The Clam). The public can enter the area off the Coastal Scenic Trail (near the Cave Store) by following a series of maintained natural wood and dirt stairs to a latched gate entrance at the base of the stairs. Note the sea lions, pelicans, and sea gulls on the side of the cliff. This area is frequented by people climbing down from pathways above.





10) Area Ten is a small boulder and rock shelf on the east side of Goldfish Point. There are a few eroded trails on the top of the cliff Area 9 leading to the rocky shelf and Area 10 at the base of the cliff.

3.0 METHODS

The project commenced March 11, 2015 with observations randomized by day and time of day. There were one to four observation/monitoring periods during any observation day and time to complete a set of observations was one to four hours.



Observations were conducted during day (ten power binoculars) and night (night-vision binoculars). Starting and ending location varied by day, location, and weather conditions. We used a two-page data sheet to record observations (Appendix A). The first sheet was for CSL counts and observations and the second sheet was for seabird counts and observations. Environmental and weather conditions were recorded on the second sheet.

At each area, we counted total CSL and then counted by age and sex class when it could be determined. At night using night vision binoculars, we were only able to count total animals and generally could not identify all age or sex classes, but CSL pups and juveniles could usually be distinguished from adults. Also at night, we could not count at areas which were far from the observation point (Areas 7, 8, 9, or 10).

Behavior (i.e. moving to or from the water, sleeping, fighting, nursing, flushing or fleeing, etc.) was noted, photographed, and some video was taken. We also noted any observed health issues such as wounds, weight or body condition, tags, brands, and shave marks.



We observed, recorded, photographed, and videoed interactions with other animals and humans. Counts and behavior observations were entered from the data sheets into a spreadsheet with which we did all analysis and graphing.

We made a subjective assessment of offensive smells at each area (Figure 2) based on a scale of 0-3 (zero representing no detectible smell, 1 detectible smell, 2 detectible offensive smell and 3 offensive smell causing a physical reaction) and tried to identify the smell source (CSL, birds, plant material, sewage, etc.).

4.0 RESULTS

4.1 Pinniped and Seabird Counts

We conducted 3,737 counts and observations of pinnipeds (seal and sea lion) and sea birds during March 11, 2015 through March 19, 2016 at LJC areas and vicinity. Data collected after March 19, 2016 were not included in our analysis nor in this report. In addition to CSL, we recorded 91 instances of northern elephant seals (*Mirounga angustirostris*) hauling out on LJC beach (Area 3), 48 Pacific harbor seals (*Phoca vitulina richardsii*) at Areas 2, 3, and 6, and one northern fur seal pup (*Callorhinus ursinus*) at Area 10. The elephant seals were usually one or two juvenile animals and often the same seals were observed on multiple days.



Juvenile Elephant Seal



Harbor Seal

4.1.1 Sea Lion Counts by Area

We counted CSL at each of the ten monitoring locations. Each of the areas we delineated had specific characteristics such as substrate which effected how the CSL used the area (see Table 1) and our ability to observe the animals. We do not believe there were any locations where we could not observe the animals during daylight hours. All counts were recorded and analyzed on a per observation basis. Totals for all areas averaged 10 CSL per area. We further enumerated CSL by age and sex class by area (Figure 2).



Table 1. Descriptive Statistics for Counts of Sea Lions by Observation Area (Mean is the average of all counts for an area, SD is standard deviation of the mean, and n is total number of counts for that area)

Area	1	2	3	4	5	6	7	8	9	10
Mean	10.5	6	12.1	2.1	10.7	38.7	3.4	4.1	8.4	1.2
SD	12.9	7.7	14.8	5.5	13.5	36.7	4.6	5.2	7.5	1.9
n	392	392	395	391	396	396	344	343	349	340

4.1.2 Sea Lion Counts by Age/Sex

We recorded total CSL at each area and then recorded CSL numbers by age and sex. Summaries of those data are presented in Table 2 and Figure 3. Because we could not always identify age/sex class but could count total animals, we converted actual counts by age/sex class to ratios of total counted to sums of age/sex class counted during a count at a particular station. For example, if we counted a total of 10 CSL at a station but could only identify 5 by age/sex, then each number by age/sex was factored up by two at that station to account for the total by age/sex. Sometimes they were factored down. The sum of total counted was 37,582 and the sum of age classes counted was 31,462 for a 1.19 overall ratio.

Since we did not have equal monthly counts by area, we used average CSL per count, per area for analysis and comparative purposes by age/sex class (Figure 2). We used the following abbreviations for age/sex class throughout the document: AM: Adult Male, SAM: Sub-adult Male, AF: Adult Female, SAF: Sub-adult Female, SA (UK): Sub-adult undetermined sex, JUV: Yearling to Sub-adult, Pup: less than 1 year, Still: born dead.

Table 2. Averages of Ratio Counts by Month, March 2015-March 2016
(See abbreviations above).

Month	AM	SAM	AF	SAF	SA(UK)	Juv	Pup	Still
Jan	4.8	5.2	5.6	1.8	4.0	3.3	6.0	0.0
Feb	3.3	4.2	5.5	1.8	3.7	4.5	1.8	1.1
Mar	2.3	2.3	6.2	2.5	4.2	3.1	2.2	1.4
Apr	2.2	3.2	5.7	2.2	3.6	2.9	2.2	1.2
May	2.7	4.4	8.9	2.3	4.6	4.0	1.0	1.1
Jun	3.5	7.3	7.8	2.4	2.7	4.4	1.0	1.0
Jul	2.3	5.7	9.3	2.8	4.2	5.5	0.0	0.0
Aug	4.2	5.0	6.0	2.9	1.7	3.2	0.9	0.0
Sep	3.1	4.9	4.1	2.0	1.5	4.0	1.3	0.0
Oct	5.2	4.4	4.3	2.2	1.7	3.3	0.0	0.0
Nov	3.4	4.0	3.1	1.7	1.5	2.5	1.5	3.0
Dec	3.2	3.6	2.8	1.7	2.4	2.4	1.3	0.0

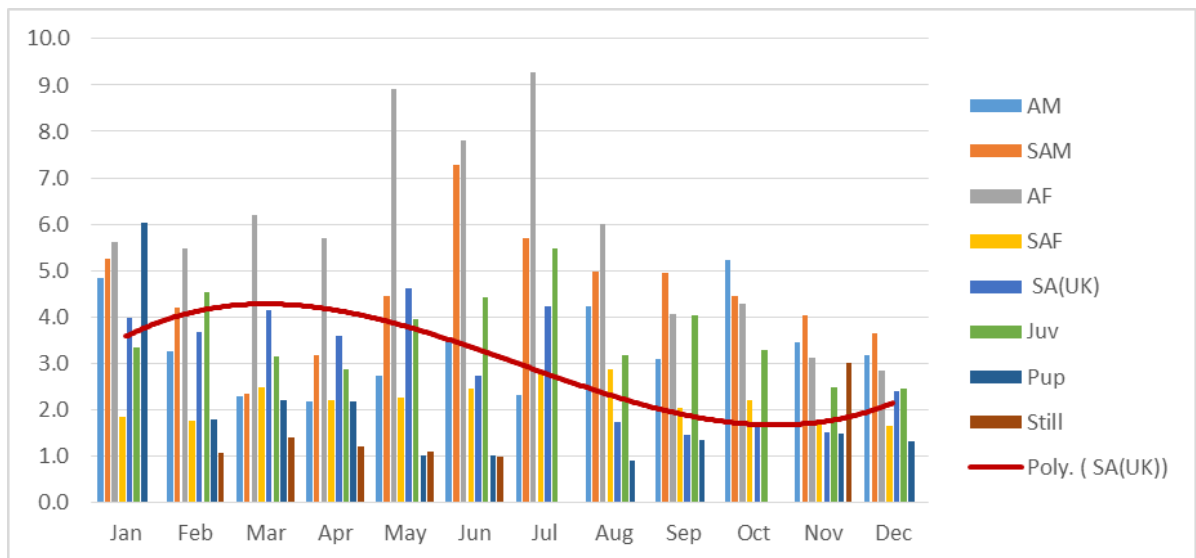
4.2 Sea Lion Hauling Behavior

Our observations of CSL revealed several generalized 24 hour patterns at LJC which seem to reflect patterns we have observed at the offshore islands; however they haul out to land or go to sea at all times of the day and night. They also respond to weather, sea, and surf conditions by moving higher or lower on the shore or leaving into the water.

4.2.1 Daily Hauling Behavior

Each morning about an hour before sunrise, a few CSL wake and start moving towards the water. We observed this on all substrates, whether they are on the shelf, cliff, or beach areas. This activity wakes others, some of which, also start moving towards the water and this activity continues into mid-morning. Usually not all animals leave the hauling areas. But human presence can cause or accelerate the process and many more to leave (e.g. swimmers at the cove beach of Area 3, people going through the gate at Area 4, and people going onto the rock shelf below the Bridge Club in Area 1), the City spraying to breakdown fecal matter and reduce smell, or SeaWorld rescuing sick/injured animals. Some of these CSL move to other areas where there are no or fewer people and many others go out to sea. Those who don't leave appear to rest or sleep for varying periods of time and may or may not leave later in the day.

Figure 2. La Jolla Cove Monthly Average of California Sea Lions by Age/Sex Class March 2015 - 2016. On this chart January, February, and part of March were recorded in 2016 while the other months were recorded in 2015. Counts were adjusted by ratio estimator to reflect total counted to counts by age/sex class. The trend line represents total CSL counted by month.



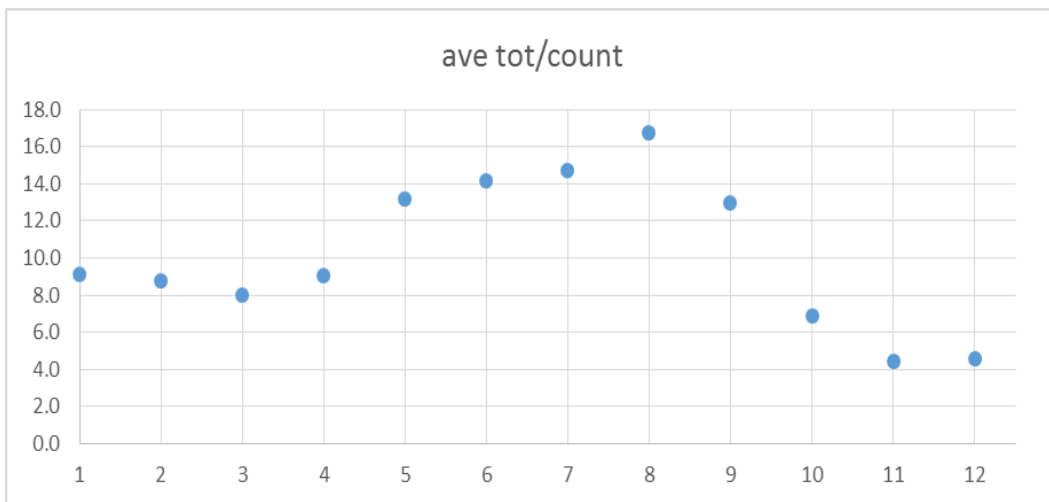
In the evening just after dark, a large number of CSL can be seen in the surf or just offshore before they proceed to haul out on all substrates and areas especially the LJC beach and areas 5 and 6. This pattern does not appear to specifically reflect age or sex, but often the first to haul out are adult or sub adult males. Once ashore, they tend to move up the beach or rocks to the base of the cliffs and a few go up the cliffs. They tend to settle in groups of varying size and start sleeping. They sometimes will move

during the night, but generally stay in the same group and as more animals haulout, the groups blend together. Crowding may cause some animals to move up the cliffs.

4.2.2 Seasonal Hauling Behavior

We observed a noticeable change in numbers of animals by season, age, and sex. Total CSL hauled out by month reflected the arrival of males and females passing through LJC to offshore islands and departure of reproductive animals to the offshore islands during May through July (Figure 3). In the spring of 2015, there was an increase in pregnant females who birthed still born pups. Although this may happen to some degree during most years, we assume this observed level was due to the El Niño event and the emaciated condition of many of the females.

Figure 3. Average California Sea Lion Count by Month, All La Jolla Cove Stations.



4.3 Sea Lion Interactions

4.3.1 Justification for Action, What Are the Problems

In and near LJC, CSL haul out on rocks, rock shelves, and beaches. This presence



would normally be acceptable, however these hauling areas are close to businesses (thus smell from CSL) and people want to access the beaches; while at the same time, there is a large contingent of people who want to be near to or observe these wild animals in a natural setting.

There are additional concerns regarding the interactions between the public and sea lions, especially as

CSL expand in LJC. The City, in response to public input, installed a latched gate on December 31, 2013 through the wooden fence next to the sidewalk and Coast Boulevard at Area 4. This

allowed public access through the heavily vegetated Area 4 to Areas 5 and 6 below. The gate has been heavily used by the public to experience CSL very close up and as a result the public created an accessible path down to Areas 5 and 6. Daily and during large swells and storm events, CSL use or retreat to this area to rest and sleep away



from the wave action. Consequently they have expanded the resting spot laterally onto the vegetation, crushing plants and enhancing bluff erosion in this location. CSL have also started coming up the cliff in several other places above Area 6 creating paths, crushing vegetation, thus causing more erosion. We are now seeing similar results of CSL

increasing presence in Area 1 below the Bridge Club with more and more crushing of vegetation and more erosion.



CSL have started to come up the three stairways, mainly at night, when numbers of CSL ashore are at the highest level; they are coming into the park and onto the sidewalks even out along Coast Boulevard. There is increased possibility of interactions with cars on Coast Boulevard and increased possibility of interactions with people and dogs in the park. These interactions are not only potential physical interactions (hit by car, fighting and biting people and dogs) but

potential passage of disease from dogs to CSL or CSL to dogs. We have also observed sea lions preventing swimmers from entering or exiting the water and from going up or down the cement stairs.

A primary concern is the close proximity of the visitors to the CSL. On the beach in Area 3, on the cliff and shelf Areas 4, 5, 6, and 9 and on the sandstone shelf at Area 1 people try to get as close as they can to get photographs, clap at the animals to get a response, and even pet the animals. We have observed the CSL bark, lunge,



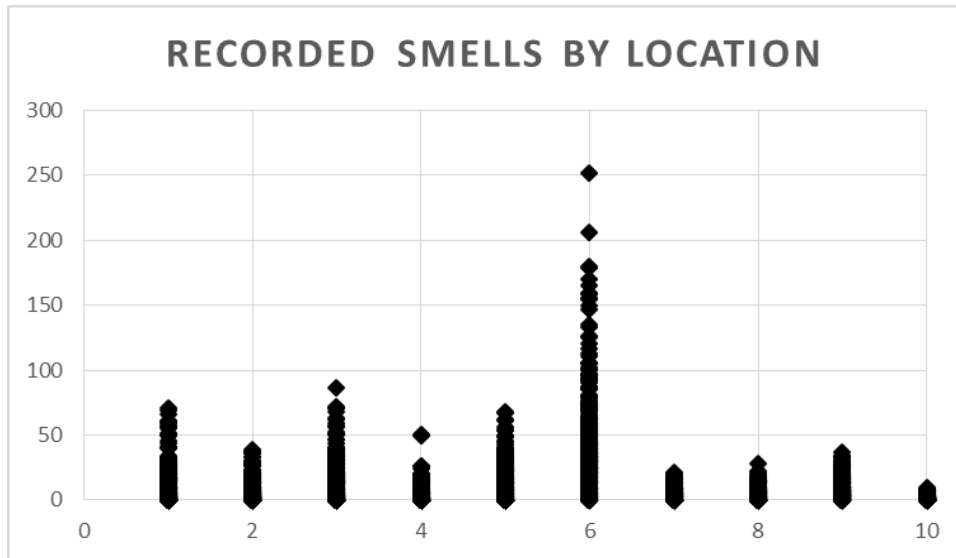
or move when people get too close. We have witnessed and have reports of a few people getting bitten, but overall the animals are becoming habituated to the presence of people and responding less.

4.3.2 Assessment of Odor

We recorded 2,673 instances of noticeable sea lion feces and urine smell with an average score 0.95 (scale 0-3) and 244 instances of a score 3. These smells were most noticeable at Area 6 (average 2.2).

We recorded 358 instances of noticeable bird guano smell with an average score 1.3 and ten recordings with a score of 3. These bird smells were most noticeable at areas six and seven (see Figure 1).

Figure 4. Number of Recordings of Noticeable Offensive CSL Smell by Monitored Area.



4.3.3 Reducing Sea Lion Impacts

Little has been done to reduce CSL presence at LJC. Some people assumed that putting the gate in the white wooden fence between Coast Boulevard and the upper haul out area southeast of LJC beach (Area 4) and human presence in that area would cause CSL to abandon the area. To date, that has not happened; in fact CSL use of Area 4 has increased. It is also possible that increased human use of this area could cause increased number of animals utilizing the beach (Area 3) and La Jolla Point (Area 1). Some local members of the public have tried making noise by banging pans, buckets, swim flippers, and shoes to drive CSL off the LJC beach. This works occasionally but the CSL return in a short time (Hanan and Curry, 2009; DeAngelis, Hanan, and Curry, 2008). Lifeguards have on rare occasions used crowder boards and rescue boards to move the CSL from various areas for the purpose of public safety and the safety of the animals. This method has worked to move the animals to another location of the beach but not off the beach and if moved out of an area, the animals tend to return overnight.

5.0 CONCLUSIONS

5.1 HARASSMENT/DETERRENT TESTING

NOAA/NMFS has an approved list of harassment techniques (Appendix B). We have reviewed these techniques and observed or tested many of them in other areas and especially as related to fishing operations and landings. Our experience is that each technique seems to work at first, but continued use dampens its ability to reduce CSL presence or interactions.

5.2 Existing or Previous City Efforts to Reduce Pinniped Interactions

The City has hired two park rangers and assigned them to the La Jolla vicinity. The City listened to concerned citizens and put a gate in the fence next to Coast Boulevard (Area 4). This gave the public more direct access to the cliff area (Area 6) and the CSL. Some citizens thought this might keep the CSL out of the area. It may have attracted more tourists to the area and CSL seem to be staying. The City has also commissioned the development of a coastal marine mammal management plan which is in the development process.

5.0 RECOMMENDATIONS and OPTIONS

6.1 FURTHER RESEARCH

Each of the following recommendations for further research could and should be done in cooperation with NMFS, local universities, and marine mammal rehabilitation centers. Considering that this is the first mainland southern California CSL hauling area, the City is in a unique position to lead in this changing environment of wild animals living in close proximity to a large metropolitan area. It would be beneficial for the City to appoint one of its biologists to focus on this program or retain a marine mammal specialist to collaborate on these topics and ensure the City's and the animals' best interests are represented.

1. To better understand CSL abundance and behavior, perform observations similar to this study over multiple years (5-10). Long-term studies would obtain non-El Niño counts and behavioral data during La Niña (cold ocean waters) as well as “normal” ocean temperature years which improves our predictive ability for population trends.
2. Consider multiple year tagging and/or branding CSL that appear to be resident or possibly nuisance animals. With long-term observations of individual animals we could have a much better understanding of CSL behavior in this urban setting and make better recommendations for managing and thus make better informed decisions improving CSL and human use of the La Jolla shoreline.

3. Knowledge of feeding and foraging habits are important for understanding CSL usage of the La Jolla area (indications are that market squid is a prime attractant for CSL to the La Jolla area). Use time and depth of dive satellite tags on some CSL to develop forage profiles for resident animals by location at sea and onshore. To obtain finer detail of feeding habits, perform comparative scat studies to investigate food and feeding of resident and transient CSL.

6.2 Interactions- Separating Humans from California Sea Lions

1. Tourists who come to view CSL at La Jolla Cove are usually not aware of proper viewing techniques nor are they aware of federal marine mammal laws covering interactions with CSL and other pinnipeds. To inform them, provide official City, NOAA/NMFS, and educational signage in strategic locations from the top of Coast Boulevard starting at Areas 9 and 10 (Goldfish Point) to Area 1 (Point La Jolla). Signage can contain information regarding federal protection of marine mammals, safety hazards concerning wild animals, and educational information about wildlife and ecology at each location. Signage can be simple with pictures that can be understood in several languages to help separate people and CSL for the health and safety of both.

Drawbacks to consider: Vandalism to signage and what City entity would be responsible for clean-up if vandalism (such as tagging) occurs.

2. Consider adding City resources to the LJ coastal area. Adding additional City resources will help provide information to community and hopefully reduce interactions through increased public education. Lifeguards can and occasionally now do make intermittent announcements for people to stay back from the animals specifically on the beach in Area 3 where the new lifeguard station is located. Again tourists are not well informed that CSL are wild, unpredictable animals and they may be putting themselves or family in danger. This increased effort by City staff could help decrease negative interactions with CSL.

Drawbacks to consider: These activities may take more time than lifeguards can spare to make announcements regarding land based safety issues when their focus is on the safety of the public on the water. Additional staff resources could help but would require additional funding.

3. Sponsor a volunteer or provide an educational docent program to educate the public on animal and human safety in relation to pinnipeds, the MMPA, wildlife and natural resources around LJC. Educational docents can help separate people and animals just by informing the public. Docent programs are very popular in other areas of the state providing tourists with environmental, biological, historical information and many other aspects of having wild animals close at hand.

Drawbacks to consider: Docents must be educators and not activists. The program would require oversight to ensure proper handling of information given to the public.

6.3 Options for Moving and/or Excluding California Sea Lions from Certain Areas

There is likely to be opposition from segments of the public to each of these available options: some people won't want to lose direct access to the animals, some want to see the animals in the most natural setting without interference from man, and some don't want any interference with the animals and where they choose to go. The City should keep in mind that excluding CSL from one area will likely cause them to haul out in other areas (e.g. from Area 6 to Area 3 (LJC beach) and Area 1 (below and north of the Bridge Club), or other locations around La Jolla). They are not likely to abandon the LJC area entirely considering the expanding west-coast CSL population and their need to occupy more hauling space. Therefore, we have presented these recommendations in increasing levels of City action and involvement with the sea lions utilizing the La Jolla area. Each of the techniques would be allowed under section 109(h) of the MMPA as shown in Appendix B: NMFS Approved Harassment Techniques:

Option 1) Consider setting up an ongoing program or selection of a firm to assist in the use of NOAA approved deterrence methods at LJC beach and/or other problem interaction sites using NOAA approved crowder boards, poles (blunt tip), brooms, and other approved techniques. These harassment techniques may help temporarily move CSL that are blocking pathways, stairs, or move them off sidewalks and park areas. These techniques should not be considered long-term answers to managing CSL or living with CSL, as these animals tend to get aggressive the more frequently these techniques are used. Anyone using these techniques should be trained for safe, effective application.

Potential drawbacks: 1) risk of injury to CSL or people if improperly used, 2) with time CSL may get aggressive, and 3) interference from animal rights groups.

Option 2) To protect CSL from getting onto Coast Boulevard and encountering cars, to protect CSL from interacting with people and dogs in the park area, and to protect people from CSL, install gates and latches (similar to the one at Area 4) at the base of each cement stairway to/from the LJC beach (Area 3) and at Point La Jolla stairway below the Bridge Room (Area 1).

Potential drawbacks: 1) may require Coastal Commission permit, but under 109 h of the MMPA, it should be allowed and as an emergency situation to protect the public and CSL; 2) people may block or leave the gate open during the night allowing CSL access up the stairs; and 3) gates would require maintenance to ensure functionality.

Option 3) Fencing has proven to be the most successful technique at a number of locations along the coastal mainland to keep CSL from occupying areas where their

presence is not desired (i.e. docks and landings, ramps, walkways, piers, bait receivers, and boats). Fencing must be strong enough that large 800 pound CSL bulls cannot crash against it to bend or break the fence and the fencing must be tall enough (4-6 feet) that these large bulls cannot climb over. PVC rollers over piping on the top rail has been effective to enhance effectiveness of the fencing as CSL can't get traction to climb over. Any opening in the fencing whether horizontal or vertical must be small enough that CSL pups cannot squeeze through the opening. The fencing must be deployed so that CSL cannot go around it; they are excellent climbers over very steep cliffs and rocks. There would likely need to be gates for emergency access to/from the water. Fencing could be used to keep CSL off the upper shelf areas (Areas 1 and 6) which are not frequently washed by wave or surf action, where waste matter tends to collect and emit foul odors; and fencing would keep CSL off the cliff face to reduce erosion.

Potential drawbacks: 1) because the fencing must be so strong and tall it will be expensive to install and maintain, 2) it would be a permanent structure requiring drilling deep into the sandstone which will eventually break out and erode the rock structure, 3) the fencing would likely obscure the natural appearance of the area, possibly detracting from the natural beauty of the landscape, 4) sea lions excluded from one area are likely to relocate to other areas which may have unintended consequences to create new problems in the new areas, and 5) it likely will require a Coastal Commission permit and perhaps a California Environmental Quality Act environment report.



There is currently a proposal from a community group supporting (KPBS, 2016) the use of large freely rotating rubber cylinders at certain sea lion entrance and egress locations for Area 6 and possibly other areas. These devices are essentially large fences that build on the concept of fencing with PVC

rollers on the top rung as used for CSL, deer, coyotes, and other animals. As with other fencing, I also believe they would require a good deal of maintenance, would be highly subject to large surf action, would not blend with the environment, and likely would require California Coastal Commission approval and perhaps a California Environmental Quality Act environment report. After careful consideration, I believe that CSL would find ways to go around them if positioned and used as proposed.

Option 4) Another NOAA approved technique is low voltage livestock fencing. This safe and effective technique has worked to keep CSL off bait receivers and docks and would be suited for the areas at base of Coast Boulevard cliff (Areas 4 and 6). The strategy employs operant learning/training theory and has been used over a hundred years in the cattle



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industry, with horses, sheep, and pigs, and now extensively with dogs and cats, as well as, many other animals. The technique is enhanced by employing the concept of paired stimulus technique using visual, auditory, and tactile stimuli. First, there is a visible wire which can be enhanced with streamers; second the wire makes a humming sound; and third the wire delivers a mild electric shock if touched; once experienced, animals avoid repetition of this non-lethal, startle response.

Equipment for this technique is relatively inexpensive (\$200-\$500) with off-the-



shelf components readily available. The sending unit can be powered by available household current, rechargeable 12 volt battery, or solar power. Rubber street maintenance posts could be used as posts to support the wire (thus not posts driven into the substrate), they would be temporary, and could be moved or

removed for spring tides or storm surf. We would suggest first deploying it at the base of the cliff to keep CSL off the cliff (Areas 4 and 6). Once the CSL have recognized the presence of the system and have learned to avoid it, the posts and wire could then gradually be moved further away from the cliff to the shelf edge to exclude CSL from the dry rocky



shelf area (Area 6). These are the areas where CSL now haul out and deposit feces and urine and where we detected the most offensive odors. To reduce the odor problem, we would suggest first excluding CSL from area 4 with the wire at the cliff base on area 6, then expand those areas until the CSL are fully excluded from the upper shelf of Area 6. They would then haul out on the lower rocks, ledges, and pools which naturally wash with the daily tides to remove CSL waste. The shelf area could then be sprayed to eliminate the waste matter and offensive sea lion smells.

Potential drawbacks: 1) because of a potential tripping hazard, we would suggest closing the area to people as is now done when spraying bacteria solution to reduce odors, 2) there may be vandalism to the equipment or to the wire if not properly protected, 3) the wire should be moved for storm surf thus requiring attention from City personnel or a contractor, 4) sea lions excluded from the area are likely to relocate to other areas which may create unintended consequences and additional problems in the new areas, and 5) all of the fencing components would need proper maintenance, requiring City personnel or a contractor to check regularly that it is functioning, 6) the fencing may require a Coastal Commission permit and perhaps a California Environmental Quality Act environment report, although neither is required for domestic application of this technique.

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Appendix A: Monitoring Form

Date		La Jolla Cove Sea Lion Observations							
Total	AM	SAM	AF	SAF	SA(UK)	Juvenile	Pup	Still born	Condition/Comments

Date			La Jolla Cove Sea Lion Observations				
Time	Location	Sea Gulls	Cormorants	Pelicans	People	Wind (kts)	Beaufort



Potential Deterrence Methods for Pacific Harbor Seals & California Sea Lions May 2006

The following list of “potential methods” and “deterrents to avoid” is not an exhaustive list of non-lethal methods or techniques. If you have questions about protecting your property and/or fishing gear and catch from nuisance Pacific harbor seals and California sea lions, please contact our marine mammal specialists: Brent Norberg, 206-526-6733; Garth Griffin, 503-231-2005; Lynne Barre, 206-526-4745.

Note: Some of the methods listed (such as loud noise or pyrotechnics) may not be appropriate for use in some areas, or are subject to prohibition under federal, state or local ordinances. The presence of Endangered Species Act-listed species in some areas may advise against the use of certain methods. Please consult with appropriate authorities to determine if such prohibitions exist in your area, or if ESA-listed species may be encountered.

Potential methods for use by private property owners to deter Pacific harbor seals and California seal lions from damaging property (developed waterfront, decks, docks, floats, piers, bait receivers, vessels at anchor, etc.).

Barriers & Exclusion Devices:

- fencing (e.g., plastic construction/snow fence, chain link)
- closely spaced posts
- bull rails
- electric livestock fencing
- netting
- swim step protector

Visual Repellents:

- flags, pinwheels, or streamers
- flashing lights or strobes
- balloons
- human attendants/monitors

Noise Makers:

- horns, whistles, bells
- electronic acoustic devices (Acoustic Harassment Devices)
- clapping, banging on pots, pans, drums; empty aluminum cans on a string banging together

- music
- starter pistols
- pyrotechnics (e.g., bird screamers, bangers, firecrackers, propane canons)

Physical Contact:

- high or low pressure water hoses
- sprinklers
- crowder boards
- bull poles (blunt tip), brooms
- cattle prod (*these products produce only a mild electric shock designed for handling livestock and are in no way related to “stun guns” designed for self-defense*)
- toy water guns (e.g., “Super Soaker[®]”)
- paint ball or air soft guns
- sling shot
- chemical irritants (e.g., non-toxic pepper spray, mace) used for animal control (*there are many municipal and state ordinances controlling the use and possession of these irritants*)

Note: Guard dogs are not included on the list of suggested measures because of risks to both dogs and marine mammals, including the potential risk of disease transmission between them.

Potential methods for use by fishers to deter Pacific harbor seals and California seal lions from damaging gear or catch (anglers must be actively fishing with gear deployed).

Visual Repellents/Noise Makers:

- boat hazing, circling
- pounding on hull
- pyrotechnics (e.g., bird screamers, bangers, underwater firecrackers, cracker shells)
- starter pistols
- horns, bells, whistles

Physical Contact:

- sling shots
- paint ball guns
- non-lethal ammunition (e.g., rubber bullets, sabot rounds, game stingers)

Methods to Avoid – *The following methods and techniques have an increased likelihood of causing injury or death and should be avoided.*

- No Firearms with “live” (lethal) ammunition
- No Devices with Injurious Projectiles (e.g., archery gear, crossbows, spear guns, bangsticks)
- No Sharp/Pointed Objects (e.g., harpoons, spears, gaffs, nail studded bats/poles/clubs)
- No Entangling Devices (e.g., loose webbing, snares, concertina wire)

- No Aggressive Tactile Methods (e.g., striking animals with bats, hammers etc., impact with vehicles or boats)
- No Tainted Baits or Poisons

Act Responsibly and Use Common Sense! - Regardless of method or intent, the property owner or fisher may be subject to prosecution should a marine mammal be seriously injured or killed as a result of deterrence efforts for the protection of property, gear or catch.

Remember Personal Safety! - Attempts by property owners and/or fishers to deter nuisance animals from engaging in unwanted behaviors using non-lethal means is a personal choice and not without risk (to the person doing the deterring and anyone around them). Sea lions and seals are wild animals that may react unpredictably to non-lethal deterrence measures, resulting in personal injury or additional damage to property. Sea lions are large and powerful animals that can move as quickly as a person on land.

Be Aware of People around You and be Courteous! - The safe use of some of the above-listed potential methods (e.g., cracker shells, non-lethal ammunition) requires considerable skill and experience. The use of some of these methods may precipitate undesirable social interactions. If you are in possession of a firearm, law enforcement officers approaching your property or vessel will assume that your firearm is loaded with lethal ammunition.

Individuals attempting to deter nuisance sea lions and seals, using the above- listed potential methods or similar techniques, do so at their own risk.