CALIFORNIA COASTAL COMMISSION
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F11c

6-22-0113 (City of San Diego Point La Jolla Seasonal Closure)

April 8, 2022

CORRESPONDENCE

La Jolla Community Planning Association

PO Box 889, La Jolla, CA 92038 ♦ http://www.LaJollaCPA.org ♦ info@LaJollaCPA.org

5 November 2021

To: San Diego City Council
San Diego Planning Commission
San Diego Development Services Division
California Coastal Commission, San Diego Coast Division

About: Environmental impact of "emergency" public coastline closures

The La Jolla Community Planning Association is the City of San Diego-appointed, community-elected Brown Act group responsible for obtaining local input on planning issues in the Community of La Jolla.

The CPA requests the California Coastal Commission require the City to conduct a full environmental review and to issue an Environmental Impact Report of the present and future environmental effects, arising from its actions over the last ~25 years, a series of Coastal Development Permits, amendments of the Local Coastal Program and "emergency closures" of public coastline, which have allowed establishment breeding colonies of 2 species of pinnipeds—Sea Lions and Harbor Seals, in the urban setting of La Jolla.

On the one hand, the colonies present viewing opportunities of marine mammals, including pupping. On the other hand, the colonies require closure of beaches. The colonies present environmental challenges, the cumulative effect of which evidences the need for scientific study.

An EIR would study, document and report the past and anticipated future effects of these colonies on coastal access, the coastal environment, the underwater environment and on access rights of public users of the ocean.

Sea Lions and Harbor Seals are not "protected species" of marine mammals. They are protected from harassment under Federal Law (MMPA, NOAA and NMFS), which the City does not enforce. The colonies do not constitute an Environmentally Sensitive Habitat Area because they are not protected species. The closures of beaches and coastline do not meet "emergency" criteria set forth in the Coastal Act. The most recent "Agreement for an Emergency Coastal Development Permit" dated August 10, 2021 utilizes unspecified data in the form of "recent press reports, video recordings, as well as numerous phone calls, emails and photos documenting repeated instances of harassment of the sea lions residing at Point La Jolla" and "input received from the general public, volunteer docents [who] have submitted reports of sea lion injuries or fatalities sustained as a result of both accidental and malicious interactions by humans." There are also reports made to the CCC that dispute these assertions.

In 2017, Hanan & Associates prepared a Marine Coastal Management Plan, requested by the City's Parks and Recreation Department. The Hanan Report indicates that the population of pinnipeds doubles every 10 years

and "Consequently, pinnipeds need additional space to occupy on new shoreline sites" and this "pose[s] 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 City and the CCC have not determined the impact on the coastal and underwater environment resulting from these colonies. Some environmental effects are self-evident. They certainly affect access, as the City has implemented emergency coastal closures. The impacts likely include feces pollution in the air and water, decimation of sea life as food for the colonies of pinnipeds, including in the La Jolla Underwater Preserve, proliferation of predators (sharks) as a possible result of the mammals' presence in colonies and the potential impacts of increasing numbers of predators on humans in the water.

Hanan suggested "A mix of selected management measures...expanded signage and docents to educate the public [presumably scientifically trained, neutral docents] regarding pinnipeds and...use of NMFS approved harassment techniques to try and keep sea lions off LJ Cove beach and any other selected haul-out areas." The City has implemented neither program. This has caused the local colonies to continue to increase in size and numbers, potentially resulting in more deleterious environmental impacts and beach closures. The relationship, or lack thereof, between the establishment of these colonies and the environmental impacts demands scientific inquiry.

Continued pursuit of "emergency closures" and access restrictions, while intended to protect the pinnipeds, results in consequences that should be evaluated, using scientific studies, and reported to the citizens and particularly to the locality of La Jolla where these impacts occur.

The EIR will recommend policies going forward, to address and if possible, to balance the protection of the aquatic mammals with their impact on sea animals and plants, human populations, and other elements in the environment. All these impacts should be for the first time clearly addressed in an Environmental Impact Report, which is hereby requested.

Diane Kane

Diane Kane, President

La Jolla Community Planning Association

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November 5, 2021

Director Andy Field, Parks & Recreation Dept.
City of San Diego
202 C Street
San Diego, CA 92101

RE: Ocean Access Preservation at Boomer Beach and Point La Jolla, No Man's

Dear Director Field,

The La Jolla Community Planning Association requests that the City of San Diego Parks & Recreation Department modify the proposed seasonal Point La Jolla closure map as outlined below. Please exclude Boomer Beach and provide an open area at the foot of the stairs to allow access to the "No Man's" ocean entry area at Point La Jolla. The attached map shows green highlighting for the areas we would like to see excluded from any future Point La Jolla pupping season closures.

Access to the historic "No Man's" ocean entry point is critical for bodysurfers during large winter swells and for free divers to safely access the water with their spearguns to avoid traversing La Jolla Cove filled with swimmers. Two sets of K-rails (yellow rectangles shown on the map) should be placed at the foot of the stairs along the northern as well as the southern boundary of the Point La Jolla seasonal closure area.

Point La Jolla does not have a long history as a Sea Lion pupping area, as documented in the 2017 Hanan Marine Coastal Management Plan. Sea Lions do not typically birth pups on sandy beaches or cobblestone rocks of Boomer Beach. They give birth on the upper rock shelves of Point La Jolla. We request that the inaccurate "Sea Lion Birthing Area" sign above Boomer Beach be removed, as birthing is not occurring on the beach; the sign deters citizens from utilizing the historical pathways to the beach.

As the attached photo illustrates, the NOAA sandwich board signs are now being used illegally in an attempt to block public access to the stairs. The NOAA signs are contributing to a hostile environment on Point La Jolla, and they should be removed for public safety and the welfare of our diverse community.

Humans and Sea Lions have been interacting peacefully at Boomer Beach and Point La Jolla for the past five years. Mother sea lions regularly leave their pups to feed offshore, sometimes for days at a time,

and return to nurse their young. Sea Lions are typically not disturbed by folks talking photos from a sensible distance.

The La Jolla Community Planning Association requests these three important items:

- Exclude Boomer Beach and the No Man's north stairs from the proposed Point La Jolla seasonal closure.
- Remove the black and yellow Sea Lion Birthing Area sign above Boomer Beach.
- Remove the NOAA sandwich board signs that are being used to block public access to Point La Jolla.

Diane Kane, President, La Jolla Community Planning Association

cc: Honorable Mayor Todd Gloria, City of San Diego
Councilmember Joe LaCava, District 1
San Diego Park and Recreation Board SDPBMembers@sandiego.gov
California Coastal Commission Staff

Attachments


PLASTICADE
NOAA
FISHERIES
NO Selfies with Sea Lions
If you get too close...
Mother Sea Lions May Abandon Their Pups
SHARE THE SHORE
1 Sea lions and seals are protected by federal law.
2 It's ILLEGAL to disturb them or do anything that might make them change their behavior.
3 Enjoy watching them in a safe, responsible way.
KEEP YOUR DISTANCE. You are too close if an animal starts to stare, fidget, or flee. Sea lions and seals on land are easily disturbed and may rush into the water or abandon their pups. They become stressed and may be trampled, and continued interruptions could be harmful to their health.
BE CONSIDERATE OF MOTHERS AND PUPS. Sea lions and seals come ashore to rest, regulate their body temperature, and nurse their young. Mothers often leave pups behind while feeding offshore.
KEEP PETS AWAY AND ON A LEASH. Pets can disturb or harm wildlife or separate mothers from their pups. And wild animals can injure or spread disease to pets.
If you see an injured, stranded, or dead marine mammal, call
(866) 767-6114
You will be asked about the location and condition of the animal.
LEARN MORE:
www.fisheries.noaa.gov/topic/marine-life-viewing-guidelines#guidelines-&-distances
Do not approach the sea lions!
¡No se acerque a los leónes marino!
请勿打扰海狮


THE CITY OF SAN DIEGO
CAUTION
DO NOT APPROACH SEALS/SEA LIONS
IN AN EMERGENCY, CONTACT 9-1-1
STA
SE
BIRTH

SAN DIEGO COASTKEEPER

To: Kaitlin Carney, CA Coastal Analyst

From: San Diego Coastkeeper
Re: Request for Support to Protect the Sea Lion Rookery, La Jolla, CA

We urgently request that the City of San Diego take immediate action to curb the frequent, illegal harassment and disturbance of California sea lions at Boomer's Beach and Point La Jolla. As stated in the City's Emergency Coastal Development Permit, which closed this specific area from August 10, 2021 through September 15, 2021, "[a] coastal emergency exists." This emergency has continued, and is ongoing.

The annual sea lion pupping and breeding season occurs in late May through October 31. This past summer, despite the City's closure of the rookery for over a month, over 300 visitors at any given time were observed by docents illegally touching, petting, taking selfies, picking up pups, and repeatedly disturbing these animals. In September and October 2020, City Rangers working only weekends counted over 400 visitors illegally harassing the sea lions. The City is well aware of this problem via press reports, video recordings, photos, phone calls, and emails documenting repeated instances of harassment of the sea lions, and reports of sea lion injuries or fatalities sustained as a result of both accidental and malicious interactions by humans.

California sea lions are highly intelligent social pinnipeds near the top of the food chain and are thus vital to ecosystem balance. They are protected by the Federal Marine Mammal Protection Act ("MMPA"), California Coastal Act, State Wildlife laws, and the City Municipal Code. For example, Section 30230 of the Coastal Act states, "[m]arine resources shall be maintained, enhanced, and where feasible, restored." Section II of the MMPA prohibits the "harassment" of marine mammals, which includes any "act of pursuit, torment, or annoyance" which could injure a marine mammal, or cause "disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."

Unfortunately, these laws and regulations have been routinely ignored. We understand that there are legal and logistical difficulties regarding municipal enforcement of state or federal laws. However, this gap in enforcement is a major contributing factor to the unabated, ongoing harassment of our local sea lion population. For precisely this reason, the City must work with its state and federal counterparts to find an immediate solution to this problem.

During the first four months of a pup's life, they cannot swim well, putting them in great danger of drowning when people block their path to dry land during high tides. In addition, they risk being abandoned by their mothers if humans touch them during the first two months of life. Mothers nurse their pups for up to 12 months as pups cannot forage for food themselves until they are seven months old.

SAN DIEGO COASTKEEPER

Public safety is another major concern and reason for people to keep a reasonable distance from sea lions. When people encroach on the sea lions' space, they have been observed to growl, bite, and chase them away. The terrain at Point La Jolla and Boomer's Beach is rocky and uneven sandstone, which is very slippery, causing many visitors to lose their balance and fall.

We support:

1) Closing all public access to Boomer's Beach and Point La Jolla during the pupping season from May 1st to October 31st.

2) Staffing rangers at the Rookery year-round.

3) Identifying, implementing, and enforcing a specific distance for people to stay away from sea lions.

4) Prohibiting dogs at Point La Jolla and Boomer's beach year-round.

Please take action to protect both the sea lions and the public.

Lucero Sanchez
Community Policy Coordinator
San Diego Coastkeeper

LA JOLLA PARKS & BEACHES

February 2, 2022

To: City of San Diego Councilmember Joe LaCava and Environment Committee

Subject: Environmental Impact of 'emergency closures' at Pt. La Jolla

A convergence of coastal urbanization and the thriving recovery of federally protected pinnipeds has led to human interactions with wildlife becoming widespread in La Jolla. And these contacts are often now with conflict. Currently, La Jolla Parks & Beaches, Inc. and other local organizations are engaged in many stakeholder interviews and meetings and beach-goer surveys that describe the increasing polarization of views concerning the wellbeing of sea lions and humans specifically at Pt. La Jolla and La Jolla Cove.

Before taking actions such as barriers to manage such interactions which are admittedly detrimental to humans and pinnipeds, we believe that the City needs to first understand ALL wildlife and community considerations not just the calls for action by either side of the issue. The City must obtain findings from a scientific study. It needs to get away from past and pending decisions that are based on reactions to those groups that make the most noise.

The right way to develop the best solution for decisionmakers and stakeholders is to have an Environmental Impact Report performed by the California Coastal Commission. La Jolla Parks and Beaches, Inc (LJPB) fully supports the same EIR request as written by the La Jolla Community Planning Association (LJCPA) in November 2021 (attached).

We urge there to be commissioned an EIR to address the whole environment affected by the growing colony of sea lions at the Pt. La Jolla and La Jolla Cove, including;

- Impact to all animal species at Pt La Jolla, such as other marine mammals, fishes, birds, tidepool ecosystem, and the attraction of predatory species,
- Impact on the State Marine Reserve at this site,
- Air, odor and water quality impacts,
- Social and economic impacts to local communities, including to businesses and to quality of experience issues for residents and visitors,

LA JOLLA PARKS & BEACHES

- Cost and timeline analyses of various solutions for protecting pinnipeds and humans at this location if coexistence is found to be feasible at all.
- Perhaps State and Federal Grant monies are available for the EIR study?

In closing, we urge that the continued pursuit of emergency closures and non-emergency access restrictions will result in actions which must first be grounded in the findings of scientific studies about the viability of a significant population of sea lions at these locations. Scripps Park and Pt. La Jolla are extremely important sites – they are an integral part of a larger coastal setting, border on a State Marine Reserve, lie in a unique and natural place in a dense urban environment, include a very accessible and close proximity to wildlife (other than pinnipeds), and provide an abundance of leisure and recreational opportunities.

This park is a unique and special place where decision-making about human and pinniped interaction, and the impact of pinnipeds on other natural resources at this location, must be based on scientific findings about the balance of all of them.

Park use and development processes must be given thoughtful guidance. We join our partner organization in imploring the City to reach out and request an EIR which is urgently needed for thoughtful guidance at Pt. La Jolla and La Jolla Cove.

Thank you for your consideration.

Bob Evans | President

cc: City of San Diego Parks and Recreation
City of San Diego, Mayor Todd Gloria
California Coastal Commission, San Diego Coast District
California Dept of Fish and Wildlife, South Coast Region
Congressman Scott Peters
County of San Diego Board of Supervisor Terra Lawson-Remer
NOAA Southwest Fisheries Science Center

SIERRA CLUB
SAN DIEGO CHAPTER

SEAL SOCIETY

February 15, 2022

To: Kaitlyn Carney, CCC, San Diego Planner
Leslie Kanani, CCC, San Diego Program Manager
Erin Prahler, CCC, San Diego District Supervisor

The Sierra Club San Diego Chapter and the Sierra Club Seal Society have reviewed San Diego's CDP application for the seasonal closure of the sea lion rookery at Pt. La Jolla and Boomer Beach. We have serious concerns and questions about the application's accuracy and completeness. In short, the closure dates are too short, and the closure boundaries are too small and don't appear science-based or well defined. The proposed shared access concept has unclear boundaries and is not enforceable by rangers. This concept has proven unsuccessful at the Children's Pool and at 16 rookeries in California that are completely closed during pupping season. We offer the following comments based on 1,900 volunteer docent hours onsite at the Pt. La Jolla and Boomer Beach sea lion rookery in 2021. This is more than any city employee, NOAA employee, or consultant.

Area of CDP consideration: Pt. La Jolla and Boomer Beach (beach has sand in summer only)

Photo: San Diego City Website Point La Jolla and Boomer Beach. Sea lions and pups

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City Proposed Closure Dates: Too short to be effective and start after the first pups are born

- Dates do not meet the purpose and intent of the closure:
    - Protecting vulnerable sea lion moms and pups from human interaction, aligning with the MMPA's human interaction regulations and viewing guidelines, or the Coastal plan that calls for protecting marine resources, and ensuring public safety.
- The proposed closure dates of May 25 – September 15:
    - Don't align with sea lion experts' published papers defining the pupping season:
        - *"The CSL breeding season at rookeries in the U.S. begins in mid-to-late-May when full-term pups are born, and sub-adult and adult males arrive at the rookery. Adult females are generally year-round residents at the rookeries. Juveniles are present at rookeries year-round, as well as at other haulouts throughout California."* (NOAA Technical Memorandum NMFS 2017)
        - *"Pups can swim pretty well by the time they are 3 months old*." Sharon Melin NOAA, *email, (see appendix)*
    - Contradicts the established pupping season dates posted on the city's website and survey: https://www.sandiego.gov/park-and-recreation/point-lajolla
        - *"Sea Lion pupping season which typically begins in early May and concludes in October, is a very important time for mother sea lions and their young to bond, nurse and learn to swim. Human interactions with adult sea lions and their young during this important time could potentially result in injury or abandonment of sea lion offspring and aggressive behavior from adult sea lions."*
- **Recommendation: Closure dates must be a minimum of May 1- Oct. 31 for pupping season**
    - Six sea lion births (11% of total births) were documented on Boomer Beach in 2021 in the last week of May (source: birthing records, see appendix). This matches the birthing dates observed in the Channel Islands where 99% of sea lions are born: (source*: Melin ET. AL. Mortality of Sea Lion Pups. CalCOFI, Rep. Vol. 51, 2010).*
    - The Children's Pool closes to the public 6 weeks prior to the first seal birth. Using this precedent, the proposed closure date for the sea lion pupping season would be April 20.
    - Children's Pool is closed for 5 months (Dec. 15 -May 15), the proposed CDP sea lion closure dates is less than 4 months. This is insufficient because sea lions develop and wean more slowly than seals who wean in 6 weeks.
    - *Sea lion: "Lactation lasts up to 11 months or longer. During this time, lactating females travel to sea for 2–5 days to feed and return to the colony for 2 days to nurse their pup (Antonelis et al. 1990; Melin et al. 2000). The pup is solely dependent on its mother until about 6 months old and maintains a fasting cycle while the mother is on foraging trips. The weaning process is gradual and the timing of weaning is poorly known but it begins as early as 8 months old. Peak weaning occurs in April or May when pups are*

- *between 10 and 11 months old (Melin et al. 2000).”* (*source: Melin ET. AL. Mortality of Sea Lion Pups. CalCOFI, Rep. Vol. 51, 2010).*
- Sea lion bulls remain in the area through November posing a public safety threat to unsuspecting visitors who think sea lions are “tame”: pinniped experts explain that bulls can inflict serious injury by trampling or biting.

Proposed Closure Boundaries: Unclear and Ineffective

The proposed boundary on the southern end of the sea lion rookery on Boomer beach shrinks the birthing and mating area and won’t meet the requirements and intent of the seasonal closure:

- The proposed smaller closure area doesn’t include the area documented by photos showing sea lions using it for birthing, mating, nursing, and pups learning to swim. (see appendix)

Temporary Closure Map (left) with light blue overlay shows where sea lions birth, nurse, rest, and mate.

The thick red line shows the CDP applicant’s proposed seasonal closure area shrinking the closure area and putting people close to vulnerable pups and territorial bulls.

Above: Sea lions birth, nurse, rest, and mate on all of Boomer Beach and cliffs extending from Pt. La Jolla southwest to below the Belvedere. Our observations show crowds come to see sea lions, not for beach or water recreational use. La Jolla Cove access is 30 yards north and Shell Beach access is 130 yards south. Both have cement stair access and lifeguards on duty.

- Over 40% of sea lion pups were born on Boomer Beach in 2021.
- CDP Applicant’s proposed boundary places visitors in close contact with wild, territorial 800-pound animals creating a public safety hazard.
- CDP closure description and posted “Notice of Pending Permit” is unclear and deficient: "the bluffs along Boomer Beach by the access stairs at the north end of Ellen Browning Scripps Park”. (Boomer beach is not by the stairs. The stairs are at the NW end on Pt. La Jolla)

- The closure border line extending to the ocean should extend to all land areas at low tide to prevent people from walking on the beach into the rookery. (see amended map in appendix)

Unclear Definition of Access:

Incomplete description of southwest end of Boomer beach in proposal indicated by red boundary line

- Incomplete information about how access will be managed in this area outside of the boundary
- Application statement: "Areas outside the proposed closure boundary (during closure period) continue to provide recreational opportunities for the public to view the wildlife and the water from the concrete sidewalk and grass areas. (what does this mean?)
    - It is unclear if the public will have access to any area on the bluffs or beach or if they are to remain on the sidewalk. There are no grass areas within the bluffs so this statement is incorrect.
    - In meetings with Park and Recreation and Council Member Joe LaCava they said that access would be for entry/exit to the water and no lingering. There is no mention of this.
    - If ocean access is to be allowed it should be restricted to the "historic trail" described by Chief Lifeguard Garland as the safest way to access the ocean. (see appendix: amended map with blue line)
    - Any ocean access, if allowed should be restricted and monitored by rangers to minimize disruption of sea lions at the base of the trail. Clear rules/laws must be set and enforceable.
    - Boomer beach is one of the most dangerous in the area and beach access is not advised for recreational beach goers due to strong rip tides and rough surf.
        - Limiting or closing ocean access to entry/exit, only inconveniences a few ocean users and access is 30 yards away at La Jolla Cove. Spearfisherman have a special waiver for to enter/exit with spear in safety mode.
    - All 17 seal rookeries in California are closed during pupping season with no access including the Children's Pool (see appendix)
    - Prohibiting dogs is not mentioned. Children's Pool and other rookeries do not allow dogs.

In a conversation with NOAA last week, the Seal Society showed maps and photos of the area and NOAA indicated they are supportive of re-engineering the area to enhance the wildlife experience for tourists from around the world. Ideas include extending the railing along the low wall above the rookery and building a viewing platform where the wooden stairs are now (note: stairs are not in the La Jolla Coastal Plan as an access point). These actions alone, would reduce a large number of sea lion harassments and MMPA violations, assist in year-round area management, and enhance public safety.

Calls to the NOAA Enforcement Hotline reporting sea lion harassments between February and November 2021 reached 58. Only 3 calls were made during the closure period. (Source: NOAA FOIA see appendix). Calls to La Jolla Police Northern division reached over 32 in 2021 requesting crowd control and public safety assistance. Lifeguards were contacted multiple times for public safety issues.

Thank you for considering our remarks and we look forward to discussing these issues with you.

Richard Miller
Sierra Club Chapter Director

Robyn Davidoff
Seal Society Chair

Summary

Photo: City website re: Pending Closure: CDP proposal is incomplete and lacking in details. It cuts the sea lion rookery in half and places visitors in the middle of the rookery creating a public safety hazard.

Red line shows the city's proposed boundary. Sea Lion moms and pups would be in open area and place them at risk of daily human interaction. Temporary Emergency Closure Boundary in blue. Preferred boundary in purple which provides ocean access via the "historic trail."

The Sierra Club Seal Society contributed 1,900 volunteer docent hours on site in 2021 and has collected survey and observation data, visitor counts, sea lion counts, birth records, and year-round photo and video documentation of the rookery at Pt. La Jolla and Boomer Beach. Based on this wealth of experience, we recommend:

- Set the sea lion closure dates to a minimum of May 1 – Oct. 31
- Maintain the Temporary Emergency Closure Boundary (blue), with defined access path to trail
- Use the boardwalk and low wall above rookery as a natural separation of people and sea lions

- Provide limited access via the trail to Boomer Beach for entry and exit to the water
    - To be monitored by Rangers with enforceable rules/laws to not disturb the sea lions
    - To be evaluated via tracking the number of people using the trail and the number of sea lion disturbances as defined by the MMPA.
- Rangers staffed from sunrise to sunset
- the CDP must include a plan to provide public safety and meet MMPA regulations during the 7 month non-closure period by including year-round rangers and some area "re-engineering" by
    - either replacing the stairs with a viewing platform or preventing public access. This has proven to reduce the number of people in the area by over 90%. Note: The stairs are **not** in the La Jolla Coastal Plan as an access point.
- No dogs allowed year-round (already in place at the Children's Pool)

Appendix

Email from Sharon Melin, NOAA Sea Lion Expert regarding pupping season dates.

Re: Sea Lion Pupping Season Closure at Pt. La Jolla, San Diego!

Sharon Melin - NOAA Federal <sharon.melin@noaa.gov>

Thu 8/12/2021 6:27 PM

To: Robyn Davidoff <rdavidoff@hotmail.com>

3 attachments (4 MB)

Melinetal2010_CalCOFI51.pdf; Lowry et al_2017_CSL Population growth.pdf; Melinetal2000.pdf;

Hi Robyn,
This is good news about the closure.

I returned from the Channel Islands a few weeks ago. Everything there looked normal. Births and mortality seemed average but we will have the numbers in a few months after we count all our aerial images.

Full-term pupping for California sea lions begins around 15 May and lasts until the first week of July (5 July or so). Peak pupping is 15 June, so about 50% are born by then. Occasionally pups are born later than the first week of July but that is usually only during El Nino or other weird ocean conditions. Breeding is about 30 days post partum, so by the first week of August most of the breeding is complete.

Pups can swim pretty well by the time they are 3 months old, they are a lot smarter than when they are young so they are better at getting out of the way of big surf, and the bonds with their moms are solid.
I would say if you need to compromise, end of September would be o.k. but if you can pull off the end of October that would certainly give them a long time to just be sea lions.

Although sea lions pup in other areas on the coast, the Channel Islands make up 99% of the births, so I would not expect timing to be too different in other coastal areas, especially in southern CA.
There are a number of publications that reference the birthing window. I've attached one of my papers but there are many more.
Also I added a report on the population sizes at different areas. I thought you might be interested in seeing the distribution coastwide.
I can't access my personal library at the moment...I'm using a loaner computer without the program for my references but hopefully these will provide a little information for you.

Sharon

On Thu, Aug 12, 2021 at 4:57 PM Robyn Davidoff <rdavidoff@hotmail.com> wrote:

Hi Sharon, this is Robyn from the Sierra Club Seal and Sea Lion Society in San Diego. As you know we have a sea lion rookery in La Jolla, San Diego right in the middle of an urban area where people are allowed to approach, touch and harass the sea lions and pups in violation of the MMPA due to lack of enforcement and management. We had 51 births this year but have lost about 5 to drowning and another 5 due to starvation. **Wondering if you are seeing increased mortality rates in the Channel Islands and have any thoughts as to the increase.** Last year, we only had 3-5 deaths/rescues.

Amended Map:

Narrow red line shows applicant's proposed closure boundary.

Suggested dotted line shows extension needed to ocean to prevent people from walking, entering, or exiting the water and the rookery during low tide and preferred Temporary Emergency Closure Boundary.

Light blue line shows access to trail during the Temporary Emergency Closure.

Concerns over access and management of rocky area.

Dark blue line was original city proposed Emergency Closure boundary but changed to Orange line at the last minute to provide larger access area for spearfisherman & body surfers.

Solid red line shows applicant's proposed boundary for annual seasonal closure CDP.

Red skinny line shows applicant's seasonal closure line.

Access trail was open during the Temporary Emergency

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Recommendation: maintain Temporary Emergency Closure boundary (red line) with limited access via the trail shown in blue.

Sea Lions use all of Pt. La Jolla & Boomer Beach for birthing, nursing, mating, and learning to swim.

July 7, 2019. Southend Boomer Beach below Belvedere

Photo: 6/27/21, Southend Boomer Beach

July 31, 2019. Pt. La Jolla

Sept. 29, 2020, Point La Jolla (stairs **not** in Coastal Plan as access plan)

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People climb over wall create a dangerous and slippery path down to view the resting and birthing sea lions. This woman is carrying a dog. The large number of viewers trample the vegetation holding up the sandstone cliff.

Use boardwalk above the rookery as a natural separation of people and sea lions. Extend railing to prevent people climbing over the wall. (video evidence of people climbing over the wall available)

Photo: 12/21/21: Pt. La Jolla at low tide. People's presence push sea lions to outer edges of cliff. People can be seen climbing over the wall to enter rookery.

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Boardwalk and low wall is a natural separation of people and sea lions while enhancing visitor's wildlife experience, maintaining scenic views, and ensuring public safety. Sea lions come to the wall for warmth and shade giving visitors a unique close-up experience. A railing along the wall would prevent people climbing over it.

Sea Lion Pupping

2021 Pt. La jolla/Boomer Beach

Date	Time	Docent	Newborn	Stillborn (S) Alive (A)	Location/ Comments
4/27/2021		Robyn	2	S	Rocks
5/1-27/2021		Robyn	5	S	Rocks and Beach
5/27/2021	4:00 PM	Donna	1	A	Boomer's near rocks
5/28/2021	7:30 AM	Donna	1	A	Bottom of stairs
5/29/2021	Early AM	Donna	1	A	Bottom of stairs to the left
5/30/2021	Early AM	Donna	1	A	Bottom of stairs to the left
5/31/2021	Early AM	Donna	2	A	Bottom of stairs to the left
6/1/2021	N/A	N/A	1	A	N/A
6/4/2021	3:50 PM	Ellen	1	A	Middle of cliffs
6/6/2021	N/A	N/A	1	A	Discovered by Ian
6/8/2021	N/A	N/A	1	A	Discovered by Ian
6/9/2021	N/A	N/A	1	A	Sea World
6/9/2021	N/A	N/A	1	A	Sea World
6/9/2021	N/A	N/A	1	A	Sea World
6/9/2021	N/A	N/A	1	A	Sea World
6/9/2021	6:00 PM	Donna	1	A	Middle of cliffs
6/10/2021	1:15 PM	Robyn	1	A	Middle of cliffs
6/10/2021	N/A	N/A	2	A	N/A
6/12/2021	4:00 PM	Ellen	1	A	Boomers Beach
6/12/2021	5:00 PM	Donna	1	A	Middle of cliffs
6/13/2021	8:00 AM	Donna	1	A	Middle of cliffs
6/13/2021	9:25 AM	Donna	1	A	Middle of cliffs
6/14/2021	N/A	N/A	3	A	N/A
6/15/2021	N/A	Ian	5	A	Reported by Ian
6/17/2021	N/A	Ian	5	A	Reported by Ian
6/18/2021	N/A	Ian	5	A	Reported by Ian
6/19/2021	N/A	Donna	1	A	Reported by Donna
6/20/2021	N/A	Donna	2	A	Reported by Donna
6/21/2021	N/A	Ian	2	A	Reported by Ian
6/22/2021	N/A	Margaux	1	A	reported Margaux Lancaster
6/22/2021	N/A	Eric	2	A	Eric at Sea World
6/24/2021	N/A	N/A	1	A	N/A
6/25/2021	11:43 AM	Carol	1	A	Middle of cliffs
6/30/2021	3:45 PM	Ellen	1	A	Middle of cliffs

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http://sandiegosierraclub.org

Due to size, attachments to this letter (NOAA Technical Memo NMFS (April 2017); Unprecedented Mortality of Ca. sea lion pups (Melin, et al. 2010)) have been placed at the end of public comments.

SIERRA CLUB
SAN DIEGO CHAPTER

SEAL SOCIETY

March 22, 2022

Via email

To: Kaitlyn Carney, CCC, San Diego Planner
Kanani Leslie, CCC, San Diego Program Manager
Erin Prahler, CCC, San Diego District Supervisor

Sierra Club San Diego Chapter offers the following comments to the City of San Diego letter of March 18, 2022 Re: RE: Coastal Development Permit Application #6-21-0113/Point La Jolla Seasonal Closure, document titled "Enclosure 1: Response to Additional Information Coastal Development Permit No. 6-21-0113" SCSS's views are based on extensive research into various aspects relating to Californian Sea Lions and experience from docents contributing 1900 volunteer hours educating the public and ensuring safe viewing in La Jolla in 2021.

1- Scientific basis: The proposed seasonal closure.

We disagree with the closure period of May 25 to October 15. The data the city has relied upon for establishing those dates is too narrow and does not take into consideration other important factors based on scientific data.

Sierra Club San Diego recommends the seasonal closure extend from May 1st to October 31st due to the time the pups remain vulnerable and when bulls are a danger to visitors.

Start Date May 1st: Research shows that sea lions start to give birth at the end of May (see reference below). In La Jolla, 50% of births occurred before mid-June, six (6)live births were recorded end of May (see appendix 1, table of births 2021). Beach closures for seals at Children's Pool established the principle of closing an area for pupping season one month prior to the beginning of birthing so there is no reason not to apply the same rule for sea lions who are also vulnerable in their last month of pregnancy.

End Date October 31st: Children's Pool is closed for 5 months (December 15th to May 15th). Sea lions should benefit from 6 months as research shows that sea lions are vulnerable for a longer period than seals:

- Pupping occurs from late May to early July (see reference below below and *NOAA Technical Memorandum 2017. pg 2*))
- Sea lions take around 3 to 4 months to swim proficiently (they are prone to drowning in rough surf prior to this) where seals swim from birth (Sharon Melin NOAA and Hanan), sea lion pups stay predominantly on land for their first 4 months, left without their mothers who go on foraging trips leading to people trying to pet them (see below)
-

- sea lion pups nurse for around 11 months (see reference below & Peterson and Bartholomew 1967,Odell 1981, Heath 1989 & *Attendance Patterns of CSL During the Non-breeding season on San Miguel Island. Melin et. all 2000)* whereas harbor seals are weaned and separate from their mothers in 6 to 8 weeks (see table below)

Pupping occurs over 6 weeks from late May to early July on uninhabited sandy beaches, rocky coves, or rocky points. Sea lion females give birth to a single pup and remain in constant attendance of the pup for 5–8 days postpartum. After the perinatal period, females begin an attendance cycle in which they alternate 2- to 4-day foraging trips at sea with 1- to 2-day nursing visits ashore until the pup is weaned at about 11 months of age (Antonelis et al. 1990, Melin et al. 2000).

Extract from Lowry, Mark S., Sharon R. Melin, and Jeffrey L. Laake. 2017. Breeding season distribution and Population growth of California sea lions, *Zalophus californianus*, in the United States during 1964-2014. U.S. Department of Commerce, NOAA Technical Memorandum. https://doi:10.7289/V5/TM-SWFSC-574.

Comparison seal vs sea lion closure	Children's Pool Closure. Seals	Point La Jolla, Boomer Closure recommended Sea Lions
Birthing season	February, March	End May to end July
Closure start date	15th December	1st May
Weaning period	6-8 weeks	11 months
Proficient swimming	at birth	2-3 months
Territorial bulls on land	No	Yes
Closure end date	15th May	31st October
Duration of Closure	5 months	6 months

Additional Risks to Humans: Large 800 pounds territorial bulls have been shown to frequent the area from April to November. They can be aggressive and will fight for territory which is dangerous to humans and especially children. During the migration, bulls from other areas have been seen hauling out in the rookery and as result they may not be habituated to people and be more aggressive.

2-Boomer Beach.

The city's suggested closure boundaries fail to reduce harassments, endangers sea lions and the public and does not meet the intent of the Coastal Act. The multiple instances of sea lion harassment, injury, and death that have been documented violate the intent of Coastal Act Policy 30230. The Coastal Act prohibits harassment of marine mammals. Section 30230 of the Coastal Act states:

"Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes."

Sierra Club San Diego recommends no access be allowed by the public during closure. No other seal or sea lion rookery has any allowance for ocean access, and all are closed to all humans. (see Appendix 2).

If access is to be given, Sierra Club recommends it be limited to the southern trail as described in the Emergency Coastal Development Permit No. 2572053 which was effective and complied with the public access and recreation provisions of the Coastal Act, such as Sections 30210, 30211, 30213, and 30220. Ocean access should be supervised by Rangers to minimise disturbance to mothers and pups.

Rationale: The number of spear fishermen and body boarders who use the costal accesses at Pt. La Jolla and Boomer Beach is very limited. Sierra Club Seal Society docents witness between 10 to 20 people per week access the ocean and they will generally quickly enter and exit the water's edge using the southern "historic" trail that was left open for them during the emergency closure. This trail was described in an email by the Chief Lifeguard as the safest way to access the ocean and extra boulders were added a few years ago to enable easy access.

Access to the ocean by the "historic" trail should be under Ranger supervision as some users during the emergency closure caused disturbance and harassment of sea lions and pups. We strongly advocate that defined and enforceable rules be established if access is to be allowed. For example: If sea lions are present at the entry/exit point of the ocean, then access can NOT be permitted.

3. *Closure of all of Boomer Beach as part of the seasonal closure.*

Sierra Club San Diego recommends that both Boomer's Beach and Point La Jolla should be included in the closure as was adopted in the emergency CDP. Alternative ocean access is available 30 yards away both at the northern end at La Jolla Cove or at the southern end at Shell Beach.

Rationale: Sea lions use the whole area from Point La Jolla to Boomer's Beach Belvedere to give birth, nurse and rest. *Forty percent (40%) of the pup births recorded in 2021 took place on Boomer Beach.* Sierra Club Seal Society has regular documented evidence of large numbers of sea lions regularly resting on the entire beach area (see photo). Pups use the beach to practice their swimming in the first months of their lives. Ocean access for the pups on the rocky area of Point La Jolla is more difficult which can lead to drowning in rough surf (they are vulnerable to drowning for first 4 months see comment above).

Keeping all of Boomer Beach in the defined closed area greatly aid to sustain the biological productivity of coastal waters and maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes. In addition, closing all of Boomer Beach will protect humans from potential aggressive actions by marine mammals if perceived threatened by close human contact.

4. *Prohibit dogs at Point La Jolla*

Agree with the City on year-round prohibition of dogs.

5. *Maintain access for spearfisherman along the northern edge of Point La Jolla to "No Man's Point"*

Agree with City that the stairs should be closed to all users.

6. *Install a railing/fence.*

Coastal Commission staff should require the city to install additional railing to control crowds, protect coastal resources and prevent harm to visitors during the approved closure and post closure.

Sierra Club San Diego recommends extending the railing from the belvedere on the south side of Boomer's Beach all the way to the north side where the stairs meet the existing railing, preventing people from accessing the area from the wall to reduce erosion and to create an easier area to monitor and manage the access by the viewing public.

Rationale: The viewing public regularly climbs over the wall to access the bluffs and rocks to get close to the sea lions. Many people experience dangerous falls as they land on slippery terrain and walk down the bluffs. The increased footfall has led to serious erosion in the whole area. Increased erosion is causing the base of the sidewalk wall to detach from the bluff, leading to possible weakening of the wall structure which is regularly used by people to sit on to view sea lions and the ocean scene (see photo). Plant cover has been greatly reduced throughout due to the increased footfall which leads to further erosion.

7. *Install a webcam.*

Sierra Club San Diego supports the installation of a webcam to cover the sea lion rookery.

Rationale: A webcam was installed at Children's Pool to enable the viewing of their birthing period and seasonal changes in how seals use the area. This can be used to present and communicate viewing guidelines when people watch the footage from the camera. This camera can also assist the lifeguards to monitor the area for any people in distress at sea as divers and snorkelers often frequent the area and can get into trouble.

8. *Install a sea lion statue.*

Although Sierra Club San Diego is in favour of installing a sea lion statue as a way of deterring visitors from approaching sea lions for photos, this is not a priority at this stage.

9. Park Rangers.

Sierra Club San Diego supports the posting of one or 2 rangers permanently, year-round. Rangers should be present, at a minimum, during peak hours from mid-morning to 1 hour after sunset due to the high numbers of people viewing the sunset from this area.

10.Year-round management.

Sierra Club San Diego is particularly concerned how the City plans to manage the area during the non-closure period. Sierra Club strongly recommends that Rangers be granted authority to move people away from the sea lions and restrict access to the stairs when crowds become unmanageable and that the stairs be closed when rangers are not present (for instance at night-time and early morning).

Rationale: Rangers have no authority to enforce the Marine Mammal Protection Act as outlined in the Emergency Coastal Development Permit No. 2572053 : " Because the MMPA is a federal law, City law enforcement officers do not have the authority to enforce it. This lack of authority jeopardizes visitor safety, animal welfare, and natural resource protection which renders the City unable to uphold the intent of Coastal Act Policy 30230." Enabling Rangers to restrict access to the stairs is a clear and non-controversial way to keep people at safe distances when more than 300 people per hour try to access by the stairs and also at times when Rangers are not present like at night-time.

11.*Razor Point gate.*

The City noted in their comments that this gate was not authorized by the Coastal Commission in accordance with the Coastal Act. They City also states that a fence has been a permanent fixture for at least 100 years. Sierra Club San Diego strongly recommends that the City be ordered to lock the gate, with access only permitted to City employees/representatives for official City business, until such time as the Coastal Commission reaches a determination on the outcome of the gate.

Rationale: The area below the gate is very steep and becoming dangerously eroded. A prominent warning sign is posted next to the gate: "Danger Unstable Cliffs, stay back". It leads to an area used by hundreds of Brown Pelicans and nesting Brandt Cormorants (see photo taken from gate opening). Sea lions also sometimes haul out here but do not give birth. Letting people access this area is dangerous with people regularly

seen falling and it is very disturbing for all the wildlife. Generally, the public only accesses this area when sea lions are present and when they try to approach them.

12. Summary/timeline of City activities.

Sierra Club San Diego notes additionally that fireworks planned in the park at Point La Jolla on July 4th, 2021, were cancelled as they were to be launched within feet of birthing sea lions. We expect that no fireworks will be allowed in the area in the future.

13. Harassment incidents

Sierra Club San Diego rebuts the City's response in suggesting that they are not in possession of sufficient data on the number of complaints. We offer the following additional information for consideration.

- Rangers kept records of the numbers of harassments from September 2020 to March 2021 which have been communicated with us. Those numbers are shown in Appendix 3. This shows a total of 902 harassment incidents during weekends for a 7-month period. This resulted in an average of 30 harassments per weekend.
- Sierra Club Seal Society has been sending weekly, biweekly and monthly harassment reports to NOAA, Park and Recreation and the City showing on-going harassment that occurs day in day out.
- A video of different types of harassment was shown to the California Coastal Commissioners during public comment on March 17, 2022.
- Evidence of ocean access users flushing sea lions during the emergency closure period was sent to the City (see appendix 4).

14. Federal agency coordination.

Sierra Club Seal Society makes regular reports on harassment to NOAA and our docents place calls to the NOAA hotline when particularly serious harassment occurs. No action has been taken by NOAA following our reports. A public records request shows that over 50 calls to NOAA hotline from Feb to Nov. 2021 (source: FOIA) and over 30 calls were made to LJ police in 2021 for crowd control.

15. Signage Plan.

Sierra Club San Diego urges Coastal Commission staff to require additional signage.

There should be several "Area Closed" signs along the wall as there were during the emergency closure not just one in the middle of the closure area as proposed. Implementing the boundaries as defined during the emergency closure results in a much simpler and less invasive solution with the need for only one K rail clearly marking the closed area. Sierra Club is does not believe it is in the best interest of the public to install a swimming sign that will only encourage the public to think that this is a swimmable beach when it is one of the most dangerous in San Diego as shown in the "Warning Dangerous Rip Currents" sign which is located up on the sidewalk, away from the proposed swimming sign.

Rationale: the proposed 4 K rails or A frames situated on the bluffs will spoil the view for on lookers and will interfere with the usual paths taken by sea lions to access the different areas. These barriers risk being washed away by high tides if they are placed lower down from the wall.

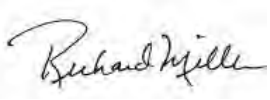
16. Interested parties:

No comment

17. CEQA review

No comment

Thank you for considering our comments.



Richard Miller
Chapter Director

Appendix 1: Table of sea lion pup births 2021

Date	Time	Docent	Newborn	Stillborn (S) Alive (A)	Location/ Comments
4/27/2021		Robyn	2	S	Rocks
5/1-27/2021		Robyn	5	S	Rocks and Beach
5/27/2021	4:00 PM	Donna	1	A	Boomer's near rocks
5/28/2021	7:30 AM	Donna	1	A	Bottom of stairs
5/29/2021	Early AM	Donna	1	A	Bottom of stairs to the left
5/30/2021	Early AM	Donna	1	A	Bottom of stairs to the left
5/31/2021	Early AM	Donna	2	A	Bottom of stairs to the left
6/1/2021	N/A	N/A	1	A	N/A
6/4/2021	3:50 PM	Ellen	1	A	Middle of cliffs
6/6/2021	N/A	N/A	1	A	Discovered by Ian
6/8/2021	N/A	N/A	1	A	Discovered by Ian
6/9/2021	N/A	N/A	1	A	Sea World
6/9/2021	N/A	N/A	1	A	Sea World
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6/9/2021	N/A	N/A	1	A	Sea World
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6/12/2021	4:00 PM	Ellen	1	A	Boomers Beach
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6/13/2021	8:00 AM	Donna	1	A	Middle of cliffs
6/13/2021	9:25 AM	Donna	1	A	Middle of cliffs
6/14/2021	N/A	N/A	3	A	N/A
6/15/2021	N/A	Ian	5	A	Reported by Ian
6/17/2021	N/A	Ian	5	A	Reported by Ian
6/18/2021	N/A	Ian	5	A	Reported by Ian
6/19/2021	N/A	Donna	1	A	Reported by Donna
6/20/2021	N/A	Donna	2	A	Reported by Donna
6/21/2021	N/A	Ian	2	A	Reported by Ian
6/22/2021	N/A	Margaux	1	A	reported Margaux Lancaster
6/22/2021	N/A	Eric	2	A	Reported by Eric at SW
6/24/2021	N/A	N/A	1	A	N/A
6/25/2021	11:43 AM	Carol	1	A	Middle of cliffs
6/30/2021	3:45 PM	Ellen	1	A	Middle of cliffs
		Total	**58**		51 live and 7 still birth

Appendix 2: file attached "Other California Rookeries"

Appendix 3: Harassment incidents recorded by weekend Rangers

Ranger Reported	Table Educated	Ranger/Cliffs Educated	Wildlife Harassment	Dog Restricted Hours	
September		1419	193	263	
October		1818	242	181	
November	878	1081	53	288	
December	327	1017	43	217	Covid restrictions, take-out food only, beauty salons closed
2020 Totals	**1205**	**5335**	**531**	**949**	
2021					
January					
01/01/2021	0	250	111	15	
02/01/2021	170	57	22	12	one ranger
03/01/2021	270	216	3	92	
09/01/2021	0	32	35	7	
10/01/2021	0	16	0	9	
16/01/2021	0	93	7	6	
17/01/2021	0	148	2	11	
23/01/2021	0	12	6	1	
24/01/2021	194	63	0	19	
30/01/2021	289	157	2	97	
31/01/2021	0	226	0	4	
	923	**1270**	**188**	**273**	
February					
06/02/2021	N/A	137	43	17	
07/02/2021	140	82	0	43	
13/02/2021	N/A	134	2	32	
14/02/2021	300	241	12	23	
15/02/2021	N/A	90	9	3	
20/02/2021	N/A	53	21	19	1/2 Rangers #'s
21/02/2021	150	131	1	19	2 Rangers, 1 Civilian
27/02/2021	160	27	0	11	1/2 Rangers #'s, 1 Civilian
28/02/2021	N/A	285	0	5	2 Rangers, 1 called in sick
TOTALS	**750**	**1180**	**88**	**172**	
March					
06/03/2021	N/A	53	16	12	2 Rangers
07/03/2021	252	113	0	29	2 Rangers, 1 civi.
13/03/2021	310	71	0	55	1 Ranger, 1 civi. 45 dogs sidewalk, 10 on rocks
14/03/2021	N/A	355	19	28	2 Rangers
20/03/2021	N/A	258	11	16	2 Rangers
21/03/2021	N/A	170	3	5	2 Rangers

27/03/2021	N/A	262	40	13	2 Rangers
28/03/2021	275	365	6	99	2 Rangers, 1 civi. 70 dogs on sidewalk, 29 on rocks
Totals	**837**	**1647**	**95**	**257**	
2021 TOTAL	**2510**	**4097**	**371**	**702**	
RANGER TOTAL	**3715**	**9432**	**902**	**1651**	

Appendix 4: "Feedback from Sierra Club Seal Society on emergency closure": separate file attached.

From:	Brittany
To:	mayortoddgloria@sandiego.gov; joelacava@sandiego.gov; Kdennison@sandiego.gov; Carney, Kaitlin@Coastal; scsealsociety@gmail.com
Subject:	Request for Support to Protect the Sea Lion Rookery, La Jolla, CA
Date:	Thursday, February 17, 2022 6:50:20 AM
Attachments:	Outlook-ywxmblvt.png Outlook-tsk1xwrf.png Outlook-o0on42ot.png Outlook-2pvwukzx.png OC-SealSociety.pdf

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To Whom It May Concern,

Please review the attached letter in support of protecting the Sea Lion Rookery in La Jolla, CA and do not hesitate to contact me with any questions. Thank you so much and have a great day!

OCEAN CONNECTIONS

Cheers,
Brittany Grogan
Education Coordinator
10001 W. Bluemound Road
Milwaukee, WI 53226
brittany@oceanconnections.org
Office: (414) 453-5527
Direct Line: (414) 246-7068

Stay connected with us!

OCEAN CONNECTIONS
Providing Forever Homes

10001 W Bluemound Rd
Milwaukee, WI 53226

oceanconnections.org

To Whom It May Concern,

We are writing to you from Ocean Connections, an accredited marine mammal facility dedicated to providing forever homes for rescued seals and sea lions. Our mission is to inspire conservation awareness and public action for our world's ocean through education. We are actively involved in protecting marine life and are appalled at the behavior allowed from the public at the Sea Lion Rookery in La Jolla, California. Sea lions are already facing enormous challenges including overfishing, pollution, Domoic Acid poisoning, and so much more. They deserve a protected space to rest and raise their young without human interference. Ocean Connections wants nothing more than for these animals to thrive in the wild which can only be accomplished with your assistance.

The annual sea lion pupping and breeding season occurs in late May through October 31 when pups can swim well at 4 months. This past summer, over 300 visitors at any given time were observed by docents to illegally touch, pet, take selfies, pick up pups, and repeatedly disturb these animals. The Federal Marine Mammal Protection Act (MMPA), State Wildlife laws, and the City Municipal Code have been routinely ignored. In September and October of 2020, City Rangers working only weekends counted over 400 visitors illegally harassing the sea lions; unaware these are wild animals in their natural habitat - not a petting zoo!

Several issues make sea lion pups especially vulnerable. Pups cannot swim well for 4 months after birth. When people block their path to dry land during high tides, they are in great danger of drowning. Mothers nurse their pups for up to 12 months as pups cannot forage for food themselves until they are 7 months old. In addition, if humans touch a pup during their first two months of life, the mother may reject her pup, leaving it to starve.

Public safety is another major reason for people to keep a reasonable distance from sea lions. When they are too close, sea lions have been observed to growl, bite, and chase them away. The terrain at Point La Jolla and Boomer's Beach is rocks and uneven sandstone, which is very slippery, causing many visitors to lose their balance and fall.

We support: 1) To close all public access to Boomer's Beach and Point La Jolla during Pupping Season from May 1st to October 31st; (2) staff rangers at the Rookery year-round 3) To identify, implement and post a specific distance for people to stay away from sea lions (50 ft suggested) and make it enforceable. 4) To prohibit dogs at Point La Jolla and Boomer's beach year-round.
Please take action to protect both the sea lions and the public and to implement the above goals.
Signed by: Your Name/Title: Brittany Grogan – Director of Education
Signature: _____
Organization/Affiliation Ocean Connections

OCEAN CONNECTIONS
Providing Forever Homes

10001 W Bluemound Rd
Milwaukee, WI 53226

oceanconnections.org

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Please take action to protect both the sea lions and the public and to implement the above goals.
Signed by: Your Name/Title: Emmeline Bowers / Senior Trainer
Signature: Emmeline Bowers
Organization/Affiliation Ocean connections

OCEAN CONNECTIONS
Providing Forever Homes

10001 W Bluemound Rd
Milwaukee, WI 53226

oceanconnections.org

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Public safety is another major reason for people to keep a reasonable distance from sea lions. When they are too close, sea lions have been observed to growl, bite, and chase them away. The terrain at Point La Jolla and Boomer's Beach is rocks and uneven sandstone, which is very slippery, causing many visitors to lose their balance and fall.

We support: 1) To close all public access to Boomer's Beach and Point La Jolla during Pupping Season from May 1st to October 31st; (2) staff rangers at the Rookery year-round 3) To identify, implement and post a specific distance for people to stay away from sea lions (50 ft suggested) and make it enforceable. 4) To prohibit dogs at Point La Jolla and Boomer's beach year-round.
Please take action to protect both the sea lions and the public and to implement the above goals.
Signed by: Your Name/Title: __Amy Shank – Trainer 1_____
Signature: ___Amy Shank_____
Organization/Affiliation _Oceans of Fun at Hersheypark_____

OCEAN CONNECTIONS
Providing Forever Homes

10001 W Bluemound Rd
Milwaukee, WI 53226

oceanconnections.org

To Whom It May Concern,

We are writing to you from Ocean Connections, an accredited marine mammal facility dedicated to providing forever homes for rescued seals and sea lions. Our mission is to inspire conservation awareness and public action for our world's ocean through education. We are actively involved in protecting marine life and are appalled at the behavior allowed from the public at the Sea Lion Rookery in La Jolla, California. Sea lions are already facing enormous challenges including overfishing, pollution, Domoic Acid poisoning, and so much more. They deserve a protected space to rest and raise their young without human interference. Ocean Connections wants nothing more than for these animals to thrive in the wild which can only be accomplished with your assistance.

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Signed by: Jackie Beiler, Supervisor of Training
Signature: Jackie Beiler
Organization/Affiliation Oceans of Fun at Hersheypark

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Signed by: Your Name/Title: ____Kelly Kamrath, Director of Training_____
Signature: ____***Kelly Kamrath***
Organization/Affiliation ____Ocean Connections_____

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Brittany Wuerl- Marine Mammal Trainer I
Brittany Wuerl
Ocean Connections

From: Carney, Kaitlin@Coastal
To: Carney, Kaitlin@Coastal
Subject: FW: Harbor Seal Harassment - Children's Pool La Jolla Cove
Date: Tuesday, February 22, 2022 3:51:29 PM
Attachments: IMG_155060669.MOV

From: Melissa Kegler <melissa.jean.kegler@gmail.com>
Sent: Sunday, February 20, 2022 10:41 PM
To: Willis, Andrew@Coastal <Andrew.Willis@coastal.ca.gov>; Parry, Chris@Coastal <Chris.Parry@coastal.ca.gov>; SanDiegoCoast@Coastal <SanDiegoCoast@coastal.ca.gov>
Cc: Melissa Kegler <melissa.jean.kegler@gmail.com>
Subject: Harbor Seal Harassment - Children's Pool La Jolla Cove

Hello,

My name is Melissa Kegler and I was in the La Jolla Shores area this past Sunday, February 20, 2022. As a part of the trip, I visited the sea lions as well as the harbor seals at Children's Pool. As an active marine life conservationist and open water swimmer, I am aware of the footprint we as humans leave on the environment and how that effects the marine life, specifically the mammals we share the water and water with.

I sent the following email to the City of San Diego and wanted to send it along to you as well for consideration in the motion to close the Sea Lion pupping area. It is my understanding Children's Pool is supposed to be closed off (at least that is what I read), it is anything but.

As pupping season is underway at La Jolla Cove, as much as the signs make the people aware of the wildlife, specifically with the potential abandonment of pup by the mother, I was absolutely appalled not only at the people harassing the pups and mothers, but the fact no one of authority was there to do anything about it. The stairs to the South of Children's Pool should have been completely barricaded AND a lifeguard or ranger or someone ensuring people did not enter the beach area. There were flocks of people taking selfies with the mother an baby seals, several of which were trying to nurse. People were on the beach only a couple feet from the seals. The mother and babies that were trying to swim up onto the beach from the ocean were visibly stressed as they had no where to go the people forcing them to return to the sea. Several that were resting on the beach snapped at the humans when they got too close and harassed their babies. It was excruciating to watch.

I understand that not every beach can be guarded at all times. But this beach is in direct proximity with Children's Pool, it was the middle of the day when tourists are known to be present at high volumes, it is the middle of pupping season, and the babies have not fully been weaned from their mothers. This never should have happened and while I

know it is the lifeguard's job to watch for emergency and urgent situations, it infuriating to see people in the guard tower with direct visibility over the beach seeing humans illegally harassing the wildlife and not doing anything.

Signs are great, but unless people actively educate the population of humans, specifically during critical times such as pupping season as well as actively protect the animals that make this area special, humans will change and ruin the environment and marine life that the City of San Diego claims they are working to protect.

It was absolutely 100% not acceptable to let this have happened. In no way shape or form should humans have been able to access and harass the nursing pups and mothers in a known breeding and birth area.

I call on the City of San Diego to do better and I hope that NOAA will be able to work with the City to get animal protection resources on-site to assist in the protection of the mothers and babies at least until they are fully weaned.

I have attached pictures documenting what my partner and I witnessed today, the direct and illegal harassment of marine wildlife at the Children's Pool area, lifeguards looking on, with no authority protecting the animals at this critical time.

Please reach out to me with questions or for further discussion. I expect a response on actions taken.

Melissa Kegler
Email: melissa.jean.kegler@gmail.com
Cell: (703) 424-1846

From: FoCP
To: Joe LaCava
Subject: LA JOLLA SEA LION ROOKERY IN DANGER – PLEASE ACT NOW
Date: Tuesday, February 22, 2022 3:14:02 PM

Let the City of San Diego Know what it must do. Fill in the supplied answers.

Subject: LA JOLLA SEA LION ROOKERY IN DANGER – PLEASE ACT NOW
Date: Tue, 18 Jan 2022 12:37:30 -0600
From: Sierra Club San Diego <reply@emails.sierraclub.org>
Reply-To: Sierra Club San Diego
To: bigdipper@san.rr.com

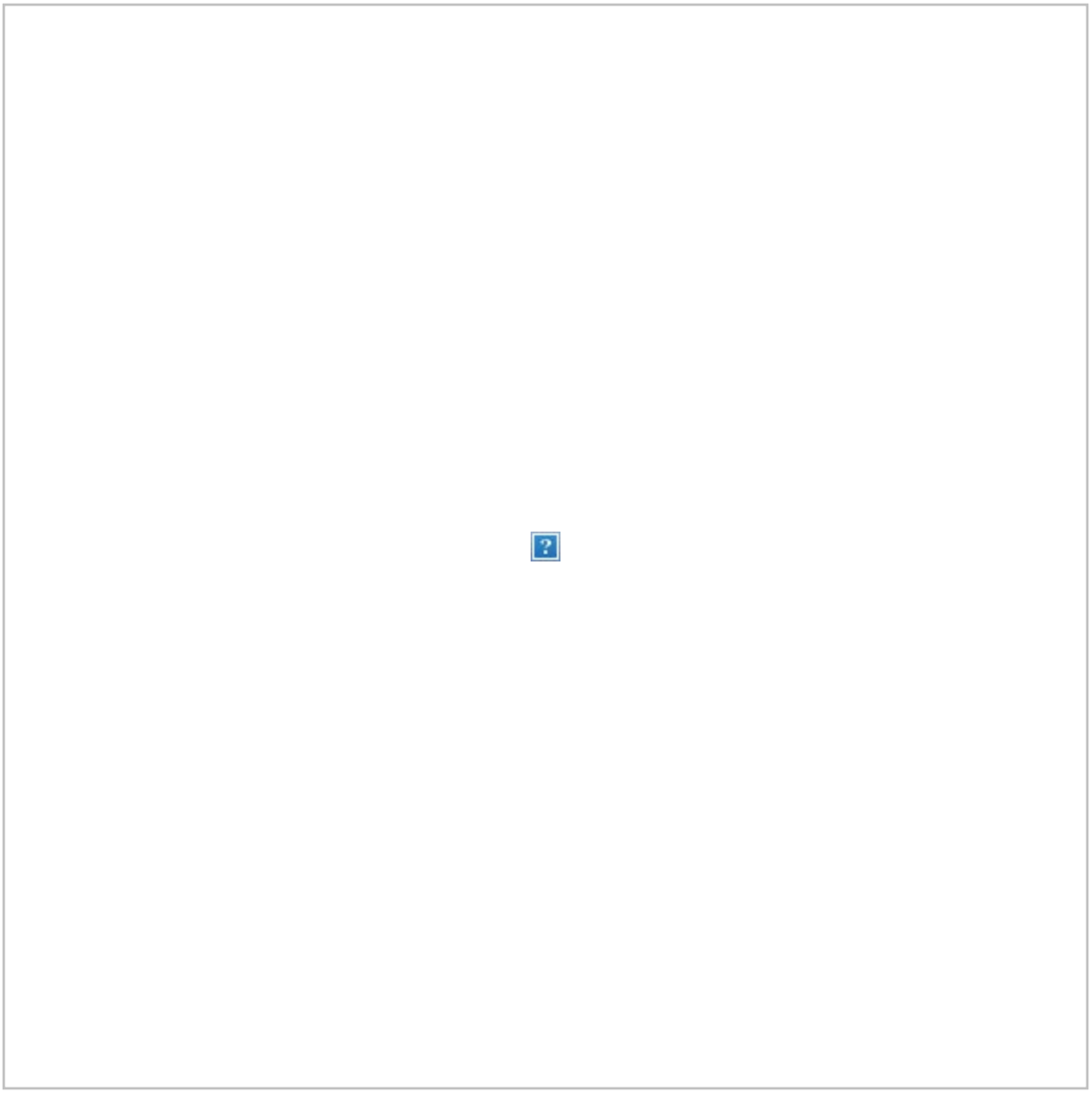


Photo courtesy of Sierra Club Seal Society

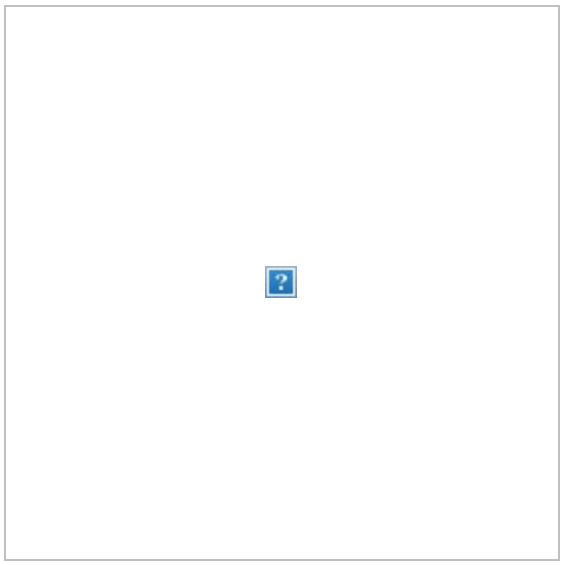
Dear Joe,

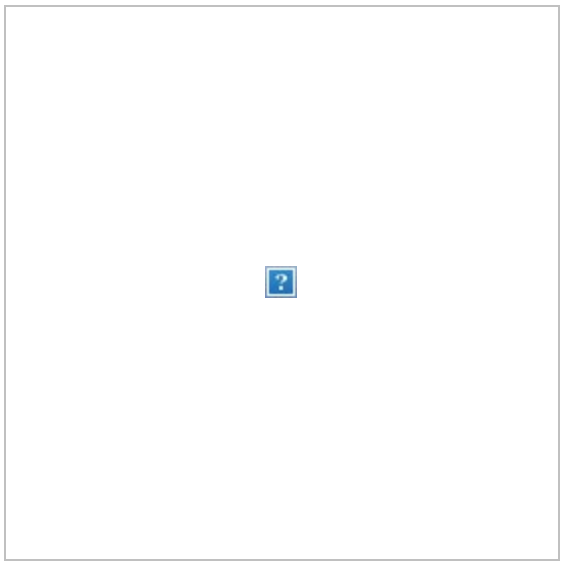
San Diego officials are accepting public input on a plan to close the Sea Lion Rookery at Point La Jolla during the pupping season. Currently there are no rules enforcing any physical separation between humans and sea lions which results in harassment as people get dangerously close to the marine mammals. This has led to sea lion deaths and unacceptable pup mortality this year.

A vocal minority objects to any City action to protect these wonderful marine mammals, and demands access to sensitive

parts of the rookery even when newborn pups are present!

A new closure map has been released "due to the survey responses". We need your help to tell the city to NOT shrink the closure area.





The original succesful 2021 closure area is outlined in red, the new closure area no longer includes the area to the left of the yellow line (Boomer Beach).

TAKE THE SURVEY

Please use your own words.
Here are the questions and some suggested responces:

1. **How do you use the Point La Jolla area (i.e. swimming, fishing, sea lion watching, etc.)?**

   Viewing the sea lions in their natural habitat.

2. **On average, how many days per month do you use or visit the Point La Jolla area?**

   Select applicable.

3. **What type of physical improvements/enhancements would you like to see made to the Point La Jolla area?**

- ***The sea lion rookery must include all of Pt. La Jolla***

and Boomer Beach as defined in the 2021 Summer closure.

- Install physical barriers as the only way to keep people and sea lions at safe distances.
- Install a railing along the wall from the access stairs to the belvedere to prevent people from climbing into the area.
- Prohibit access to the whole area as is the policy of Children's Pool and all other California pinniped rookeries without exceptions.
- Closure dates should be from 1st May to 31st October for pupping season.
- Post Rangers year-round with the authority to enforce safe viewing distances.
- Prohibit dogs from the area year-round.
- Install a gate at the top of the stairs to close at night as revellers regularly enter the area after dark.

4. **Do you support a seasonal closure of the Point La Jolla area?**

   Select YES

5. **If you support a seasonal closure, please share why.**

- Closure is the only way to prevent people from getting dangerously close to the animals and harassing them.
- Closure of the area is in line with other rookeries where pinnipeds give birth.
- Seasonal closure dates must be May 1 to October 31 as pups can't swim untiil 4 months of age and may drown from crowds forcing them into the ocean.
- Watching from the wall provides a great view for everyone.
- Closure will also prevent the serious erosion that results from people trampling over the bluffs in the area.

6. **If you do not support a seasonal closure, please share why.**

   The area must be closed during pupping season, at a minimum.

7. **Please share additional comments or recommendations you have. Thank you.**

   I fully support the San Diego Seal Society in their efforts and agree the best solution is closure of Point La Jolla year-round so that people can safely view the sea lions from the wall. It is unconscionable that this vulnerable sea lion colony is not fully protected from harassment by physical separation of visitors. The area being closed is only 150 yards of non-swimmable shoreline within the 7-miles of the La Jolla Coastline.

8. **You will have the option to make your views public or to share with only with City staff.**

TAKE THE SURVEY

ADDITIONAL INFORMATION

If would like additional information about the La Jolla Sea Lion or Harbor Sea colonies, please visit our Facebook page at https://www.facebook.com/SealSociety or write to scsealsocietydocent@gmail.com.

Sierra Club San Diego Chapter

This email was sent to: **Joe LaCava <jlacava@san.rr.com>**

This email was sent by the Sierra Club San Diego Chapter
8304 Clairemont Mesa Blvd #101 San Diego, CA 92111

LAW OFFICES OF LORI R. MENDEZ

A Professional Law Corporation

Lori R. Mendez, Esq.

4267 Conner Court
San Diego, CA 92117
Tel. (619) 549-4542
Fax (619) 599-7774

Lori@Mendezplc.com

March 3, 2022

TO:
Mayor Todd Gloria: mayortoddgloria@sandiego.gov
City of San Diego Sr. Policy Advisor Randy Wilde: Rwilde@sandiego.gov
Council Member Joe LaCava: joelacava@sandiego.gov
City of San Diego Policy Advisor Brian Elliott: belliott@sandiego.gov
Assistant Director Parks and Recreation Karen Dennison: Kdennison@sandiego.gov
CA. Coastal Cmsn. Coastal Prog. Analyst Kaitlin Carney: kaitlin.carney@coastal.ca.gov
CA Coastal Cmsn. N. Coast Enforc. Analyst Leslie Kanani: Kanani.Leslie@coastal.ca.gov

Re: Request for Support to Protect the Sea Lion Rookery, La Jolla, CA

Dear Honorable Mayor Gloria, Senior Policy Advisor Wilde, Council Member La Cava, Policy Advisor Elliott, Assistant Director of Parks and Recreation Dennison, and Coastal Commission Analysts Carney and Kanani:

My name is Lori Mendez, I am a local attorney and a resident of San Diego.Additionally, I studied and received a Master of Advanced Studies in Marine Biodiversity and Conservation from Scripps Institution of Oceanography in 2018. In past years, I have been a trained volunteer docent with the Sierra Club Seal Society. During my tenure as a docent, I have had the opportunity to observe human-seal and sea lion interactions day after day and over time. I also interacted with visitors, and provided education about both types of pinnipeds, their habitats, their physiological characteristics, and their behaviors. Unfortunately, I was consistently dismayed by the observed interactions between humans and seals and sea lions, including new born pups, which more often than not, knew no boundaries and in many instances were detrimental to the well-being of moms and pups alike. In the short term I witnessed mom and pup separations and mortalities and over time I noted what to me seemed the equivalent of death by 1,000 cuts and behaviors that I came to recognize as manifestations of stress in these marine mammals as they were forced to endure throngs of humans and repeated and relentless direct and close interactions while attempting to rest, warm, re-oxygenate, and care for their young in this unique urban rookery. I have no doubt, and it is objectively and abundantly clear, that this ongoing irresponsible, and mostly ignorant behavior by high volumes of humans constitutes illegal harassment of these marine mammals. The Federal Marine Mammal Protection Act ("MMPA"), State wildlife laws, and the City Municipal Code have been routinely ignored and are certainly not being enforced.

As you may know, the annual sea lion pupping and breeding season occurs in late May through October 31 when pups can swim well at 4 months. I am informed that just this past summer, over 300 visitors at any given time were observed by docents to illegally touch, pet, take selfies, pick up pups, and repeatedly disturb these animals. Additionally, in September and October of 2020, City Rangers working only weekends counted over 400 visitors illegally harassing the sea lions; unaware these are wild animals in their natural habitat, not a petting zoo!

Several issues make sea lion pups especially vulnerable. Pups cannot swim well for four months after birth. When people block their path to dry land during high tides, they are in great danger of drowning. Mothers nurse their pups for up to 12 months as pups cannot forage for food themselves until they are seven months old. In addition, if humans touch a pup during their first two months of life, the mother may reject her pup, leaving it to starve.

Public safety is another major reason for people to keep a reasonable distance from sea lions. When they are too close, sea lions have been observed to growl, bite, and chase them away. The terrain at Point La Jolla and Boomer's Beach is rocks and uneven sandstone, which is very slippery, causing many visitors to lose their balance and fall.

I stand with the Sierra Club Seal Society and support: 1) Closing all public access to Boomer's Beach and Point La Jolla at least during the entirety of pupping season from May 1st to October 31st; (2) Staff rangers at the Rookery year-round, with the assistance of well-trained volunteer Sierra Club docents if needed; 3) Identification, implementation, and CLEAR posting of a specific distance for people to stay away from sea lions (50 ft suggested), and make it enforceable; and 4) Prohibiting dogs at Point La Jolla and Boomer's beach year-round.

I implore you to please implement and enforce the requested four actions above that are already required under current laws to protect both the sea lions and the public.

Thank you for your careful consideration.

Sincerely,
Signed by: Your Name/Title: Lori R. Mendez, Esq., MAS-MBC (SIO-2018)
Signature: /s/ *Lori R. Mendez*
Organization/Affiliation Law Offices of Lori R. Mendez, P.L.C. and Sierra Club member

cc: Sierra Club Seal Society
scsealsociety@gmail.com

From:	Robyn Davidoff
To:	Carney, Kaitlin@Coastal; Leslie, Kanani@Coastal; Prahler, Erin@Coastal
Cc:	Brownsey, Donne@Coastal; Aminzadeh, Sara@Coastal; Steve.padilla@coastal.ca.gov; Mann, Zahirah@Coastal; Ainsworth, John@Coastal; Richard Miller; George Courser; Lisa Ross
Subject:	San Diego"s CDP proposal with larger access area is flawed
Date:	Monday, February 28, 2022 11:59:45 AM
Attachments:	Historic Trail drone picture.png

On or around February 23, 2022, the city of San Diego submitted an updated map to its CDP application for the sea lion rookery closure area further shrinking the closed area and allowing ocean users to walk right through the rookery. This concept is flawed and should be rejected outright. Ocean users claim their revered "historic path" is sometimes slippery and want more cliff access, however Chief Lifeguard Gartland said in an email obtained through a public records request that the historic path built by the city for body surfers is the safest route to Boomer beach. Boomer beach has high surf and rip tides and is not typically used by the general public. Enlarging the recreational ocean access area puts the pups' survivability at risk and puts ocean users in direct contact with 800-pound territorial bulls. Sea lions need to be on this part of the cliff at high tide or risk death. In fact a few pups drowned last year.

Please view the following videos. The first video shows a group of sea lions resting on the bluff above Boomer Beach two, 4-week old pups wandering around calling for their mom, and a sub-adult bull protecting his harem. This will be in the "open access path area" being proposed by the city in the CDP application. Allowing access via this path would result in continuous MMPA violations. The "historic trail" is a better access point, if any is to be allowed, although sea lions are at the base of the trail as well (see photo of fisherman at south end of Boomer beach flushing sea lions into the water). The "historic trail" is effectively in the "open and non-restricted" area so strict rules for entry/exit to the water would need to be enforced so as to not disturb the sea lions and pups and minimize MMPA violations. Management of the area would also be needed to keep the public from lingering on the beach and disturbing the sea lions. Our experience shows that once visitors see people next to sea lions, others follow to get that wildlife experience.

https://drive.google.com/file/d/1ZIBGGkNcu0EOtzZuz-pswAFZfY0yZDw1/view?usp=sharing

CLEAR John Leek Flushing 20JULY Submarine?.mp4

drive.google.com

The next video shows the slippery and steep "path" visitors are creating to approach the sea lions on Boomer Beach and Pt. La Jolla for a wildlife experience. With over 300 people per hour coming to see the sea lions, they are causing cliff erosion, trampling vegetation holding up the cliff, and creating an "access point" where none exists. This unofficial trail is the city's proposed "open ocean" access path and would not be acceptable during the closure or after the closure period as it causes cliff erosion and is not in the La Jolla Coastal Plan.

https://drive.google.com/file/d/179BtCBx0SeyoTizGa38dR0FBHj50-KLr/view?usp=sharing

20211127_160049.mp4

drive.google.com

Finally, I'm attaching:

- an aerial photo of the area of discussion showing the wall is the natural barrier between people and sea lions. The area between the yellow and red line is the city's proposed "open access" area. The blue line is the Emergency Temporary Closure line put in place in 2021.
- a photo of the "historic" trail used by the small group of ocean body surfers and spearfisherman
- a photo of a large male sea lion taken on October 27, 2019. This shows that large bulls are present beyond the mating season (July, August, September) and allowing people in this area places them in a harmful situation.

Robyn Davidoff
Sierra Club Seal Society Chair
858 775-6627


Pup
Point La Jolla
San Diego, CA
0:12 / 11:37


Rooke
Sea L
Birthing

From:	Elena Tillman
To:	Ainsworth, John@Coastal; Brownsey, Donne@Coastal; Mann, Zahirah@Coastal; Steve.padilla@coastal.ca.gov; Aminzadeh, Sara@Coastal; Leslie, Kanani@Coastal; Carney, Kaitlin@Coastal; Prahler, Erin@Coastal
Subject:	Dog versus sea lion at night
Date:	Friday, March 4, 2022 11:51:05 AM
Attachments:	010DF127-1F2C-4357-8AD7-22A5FA01826D.png A7A7081D-D893-4ADA-A059-06CB7CB8D21F.png F3CDD539-9144-4AD1-A5AC-3754E86756D5.png D557F52A-976B-478A-B7C2-B3EB7E16434B.png

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Dear Commissioners,

Please see below for a video of people using a dog to taunt a sea lion at night from San Diego Humor on Instagram. In case the video disappears, I've attached some screenshots. Honestly I don't even know what to say, but this is so not OK. This is just an example of what goes on down at the Cove/Point La Jolla/S Casa beach at night; I've witnessed it myself this summer. People just don't know how to conduct themselves and the sea lions have no rest day or night. It's absolutely ridiculous.

https://instagram.com/stories/sandiegohumor/2786550265134109232?utm_source=ig_story_item_share&utm_medium=copy_link

--
Best,
Elena Tillman


This escalated quick.
LAND PUP VA SEA PUP

From:	Garfield, Judith
To:	Carney, Kaitlin@Coastal; Leslie, Kanani@Coastal; erin.prahler@caostal.ca.gov; Cc: "steve.padilla@coastal.ca.gov; Ainsworth, John@Coastal; Brownsey, Donne@Coastal; Mann, Zahirah@Coastal; Aminzadeh, Sara@Coastal
Subject:	La Jolla-Boomer Beach area closure
Date:	Monday, March 7, 2022 9:14:19 AM

To the CCC,

Please stop the City of San Diego from developing Pt. La Jolla and Boomer Beach.

This area is crucial as a haul-out spot for California sea lions. Here, they give birth, and the pups develop and learn to swim under adult protection. Mating also takes place here, with the males jockeying for position to court females. What a rare thrill for lucky locals and visitors to see nature unfolding in front of us—but at a safe distance. This is the real deal, not like watching cohort sea lions balance a ball on their nose.

Pupping season spans May through October, and females need a quiet space without human crowding and harassment to give birth and help the next generation get the hang of swimming. Their survival depends on it. They already are already at a disadvantage, struggling from being snagged by fishing line, which I routinely see, and by the challenges of finding food in an overfished ocean. It's sad that what should be a safer haul-out location than the offshore island rookery ends up being higher mortality here.

I've been swimming and diving this area for over 40 years, and in my experience, Boomer (almost no beach and submerged shallow reef) and Pt. La Jolla (all rocks and boulders) are unsurprisingly not popular places for most beachgoers who want to set down their beach towel. Boomer, as its name implies, enjoys often treacherous conditions.

The safest, most reasonable place for a water entry (if you insist!) is off a particular gazebo situated at the west end of Boomer. It's still challenging but at least with a bit of sand (at times). Keep in mind that even if you make a giant stride off Pt. La Jolla, you won't necessarily be able to return to terra firma from there. Too hazardous! Consequently, because the Point presents a risky entry, there are relatively few users, meaning they don't need but a small amount of beach access. Consequently, if there must be public jump-in access, please see to it that at least the footprint for public access is reduced. As to the massive numbers of humans crawling around the rocky outcrop, their only reason for being there is to get too close to or directly harass the sea lions.

This area is ideal for the sea lions because they have the skillset to safely avoid injury from the ongoing incoming surf, boulders, and the razor-sharp barely submerged reef that defines Pt. La Jolla. Know that certain locals show up every morning at La Jolla Cove (around the corner from Pt. La Jolla) specifically to flush into the water any sea lions found sleeping there overnight. At least the animals can swim around the bend and haul out at Pt. La Jolla.

To be clear, we know the rookery should be closed year round but I'm not asking for that. Just close the area for these short months. There will always be mortality and cruelty but let's do what we can reasonably do in compromise.

Please tell the San Diego City Council to

1. **Close the Pt-La Jolla-Boomer area from May through October for pupping season.**
2. **Reduce and alter entry away from Boomer and Pt. La Jolla from the few who demand access.**

I know your job is hard and whatever you do, people will be unhappy. Let's choose to stick up for these animals because they can't speak for themselves. They depend on us to choose to do the right thing for them.

Sincerely, and best fishes,
Judith Garfield

Author: The San Diego-La Jolla Underwater Park Ecological Reserve:
Vol. 1, La Jolla Cove; Vol. 2, La Jolla Shores & Canyon

From:	D Beal
To:	Ainsworth, John@Coastal; Brownsey, Donne@Coastal; Mann, Zahirah@Coastal; Steve.padilla@coastal.ca.gov; Aminzadeh, Sara@Coastal; Leslie, Kanani@Coastal; Carney, Kaitlin@Coastal; Prahler, Erin@Coastal
Subject:	Violation(s) of MMPA - La Jolla
Date:	Friday, March 4, 2022 4:18:47 PM

Dear Commissioners,

Please see below video from San Diego Humor of people using a dog to taunt a sea lion at night. In case the video is no longer active, attached are two screenshots.

This is just one of many examples of what goes on at Point La Jolla and La Jolla Cove every night in addition to harassment of seals at South Casa Beach in La Jolla. Sadly, I have witnessed this kind of inexcusable harassment and much worse. Last May 25th evening I witnessed the killing of a one year old pup at La Jolla Cove (see attached pic). The next evening this pregnant female (see attached pic) was kicked in the face and she and her unborn pup were lost. Over the last three years under the cover of darkness, I've witnessed drunk adults and teens hitting sea lions with their empty glass beer bottles and/or sticks. I've witnessed people kicking and prodding them during the day and evening to get them to move for videos and photos for social media accounts... anything to get a "like" even if it's horrific.

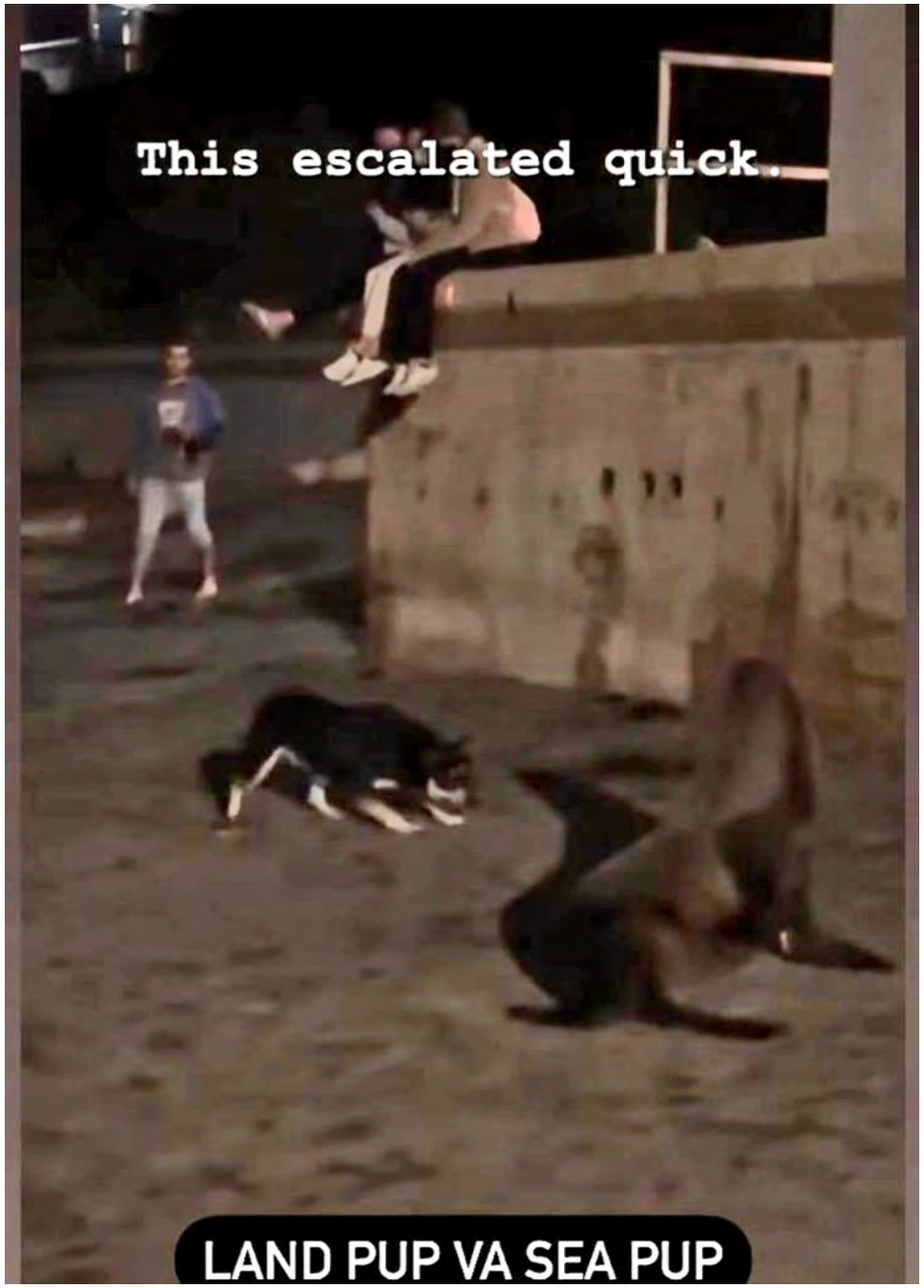
I write to implore you to please take the needed action to protect not only the sea lions but Harbor Seals as well as they endure the same harassment. These are federally protected animals that are harassed day-and-night and much more needs to be done to protect them and enforce the MMPA. One suggestion I have is to post a security guard to the coastal pathway 7 nights a week from sunset to sunrise. Not only do I propose this for the protection of the wildlife but to crack down on the illegal drinking, smoking, drug use and graffiti in the park area. It has become an area of complete lawlessness.

https://instagram.com/stories/sandiegohumor/2786550265134109232?utm_source=ig_story_item_share&utm_medium=copy_link

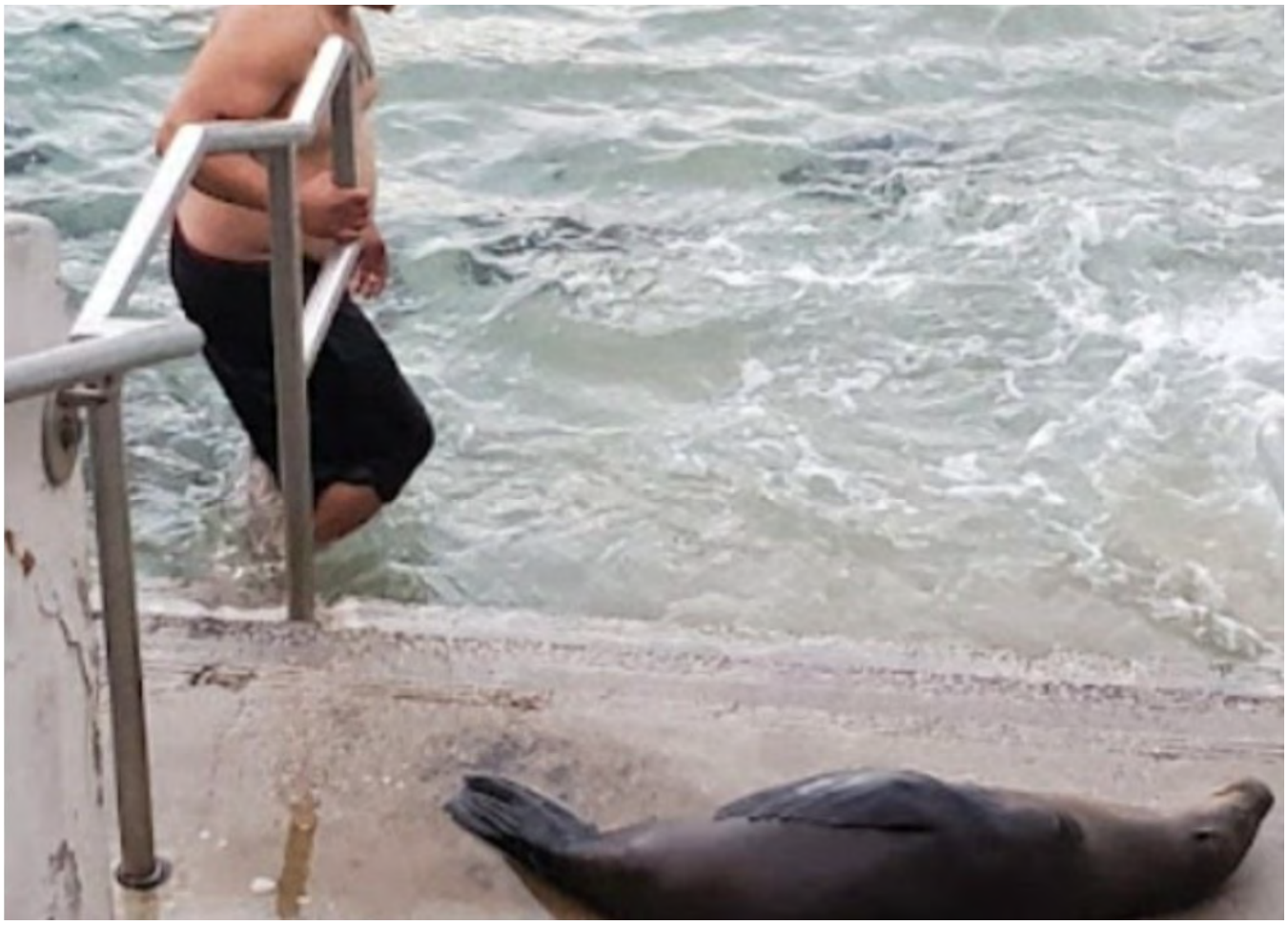
Thank you in advance for your consideration to this matter. I am available at any time to provide additional details.

Warmest regards,

Donna Beal
(480) 521-4559


This escalated quick.
LAND PUP VA SEA PUP


This escalated quick.
LAND PUP VA SEA PUP



From: Robyn Davidoff
To: JoeLaCava@sandiego.gov; Elliott, Brian; Hadley, Steven; Dennison, Karen; Cac, Cherlyn; Wilde, Randy; MYagyagan@sandiego.gov; Carney, Kaitlin@Coastal; Daneri, Daniel; Field, Andrew
Subject: Acts of Vandalism at Pt. La Jolla/Boomer Beach Sea Lion Rookery
Date: Friday, March 4, 2022 6:11:56 PM

A string of targeted acts of vandalism of city property against sea lion signs and CDP required postings of notice intent to permit at Pt. La Jolla and Boomer Beach has taken place in Scripps Park over the past months and are increasing as the city moves forward in seeking a seasonal closure of the sea lion rookery. These acts are specific and targeted against the city's efforts to provide public safety for people when viewing sea lions. Vandalism not only reflects poorly on La Jolla but wastes tax payer dollars used to replace and install the signs.

These acts of vandalism are not those of tourists wanting a close-up wildlife experience but those of locals committing crimes of vandalism of city property and hate crimes against the sea lions.

1. On March 1, 2022, Ms. Cherilyn Cac of Park and Rec. was at the sea lion rookery and told a docent they were reposting the CA. Coastal Commission required "Intent to Permit" signs that had been posted near the wooden stairs and on the railing near the Belvedere and that they had been stolen several times.

2. On Thursday 2/24/22 a visitor notified the Seal Society that a new silver lock requiring a key was on the chain securing the city's "No Selfies with Sea Lions" signs locked to the wooden stairs by Park and Rec. The Seal Society texted the Ranger to ask if the city had placed the key-lock on the chain.
    a. As of Saturday, 2/26/22 docents hadn't heard back so they texted and called her at 1:33 pm. She did not respond immediately, so the police were called to report the unauthorized lock. 3 Police Officers arrived to deal with the crowds and the unauthorized lock. The police called another Ranger at 2:33 pm who told them how to identify if the lock was a city lock. It was not, so the police cut it off.

3. January 23, 2022: Yellow "Sea Lion Birthing Area" sign attached to railing next to stairs leading to Pt. La Jolla Sea Lion Rookery just 30 yards southwest of the Cove located at 1160 Coast Blvd. (NOT Children's Pool) was reported to Park and Rec. Ranger that it was missing.
    a. January 29, 2022: a tourist found the yellow "Sea Lion Birthing" sign at the bottom of the Marine Protected Area during low tide. Docent requested the sign for evidence and turned it over to Park and Rec. The examination of how the sign was attached to the railing, showed the bolts were removed. The sign was intentionally thrown into the Marine Protected Area.
        i. Sign Recovered but damaged beyond repair.

4. One A-Frame Sign saying "NO Selfies with Sea lions" in multiple languages was stolen on

January 24, 2022 from the bottom of the stairs at same address as above.

   a. sign has not been recovered.

5. One A-frame Sign saying "NO Selfies with Sea Lions" in multiple languages was stolen on January 24, 2022 and was found the next day inside the Belvedere at south end of Boomer Beach

6. Four A-frame Signs saying "No Selfies with Sea Lions" in multiple languages and NOAA signs saying "Warning" with universal "do not touch" sea lions were stolen in October 2021 following the end of the emergency temporary closure for sea lion pupping season.
   a. NOTE: These signs remained on the cliffs during the 5-week closure period 24/7.
   b. Following the end of the emergency temporary closure and the removal of rangers, all four signs were stolen within 4 weeks. (It was verified with Park and Rec. that these signs were not removed by Rangers).
   c. signs have not been recovered.
   d. 2 new signs were ordered through NOAA which took 6 weeks to get. Then the information in item 1 above happened.

Robyn Davidoff
Sierra Club Seal Society Chair
858 775-6627


NOTICE OF PENDING PERMIT
A PERMIT APPLICATION FOR DEVELOPMENT ON THIS SITE IS PENDING BEFORE THE CALIFORNIA COASTAL COMMISSION.
PROPOSED DEVELOPMENT: Point La Jolla Seasonal Closure - seasonal closure of Point La Jolla seven days a week beginning on May 25th and ending on September 15th during sea lion pupping season.
LOCATION: 1160 Coast Blvd., La Jolla, CA 92037
(the bluffs along Boomer Beach by the access stairs at the north end of Ellen Browning Scripps Park)
APPLICANT: City of San Diego, Parks & Recreation Department, Karen Dennison, Assistant Director
APPLICATION NUMBER:
DATE NOTICE POSTED: 1/31/2022
FOR FURTHER INFORMATION, PLEASE CONTACT THE OFFICE LISTED BELOW BETWEEN 8 A.M. AND 5 P.M. WEEKDAYS.
CALIFORNIA COASTAL COMMISSION
SAN DIEGO COAST DISTRICT OFFICE
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370
Print on Yellow Stock Card


WARNING!
1-800-853-1964


SECURITY


NOAA
FISHERIES
NO Selfies with Sea Lions
If you get too close...
Mother Sea Lions May Abandon Their Pups
SHARE THE SHORE
Sea lions and seals are protected by federal law.
It's ILLEGAL to disturb them or do anything that might make them change their behavior.
Enjoy watching them in a safe, responsible way.
(866) 767-6114
Do not approach the sea lions!
¡No se acerque a los leónes marino!

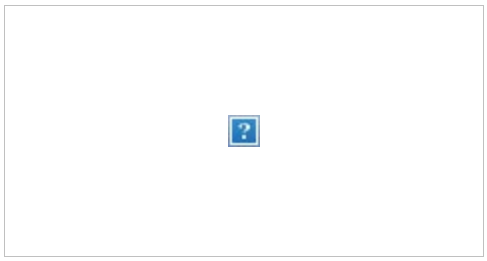
STAY B
SEA LION


STAY BA
SEA LION
RTHING AREA

From:	Robyn Davidoff
To:	JoeLaCava@sandiego.gov; Elliott, Brian; Wilde, Randy; MYagyagan@sandiego.gov; Gloria, Todd (External); Dennison, Karen; Cac, Cherlyn; Richard Belesky; Field, Andrew; Tully, Michael; pointlajolla@sandiego.gov
Subject:	Vandalism of sea lion signs at Pt. La Jolla/Boomer Beach
Date:	Wednesday, March 9, 2022 12:38:43 PM

Please see this article reporting on the increased vandalism of sea lion signs and harassment of volunteer docents.
Two unauthorized locks were placed on the city's A-frame signs within 10 days and had to be cut off. The birthing sign was torn off the railing and thrown into the marine preserve.

https://www.lajollalight.com/news/story/2022-03-08/sea-lion-signs-at-point-la-jolla-are-damaged-removed-and-locked-up



Sea lion signs at Point La Jolla are damaged, removed and locked up - La Jolla Light

Davidoff also said the city's notice of a pending permit for a planned seasonal closure of Point La Jolla has been removed several times.. The annual closure would be in effect daily from May 25 through Sept. 15, during much of the sea lion pupping season, which is commonly recognized

www.lajollalight.com

Last weekend, someone put a rope near the stairs at S. Casa beach (not Children's Pool which is closed) and someone else "cut" the rope later. Many tourists are upset about people flushing the seals and their pups at S. Casa beach and we've been told that tourists and locals have put a cone at the top of the stairs to warn visitors to keep back. Currently, a wildlife photographer is standing watch over newborn seal pups on S. Casa beach and watched kids climb the outer part of the sea wall and jump onto the beach flushing a seal mom leaving her pup crying on the sand. The mom didn't come back for the next few hours and is unknown if she came back as the docent had to leave. The incident was reported to NOAA.

Robyn Davidoff
Sierra Club Seal Society Chair

From:	Robyn Davidoff
To:	Wilde, Randy; Elliott, Brian; Hadley, Steven; Field, Andrew; Richard Belesky; Tully, Michael; Dennison, Karen; Cac, Cherlyn; Daneri, Daniel; Del Toro, Ariel; swahl@pd.sandiego.gov
Subject:	3rd Week of Vandalism of Sea Lion Signs
Date:	Monday, March 14, 2022 8:21:43 AM

For the 3rd week in a row, the NOAA "no selfies with sea lions" signs were illegally locked to prevent their display on the cliffs jeopardizing the health and well-being of people and sea lions. These are targeted attacks against the sea lions, the volunteer docents, and the city's progress toward the Coastal Development Permit for the seasonal closure during the sea lion pupping season (not the seals at the Children's Pool).

This weekend, instead of the opposition installing illegal locks on the chained signs (now chained because 5 signs have been stolen since October), they installed heavy-duty plastic zip-ties that had to be cut off (see photos). Three weeks ago, the police were called to remove the illegal lock, and two weeks ago, the ranger was called to cut off the lock. The ranger was called again on Saturday March 12 about the zip-ties on the signs.

This weekend, another heavy-duty zip-tie was found on the gate above the bluffs north of the Cove. The zip-tie kept the gate latch in the open position. This intentional act's purpose was to let the gate remain in the open position inviting people to disturb the resting sea lions and a mom nursing her pup. (see photo), not to mention nesting Brandt Cormorants with new chicks. This action created an attractive nuisance for unsuspecting visitors who may lean on the gate while viewing the scenery not aware that it is there. Since the gate is zip-tied in the open position, they could fall down the cliff.

Here is the news story that reported on the string of vandalism of the sea lion signs. As you know, the "Intent to Permit" signs have also been removed several times.

https://www.sandiegouniontribune.com/communities/san-diego/story/2022-03-09/sea-lion-signs-at-point-la-jolla-are-damaged-removed-and-locked-up

Robyn Davidoff
Sierra Club Seal Society Chair

NOAA
FISHERIES
NO
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Lions
If you get too close...
Mother
Sea Lions
May Abandon
Their Pups
SHARE
THE SHORE


THE CITY OF SAN DIEGO
CAUTION
DO NOT APPROACH SEALS/SEA LIONS
IN AN EMERGENCY, CONTACT 9-1-1
REGULATIONS
UNSTABLE CLIFFS
DANGER
STAY
BACK

From:	kristinahancock17@gmail.com
To:	mayortoddgloria@sandiego.gov; Rwilde@sandiego.gov; "Environment Committee Member Joe LaCava"; belliott@sandiego.gov; Kdennison@sandiego.gov; Carney, Kaitlin@Coastal; Leslie. Kanani@Coastal
Cc:	scsealsociety@gmail.com; "Lori Mendez"; kristinahancock17@gmail.com
Subject:	Request for Support to Protect the Sea Lion Rookery, La Jolla, CA
Date:	Monday, March 7, 2022 1:07:27 PM

March 7, 2022

TO:

1. Mayor Todd Gloria: mayortoddgloria@sandiego.gov
2. City of San Diego Sr. Policy Advisor Randy Wilde: Rwilde@sandiego.gov
3. Council Member Joe LaCava: joelacava@sandiego.gov
4. City of San Diego Policy Advisor Brian Elliott: belliott@sandiego.gov
5. Assistant Director Parks and Recreation Karen Dennison: Kdennison@sandiego.gov
6. CA. Coastal Cmsn. Coastal Prog. Analyst Kaitlin Carney: kaitlin.carney@coastal.ca.gov
7. CA Coastal Cmsn. N. Coast Enforc. Analyst Leslie Kanani: Kanani.Leslie@coastal.ca.gov

Re: Request for Support to Protect the Sea Lion Rookery, La Jolla, CA

Dear Honorable Mayor Gloria, Senior Policy Advisor Wilde, Council Member La Cava, Policy Advisor Elliott, Assistant Director of Parks and Recreation Dennison, and Coastal Commission Analysts Carney and Kanani:

My name is Kristina Hancock, I am a local attorney and have been a resident of La Jolla for more than 30 years. I live a short distance from La Jolla Cove and walk there frequently to enjoy the seals.

I have had the opportunity to observe human-seal and sea lion interactions day after day and over time. Unfortunately, I was consistently dismayed by the observed interactions between humans and seals and sea lions, including new born pups, which more often than not, knew no boundaries and in many instances were detrimental to the well-being of moms and pups alike. In the short term I witnessed mom and pup separations and mortalities and over time I noted what to me seemed the equivalent of death by 1,000 cuts and behaviors that I came to recognize as manifestations of stress in these marine mammals as they were forced to endure throngs of humans and repeated and relentless direct and close interactions while attempting to rest, warm, re-oxygenate, and care for their young in this unique urban rookery. I have no doubt, and it is objectively and abundantly clear, that this ongoing irresponsible, and mostly ignorant behavior by high volumes of humans constitutes illegal harassment of these marine mammals. The Federal Marine Mammal Protection Act ("MMPA"), State wildlife laws, and the City Municipal Code have been routinely ignored and are certainly not being enforced.

As you may know, the annual sea lion pupping and breeding season occurs in late May

through October 31 when pups can swim well at 4 months. I am informed that just this past summer, over 300 visitors at any given time were observed by docents to illegally touch, pet, take selfies, pick up pups, and repeatedly disturb these animals. Additionally, in September and October of 2020, City Rangers working only weekends counted over 400 visitors illegally harassing the sea lions; unaware these are wild animals in their natural habitat, not a petting zoo!

Several issues make sea lion pups especially vulnerable. Pups cannot swim well for four months after birth. When people block their path to dry land during high tides, they are in great danger of drowning. Mothers nurse their pups for up to 12 months as pups cannot forage for food themselves until they are seven months old. In addition, if humans touch a pup during their first two months of life, the mother may reject her pup, leaving it to starve.

Public safety is another major reason for people to keep a reasonable distance from sea lions. When they are too close, sea lions have been observed to growl, bite, and chase them away. The terrain at Point La Jolla and Boomer's Beach is rocks and uneven sandstone, which is very slippery, causing many visitors to lose their balance and fall.

I stand with the Sierra Club Seal Society and support: 1) Closing all public access to Boomer's Beach and Point La Jolla at least during the entirety of pupping season from May 1st to October 31st; (2) Staff rangers at the Rookery year-round, with the assistance of well-trained volunteer Sierra Club docents if needed; 3) Identification, implementation, and CLEAR posting of a specific distance for people to stay away from sea lions (50 ft suggested), and make it enforceable; and 4) Prohibiting dogs at Point La Jolla and Boomer's beach year-round.

I implore you to please implement and enforce the requested four actions above that are already required under current laws to protect both the sea lions and the public.

Thank you for your careful consideration.

Sincerely,
Signed by: Kristina Hancock, Esq.
Signature: /s/ **Kristina Hancock**
Organization/Affiliation: Withers Bergman, LLP

cc: Sierra Club Seal Society
scsealsociety@gmail.com

From:	kurthoffman@san.rr.com
To:	Carney, Kaitlin@Coastal
Subject:	1160 Coast Blvd, La Jolla, CA Season Closure CDP#6-22-0113 Application , EIR must be required by CCC
Date:	Tuesday, February 8, 2022 1:48:26 PM
Attachments:	Attachment 1_Application_Point La Jolla.pdf Attachment 5_Project plan.pdf LJP&B and LJCPA EIR request letters.pdf CPA Letter Pt. LJ modified Boomer Beach Access.pdf Crisis at The Cove from 5-years ago.pdf Point La Jolla Seasonal Closure - Map Modifications LJCPA.pdf

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Good Day Kaitlin, not so good a day for those who enjoy our therapeutic ocean waters.

The Ocean Access Advocates, OAAs are quite upset, all the La Jolla Community Groups have been ignored and offended by the above attached CDP application. This application mostly ignores our concerns and map modifications that we proposed in response to last year's seasonal closure of Pt. La Jolla. The application map is slightly different than last year's map, the proposed closure includes the less steep bluff area above the north end of Boomer Beach. These bluff slopes provide safer access to the beach than the severely eroded sand / clay area at the southern-end that also provides drainage to the grass area above. This area is **not** the preferred access to Boomer Beach as it very steep and facilitates further bluff erosion. The less steep slopes in front of the Bridge Club are sandstone not clay, they are typically dry, and provide safe beach access without adding to the erosion of the bluffs. These are the reasons we provided the compromise seasonal closure **map modifications**.

We also requested access to the historic No Man's divers water entry and fishing location on the northern edge of Point La Jolla. Closing the **historic access stairs** on the northern edge of Point La Jolla is **not necessary** to keep sea lions and humans separated. K-rails with signage can be placed on the northern edge of the bluffs as illustrated in yellow on the above attached, **Map Modifications LJCPA**. The last photo attached above illustrates the MLPA boundary with the commercial lobster trap buoys aligning with the fishing rod in the angler's hand, no lure, just a pointer. The No Man's area of Point La Jolla is a historic water entry point and it should be kept open to divers and fisherman. To avoid crowding in the No Man's bluff area, signage could be added at the top of the stairs to allow, Subsistence Users only, no Sea Lion Selfies.

As outlined in the letters from La Jolla Community Planning Association & La Jolla Parks & Beaches our **map modifications** were approved last year by these long established community advisory bodies. The above attached application is a slap in the face of Democracy. We asked La Cava's office to make public all of our efforts to provide public input through the proper and well established community advisory channels. Our democratic and publicly vetted submissions have mostly been ignored and not displayed on the City Pt. La Jolla website as we repeatedly requested. The survey results from the City website set-up to garner public input have not yet been made public, and yet The City has already submitted their CDP application.

At first glance, I notice the below detailed inaccuracies in The City's CDP application:

Item 9 a. Falsely states that, **No** Sensitive habitat areas will be impacted; The tidepools of Pt. La Jolla are extremely sensitive habitat, as well as the kelp beds and not to mention, the historic

MLPA that borders Pt. La Jolla.

An EIR must be completed prior to this permit being considered for any more than one-year. **We request the CCC attach a requirement for The City of San Diego to commission a marine based EIR, allow researchers to daily transit Point La Jolla and Boomer Beach to collect water samples in the Point La Jolla tidepools and at Boomer Beach as well as The Cove and La Jolla Shores for comparative purposes.** As evidenced in the above attached photos, the once world class deep tidepools of Point La Jolla are lifeless and dead filled with Sea Lion pollution.

Item 9 b. Another inaccuracy, there **are** threaten species around Pt. La Jolla including Black Sea Bass, , California Halibut, Great White Sharks as well as protected species such as California Garibaldi. The tidepool invertebrates certainly are threatened by this proposal.

I see no reference to years this application intends to control this area. A 5-year seasonal closure permit, could be devastating to our local marine environment**. We request that the CCC entertain only a One-Year seasonal closure with the community advisory group Map Modifications illustrated above,** not the modestly modified Pork Chop map**.**

The huge increase in the La Jolla Sea Lion Colony over the past two decades is adding apx. 3,000 to 5,000 pounds or the equivalent of apx. 50 to 150 gallons of raw sewage into the La Jolla Cove each night, see above attached photo of typical night at The Cove, and apx. 200 to 500 gallons of raw sewage equivalent around Point La Jolla and Boomer Beach area **every day**. Source information; Toni Atkin's newsletter specified that the recently recused, 200 pound, Route 94 Sea Lion is consuming 12 pounds of fish a day. 300-500 Sea Lions living around La Jolla Cove, Hanan report 2017, and recent La Jolla Sea Lion counts equates to 3,000-5,000 pounds of waste a day; Water 0.998 g / ml 8.329 pounds, simple math.

We need a team like The Wet Lab, Dr. Callen Hylan, UCSD or SIO to study the marine ecosystem in La Jolla as a whole. Extensive water testing expertise is needed to study our once vibrant kelp forest, lobster, and sport fish catch history. The destruction of the once vibrant tide pools of Pt. La Jolla is directly attributable to the current Sea Lion colony occupying Point La Jolla. The La Jolla Marine Life Protected Area, or MLPA, the oldest in CA, cannot be studied from the shoreline with another Sea Lion haul-out study by Hanan Associates. We must study the water quality, kelp, fish, and invertebrates to understand the impacts of the new Sea Lions colonies around our beloved La Jolla Cove.

The increased presence of Great White Sharks, GWS in our area should be studied as well. The City has contacted The Shark Lab of CSULB, no contract has been signed, to install shark sensor buoys around La Jolla. I spotted my first GWS from my SUP in July of 2021. To date, I have encountered 27 GWSs, I now carry a tourniquet while SUP surfing and fishing. Our increasing Sea Lion population will very likely bring larger GWSs to La Jolla, it is not if, but when, a local expert shares my assessment, see link below. **We request that the CCC also require The City Of San Diego to**

commission The Shark Lab to install GWS sensor buoys along the length of City of San Diego Beaches as well as Torrey Pines State Beach.

https://www.lajollalight.com/news/opinion/story/2022-01-25/guest-commentary-more-seals-and-sea-lions-in-la-jolla-could-be-a-draw-for-white-sharks

I am writing to you on behalf of a diverse group of Ocean Access Advocates, OAA. We represent a wide-ranging group of bodysurfers, former-bodysurfers, free divers, scuba divers, fisher folks of all kinds, Surfrider Foundation Members, Coastal Conservation Association, Watermen's Alliance, San Diego Council of Divers, San Diego Free Divers, Sierra Club Members, and La Jolla Cove Swim Club Members. We share a love of the ocean and a desire to preserve access to our beaches and coastal bluffs to view the ocean, enjoy sunsets into the Pacific, surf, and enter the waters to dive and fish in our now very limited areas in La Jolla.

Thank you, Kurt Hoffman (858) 775-8091

From: Carney, Kaitlin@Coastal <kaitlin.carney@coastal.ca.gov>
Sent: Monday, February 7, 2022 11:42 AM
To: kurthoffman@san.rr.com
Subject: RE: 1160 Coast Blvd, La Jolla, CA

Hi Kurt, Attached is the City's CDP application (CDP#6-22-0113) and the project plan (map).

Thank you,
Kaitlin

From: kurthoffman@san.rr.com <kurthoffman@san.rr.com>
Sent: Monday, February 7, 2022 10:40 AM
To: Carney, Kaitlin@Coastal <kaitlin.carney@coastal.ca.gov>
Subject: 1160 Coast Blvd, La Jolla, CA

Good Day Katlin, Please provide a copy of the submission from SD Parks & Rec. The City is being a bit coy on this project.

Thank you, Kurt Hoffman

From:	Volker Hoehne
To:	ExecutiveStaff@Coastal; Brownsey, Donne@Coastal; Hart, Caryl@Coastal; Turnbull-Sanders, Effie@Coastal; Aminzadeh, Sara@Coastal; Steve.padilla@coastal.ca.gov; Escalante, Linda@Coastal; Rice, Katie@Coastal; Wilson, Mike@Coastal; Groom, Carole@Coastal; Uranga, Roberto@Coastal; Harmon, Meagan@Coastal; Mann, Zahirah@Coastal; Andrew Leach; Kurt; Walsh; Wayne Kotow; Carney, Kaitlin@Coastal
Subject:	Fwd: Point La Jolla Follow up meeting with CCC
Date:	Thursday, March 3, 2022 1:28:06 PM
Attachments:	image.png image.png image.png attachment_5_project_plan (1).pdf attachment_1_application_point_la_jolla.pdf attachment_5_project_plan.pdf

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Honorable Coastal Commissioners.

The Application No. 6-22-0113 seasonal closure of Point La Jolla which will be heard shortly omits some key facts. The City of San Diego should cover any legal costs or settlement resulting from closing point La Jolla.
The recreational fishing and diving communities requests the commission to amend or reject Application No. 6-22-0113. We request the closure to be limited to one year. We desire a safe, clean, peaceful and pleasant experience for all parties during the proposed Point La Jolla closure and during the open period.

We are concerned about

- Impacts of Pinniped feces on La Jolla Cove water quality, and tide pools
- Year-round harassment of divers by Seal Docents
- Loss of access to Boomer beach body surfing
- Increased abundance of great white sharks
- Loss of ocean access to no-mans (historic access spot since 1933)
- Closure of 2/3 coastline between Children's pool and the cove.
- Cannot legally transit through adjacent MPA. (Conflicting state and city regulations)

Organizations supporting the closure

1. The Sierra Club, Seal Society

Organizations in opposition

1. Recreational Fishing Alliance,
2. Coastal Conservation Association of California
3. Watermens Alliance
4. San Diego Freedivers
5. Long Beach Neptune's
6. San Diego Council of Divers
7. La Jolla Parks and Beaches
8. La Jolla Community Planning Association
9. Ocean Access Alliance

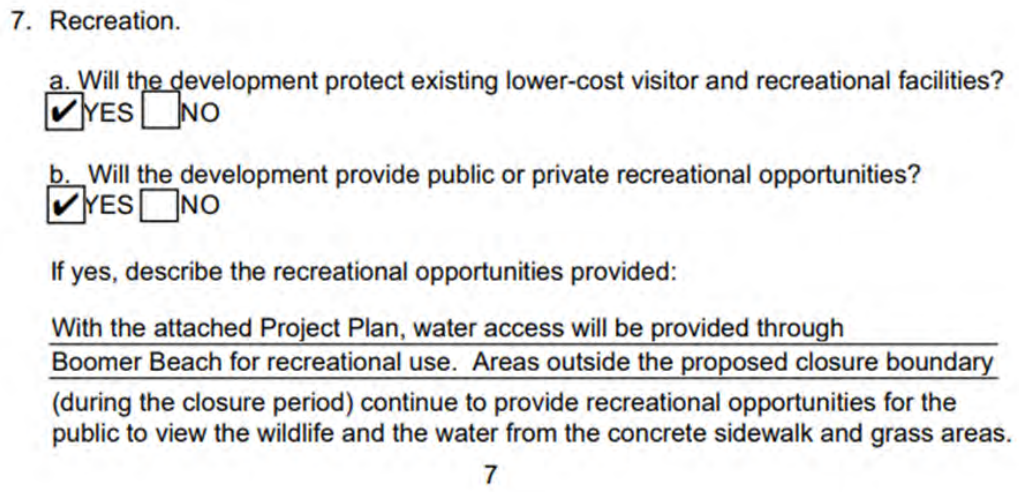
Artifact 1) No Access

Section 7 of the Application No. 6-22-0113 seasonal closure of Point La Jolla

from May 25th to September 15th is in error.

The current south boundary does not provide safe access to boomer beach. The current path was continual use since 1963. It would be eliminated and replaced by unsafe muddy path at a 30 degree incline. This seasonal alternate path intentionally creates a trip and fall hazard.

Please consider explicitly stating that transit is permitted, and the city must assume all legal costs associated with this closure. Please refer to attached image " Slippery Path to Boomer Beach[3580]"



7. Recreation.

a. Will the development protect existing lower-cost visitor and recreational facilities?
☑ YES ☐ NO

b. Will the development provide public or private recreational opportunities?
☑ YES ☐ NO

If yes, describe the recreational opportunities provided:

With the attached Project Plan, water access will be provided through Boomer Beach for recreational use. Areas outside the proposed closure boundary (during the closure period) continue to provide recreational opportunities for the public to view the wildlife and the water from the concrete sidewalk and grass areas.

7

Artifact 2) Seal Docent Harassment

I ask the coastal commission to protect our right to peaceably to assemble, and move about at point La Jolla from September 16 through May 24th as protected by the first amendment and U.S. Supreme Court in Crandall v. Nevada, 73 U.S. 35 (1868). Require the city to vet or remove Seal docents who maliciously block right of way and harass the general public.

The Seal Docents (Seal Society/ Sierra Club members-volunteers) currently directed by San Diego Parks and Recreation regularly block public access with placards, and chains to Point La Jolla. Parks and Recreation asks them no to block access. The requests are ignored because the docents continue to block access. (see attached photo). SD Parks and Recreation acknowledges this lack of control.

- The Seal docents should be vetted and bonded before representing the city or the state. They should pass a drug test, background check, Proof of vaccination, and proof of bond. A bond should be required because they are working in hazardous a wet area contaminated with sea lion feces,

Point La Jolla should be open and pleasant from September 16 through May 24th. It should be void of seal docent harassment.

Related Bill of Rights (1791)

Amendment I Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances.

U.S. Supreme Court in Crandall v. Nevada, 73 U.S. 35 (1868) declared that freedom of movement is a fundamental right.

Artifact 3) Legal Transit

Application No. 6-22-0113 seasonal closure of Point La Jolla from May 25th to September 15th falsely implies recreational spearfishes will retain access to the waters of point La Jolla during the closure period. A conflict in current state and city regulations render transiting through La Jolla cove (a marine protected area) illegal. State regulations require that spearguns are on a float, may not be in hand while transiting. City regulations prohibit all floating object in La Jolla cove.

- I ask the coastal commission to request a revision to §63.20.24 permitting transit through La Jolla cove with a float.

- I ask the coastal commission to permit emergency exiting the water access the closed area. Ocean conditions can change quickly and require immediate exiting. The abundance of great white sharks feeding on sea lions increases the probability of additional emergency exits during the closer period.

Application No. 6-22-0113 Excerpt from Attachment 1 .7

7. Recreation.

a. Will the development protect existing lower-cost visitor and recreational facilities?
☑ YES ☐ NO

b. Will the development provide public or private recreational opportunities?
☑ YES ☐ NO

If yes, describe the recreational opportunities provided:

Areas outside the proposed closure boundary (during closure period) continue to provide recreational opportunities for the public to view the wildlife and the water from the concrete sidewalk and grass areas.

7

Fish and wildlife code

§ 632. Marine Protected Areas (MPAs), Marine Managed Areas (MMAs), and Special Closures.
14 CA ADC § 632

(8) Transit or Drifting.
(B) *Spearfishermen with or without catch shall be allowed to transit through MPAs and MMAs. While transiting MPAs and MMAs that prohibit spearfishing or while in possession of species not identified as allowed for take in the MPA or MMA being transited, spearfishing gear shall be in an unloaded condition, not carried in hand, and the diver shall remain at the surface.*

Article 3: Public Parks, Playgrounds, Beaches, Tidelands and Other Property
Division 00:

San Diego Municipal Code Chapter 6: Public Works and Property,
§63.20.24 Floats Prohibited In La Jolla Cove
Except for the purpose of effecting a rescue, it is unlawful for any person to introduce into or upon the waters of La Jolla Cove any floating object, such as a body board, foam object, ball, life preserver or other similar device, which is used or could be used to assist in the floatation of a person. This Section, 63.20.24, does not prohibit scuba divers from using wetsuits, swim fins or inflatable devices. ("Floats Prohibited In La Jolla Cove" added 5–31–1994 by O–18073 N.S.)

Artifact 4) Raw sewage

A 3000 lbs to 5000 lbs of sea lion sewage is 350 to 600 gallons of sewage per day. Which is 2 to 4 times bigger than the Apr 12, 2019 la Jolla shores 150 gallon sewage spill which shut down the beach.
(weighs the same as water, 8.34 pounds per gallon). This massive daily raw sewage is negatively impacting intertidal ecosystems and adjacent La Jolla cove.
Toni Atkins recent newsletter noted, the little 200 pound multi-rescue freeway buddy is eating 12 pounds of fish a day at the SeaWorld Hotel. That equates to 10 pounds a day average all the way from pups to Bulls. As Dr. Hanan have helped us establish, there are between 300 & 500 sea lions in the La Jolla area. That amounts to 3,000 to 5,000 pounds of fish and lobster taken out of our local marine environment **each day. T**he same amount of feces and urine added to the local area on land and in the ocean. We have witnessed the impacts of this Sea Lion colony with our contaminated waters, polluted air, severely depleted kelp beds, drastically reduced fish and lobster landings, and complete destruction of the once world class tide pools on Point La Jolla.

We need a complete marine based EIR to clearly specify and quantify the impacts of the Sea Lions on our local environment. There need to be mitigating measures, such as the ones Dr. Hanan suggested in his 2016 report.

Artifact 5) Sea Lions in the Cove.
The sea lions moved to adjacent La Jolla Cove. The same management policies need to be applied evenly to Point La Jolla, La Jolla cove and the East Bluffs. There is a high probability the sea lions will move to their historic hall out 100 years south of point La Jolla, resulting in a sea lion closure without sea lions. Sea attached image.

"

Volker Hoehne

619-994-4175

From: Carney, Kaitlin@Coastal
To: Carney, Kaitlin@Coastal
Subject: FW: Ocean Access Preservation at Boomer Beach and Point La Jolla
Date: Thursday, March 3, 2022 4:55:10 PM

From: Volker Hoehne <v_hoehne@hotmail.com>
Sent: Thursday, February 24, 2022 4:47 PM
To: Schwing, Karl@Coastal <Karl.Schwing@coastal.ca.gov>; VOLKER. SANDIEGO@GMAIL. (VOLKER.SANDIEGO@GMAIL.COM) <volker.sandiego@gmail.com>
Subject: Ocean Access Preservation at Boomer Beach and Point La Jolla

Director Schwing,
Would it be possible to meet via zoom to ocean access perspective. We are interred in a long term resolutions not these incremental closures. We seek a peaceful harassment free experience at point La Jolla.

I connect with you regarding the pending closure of Point La Jolla in San Diego California. The Sierra Club singularly pressured the coastal commission and Council member La Cava to closure this area due to Human - sea lion interaction and juvenal sea lion deaths due to "drowning". The city of San Diego is pursuing a 5 year (May- September) total closure of point La Jolla currently under Coastal Commission review.
This will be La Jolla's third pinniped related closure (Seal Rock, Children's Pool). We request an exemption to transit across point La Jolla to access the water. A similar exemption was provided at seal rock for recreational fishing.

We are also concerned about

- Impacts of Pinniped feces on La Jolla Cove water quality, and tide pools
- Year-round harassment of divers by Seal Docents
- Loss of access to Boomer beach body surfing
- Increased abundance of great white sharks
- Loss of ocean access to no-mans (historic access spot since 1933)
- Closure of 2/3 coastline between Children's pool and the cove.
- Cannot legally transit through adjacent MPA. (Conflicting state and city regulations)

Organizations supporting the closure

1. The Sierra Club, Seal Society

Organizations in opposition

1. Recreational Fishing Alliance,
2. Coastal Conservation Association of California
3. Watermens Alliance
4. San Diego Freedivers
5. Long Beach Neptune's
6. San Diego Council of Divers
7. La Jolla Parks and Beaches
8. La Jolla Community Planning Association

9. Ocean Access Alliance

Link to city applications,
https://www.sandiego.gov/park-and-recreation/point-lajolla

The diving and fishing communities have always shared the beach with sea lions. We are interred in a long term resolutions not these incremental closures. We seek a peaceful harassment free experience at point La Jolla.

Volker Hoehne
619-994-4175

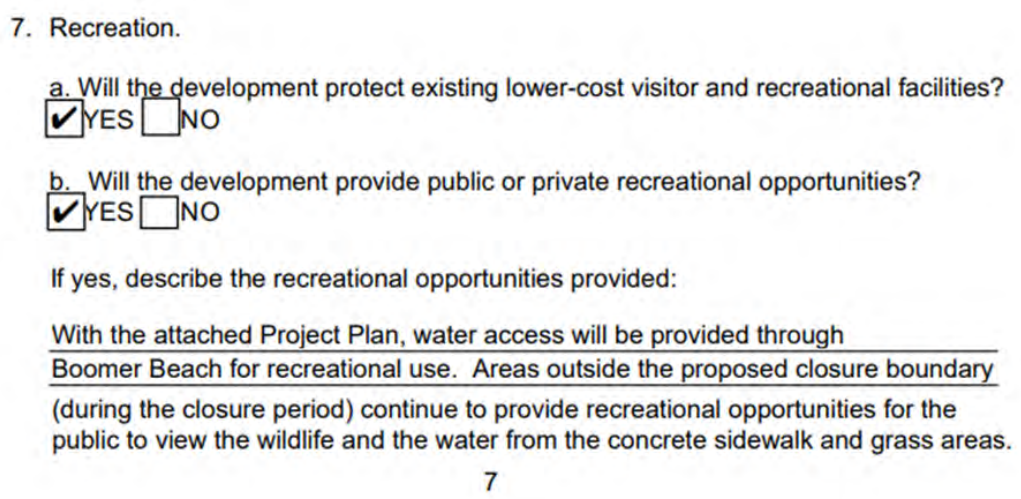
Sent from Mail for Windows

From: Volker Hoehne
To: Andrew Leach; Carney, Kaitlin@Coastal
Subject: Re: Point La Jolla Follow up meeting with CCC
Date: Tuesday, February 22, 2022 5:49:17 PM
Attachments: image.png

Section 7 of the Application No. 6-22-0113 seasonal closure of Point La Jolla from May 25th to September 15th is in error.

The current south boundary does not provide safe access to boomer beach. The current path was continual use since 1963. It would be eliminated and replaced by unsafe muddy path at a 30 degree incline. This seasonal alternate path intentionally creates a trip and fall hazard.

Please consider explicitly stating that transit is permitted, and the city must assume all legal costs associated with this closure.



7. Recreation.

a. Will the development protect existing lower-cost visitor and recreational facilities?
☑ YES ☐ NO

b. Will the development provide public or private recreational opportunities?
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7

Volker Hoehne

619-994-4175

On Thu, Feb 17, 2022 at 6:21 PM Andrew Leach <aleach07@gmail.com> wrote:

> ---------- Forwarded message ---------
> From: **Carney, Kaitlin@Coastal** <kaitlin.carney@coastal.ca.gov>
> Date: Thu, Feb 17, 2022, 5:30 PM
> Subject: RE: Point La Jolla Follow up meeting with CCC
> To: Volker Hoehne <volker.sandiego@gmail.com>
> Cc: Andrew Leach <aleach07@gmail.com>, Hoffman, Kurt <KurtHoffman@san.rr.com>, Dan, Walsh <upfrontcomms@gmail.com>, Wayne Kotow <wkotow@ccacalifornia.org>, Leslie, Kanani@Coastal <Kanani.Leslie@coastal.ca.gov>
>
> Hi Volker, Staff is happy to meet with your group again, but we ask that you first provide your comments/response to the city's CDP application to us in writing so that we can review.

Thank you, Kaitlin

From: Volker Hoehne <volker.sandiego@gmail.com>
Sent: Tuesday, February 15, 2022 4:18 PM
To: Carney, Kaitlin@Coastal <kaitlin.carney@coastal.ca.gov>
Cc: Andrew Leach <aleach07@gmail.com>; Hoffman, Kurt <KurtHoffman@san.rr.com>; Dan, Walsh <upfrontcomms@gmail.com>; Wayne Kotow <wkotow@ccacalifornia.org>
Subject: Re: Point La Jolla Follow up meeting with CCC

Now that the city of San Diego submitted the point la jolla closure request. We would like to discuss next steps.

Volker Hoehne

On Fri, Jan 14, 2022, 12:48 PM Volker Hoehne <volker.sandiego@gmail.com> wrote:

> Kaitlin,
>
> Would it be possible get on your calendar after February 7th to discuss the inevitable city of San Diego season closure of point La Jolla?
> We would like to discuss mutual interests and a path forward.
>
> Please suggest desirable times and dates.
>
> Planned representatives:
>
> Coastal Conservation Association California - Wayne K
>
> Watermens Alliance - Volker H
>
> Body Surfers - Kurt H
>
> Long Beach Neptunes - Andrew L
>
> --

> Volker Hoehne -- 619 994 4175

--
Volker Hoehne MBA-- 619 994 4175

From:	Volker Hoehne
To:	Carney, Kaitlin@Coastal
Cc:	Andrew Leach
Subject:	Application No. 6-22-0113 Seasonal closure of Point La Jolla from May 25th to September 15th
Date:	Wednesday, February 23, 2022 4:13:47 PM

Kaitlin,

I ask the coastal commission to protect our right to peaceably to assemble, and move about at point La Jolla from September 16 through May 24th as protected by the first amendment and U.S. Supreme Court in Crandall v. Nevada, 73 U.S. 35 (1868). Require the city to vet or remove Seal docents who maliciously block right of way and harass the general public.

The Seal Docents (Seal Society/ Sierra Club members-volunteers) currently directed by San Diego Parks and Recreation regularly block public access with placards, and chains to Point La Jolla. Parks and Recreation asks them no to block access. The requests are ignored because the docents continue to block access. (see attached photo). SD Parks and Recreation acknowledges this lack of control.

- The Seal docents should be vetted and bonded before representing the city or the state. They should pass a drug test, background check, Proof of vaccination, and proof of bond. A bond should be required because they are working in hazardous a wet area contaminated with sea lion feces,

Point La Jolla should be open and pleasant from September 16 through May 24th. It should be void of seal docent harassment.

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U.S. Supreme Court in Crandall v. Nevada, 73 U.S. 35 (1868) declared that freedom of movement is a fundamental right.

--

Volker Hoehne MBA-- 619 994 4175

From:	Volker Hoehne
To:	Carney, Kaitlin@Coastal; Andrew Leach
Subject:	Application No. 6-22-0113 seasonal closure of Point La Jolla from May 25th to September 15th
Date:	Wednesday, February 23, 2022 11:30:16 AM
Attachments:	image.png

Kaitlin,

Application No. 6-22-0113 seasonal closure of Point La Jolla from May 25th to September 15th falsely implies recreational spearfishes will retain access to the waters of point La Jolla during the closure period. A conflict in current state and city regulations render transiting through La Jolla cove (a marine protected area) illegal. State regulations require that spearguns are on a float, may not be in hand while transiting. City regulations prohibit all floating object in La Jolla cove.

- I ask the coastal commission to request a revision to §63.20.24 permitting transit through La Jolla cove with a float.
- I ask the coastal commission to permit emergency exiting the water access the closed area. Ocean conditions can change quickly and require immediate exiting. The abundance of great white sharks feeding on sea lions increases the probability of additional emergency exits during the closer period.

Application No. 6-22-0113 Excerpt from Attachment 1 .7

7. Recreation.

a. Will the development protect existing lower-cost visitor and recreational facilities?
☑ YES ☐ NO

b. Will the development provide public or private recreational opportunities?
☑ YES ☐ NO

If yes, describe the recreational opportunities provided:

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Fish and wildlife code

§ 632. Marine Protected Areas (MPAs), Marine Managed Areas (MMAs), and Special Closures.

14 CA ADC § 632

(8) Transit or Drifting.

(B) *Spearfishermen with or without catch shall be allowed to transit through MPAs and MMAs. While transiting MPAs and MMAs that prohibit spearfishing or while in possession of species not identified as allowed for take in the MPA or MMA being transited, spearfishing gear shall be in an unloaded condition, not carried in hand, and the diver shall remain at the surface.*

Article 3: Public Parks, Playgrounds, Beaches, Tidelands and Other Property Division 00:

San Diego Municipal Code Chapter 6: Public Works and Property,
§63.20.24 Floats Prohibited In La Jolla Cove
Except for the purpose of effecting a rescue, it is unlawful for any person to introduce into or upon the waters of La Jolla Cove any floating object, such as a body board, foam object, ball, life preserver or other similar device, which is used or could be used to assist in the floatation of a person. This Section, 63.20.24, does not prohibit scuba divers from using wetsuits, swim fins or inflatable devices. ("Floats Prohibited In La Jolla Cove" added 5–31–1994 by O–18073 N.S.)

--

Volker Hoehne MBA-- 619 994 4175

From:	Volker Hoehne
To:	ExecutiveStaff@Coastal; Brownsey, Donne@Coastal; Hart, Caryl@Coastal; Turnbull-Sanders, Effie@Coastal; Aminzadeh, Sara@Coastal; Steve.padilla@coastal.ca.gov; Escalante, Linda@Coastal; Rice, Katie@Coastal; Wilson, Mike@Coastal; Groom, Carole@Coastal; Uranga, Roberto@Coastal; Harmon, Meagan@Coastal; Mann, Zahirah@Coastal; Wayne Kotow; Carney, Kaitlin@Coastal; Dan, Walsh; Hoffman, Kurt; Larry, Asakawa
Subject:	Application No. 6-22-0113 seasonal closure of Point La Jolla
Date:	Tuesday, March 8, 2022 11:32:40 AM
Attachments:	Crisis at The Cove from 5-years ago.pdf

Honorable Coastal Commissioners.
The Application No. 6-22-0113 seasonal closure of Point La Jolla

I would like to bring the attached La Jolla community task force on California Sea Lions 2016 document to the coastal commissions attention. This document highlights the ongoing sea lion problem 20 yards north of the area under consideration for closure "point La Jolla".

I would like to reiterate sea lion excrement is killing the inter-tidal zone at Point La Jolla. In their current state the tide pools pose a bio hazard, unfit for human barefoot traffic. see attached images.

The seal society recently claimed the la Jolla merchants support closing point la Jolla. I would like to your attention that the La Jolla Village Merchants Association does not support nor oppose the closure of point La Jolla. Please reach out to the director for further clarification.

La Jolla Village Merchants Association
7590 Fay Avenue, Suite 404, La Jolla, CA 92037
(858) 230-2725
Jodi@lajollabythesea.com

--
Volker Hoehne MBA-- 619 994 4175

'CRISIS IN THE COVE': A CALL FOR ACTION

La Jolla Community Task Force on California Sea Lions

Ann Kerr Bache
President La Jolla Town Council
Chair LJ Community Task Force

Dan Simonelli
President
La Jolla Cove Swim Club

Doug Burleigh
VP La Jolla Cove Swim Club

Nick Lebeouf
President
La Jolla Shores Association

Phyllis Minick
Chair
Children's Pool Walk Beautification Project, LJPB

C.A. Marengo
President
La Jolla Merchants Association

Mary Coakley
Task Force Liaison
LJ Shores Association

Debbie Beacham
Task Force Liaison
LJ Parks and Beaches

Joel Tracey
President
San Diego Council of Divers

Steve Haskins
Chair LJTC Coastal Committee

Angie Preisdorfer
President
La Jolla Shores Business Association

David Valentine
Marine Mammal Expert

Elisabeth King
Owner La Jolla Gallery

OBJECTIVE

Prompt and effective action to move and exclude **California Sea Lions** (CSL) from areas where their presence creates a severe public health and safety problem.

BACKGROUND

In recent years CSL occupation of the La Jolla Cove area has grown rapidly, and it now includes the very popular La Jolla Cove Beach that is used by thousands of people from the local community, the surrounding city and county, and visitors from throughout the U.S. and around the world. The beach has become a dirty CSL litterbox, the San Diego County Department of Environmental Health has posted signs warning swimmers and divers about high bacterial contamination of the water, and strollers cover their noses to block the foul odors (some illustrative anecdotes appear in a box at the end of this paper). While there have so far been only a few CSL attacks on humans, such things seem inevitable as these wild animals come in close contact with humans.

City and County officials and La Jolla community organizations have received countless complaints about this, and it has received much coverage in newspapers and other news sources. So the problem is well known. The City has responded by commissioning an expert report[1] (the "Hanan Report") that carefully analyzes the problem and provides options for solving it. The key conclusions of this report include:

- The CSL occupation of the La Jolla Cove area does indeed pose a serious public health and safety problem.
- The CSL population is expanding rapidly, so without mitigating action the problem will very likely get worse and spread to other areas in San Diego and elsewhere in southern California.
- Under the Marine Mammal Protection Act (MMPA), there are legal methods for moving and excluding CSLs from areas where they pose a hazard to human safety and property. The Hanan Report describes the options and summarizes many of their advantages and disadvantages.

Since the Hanan Report was completed, CSL have begun to colonize other beaches (e.g., La Jolla Shores) in La Jolla, so the problem is spreading beyond the La Jolla Cove area. It is a large and growing problem that is best addressed sooner than later.

In summary, the City has taken an important first step by obtaining a careful analysis of the problem by a recognized expert. This expert provides a menu of options for addressing the problem. **It is time to move forward by choosing the best option and implementing it.**[2]

---

[1] *California Sea Lion Observations at La Jolla Cove – Initial Investigation of Abundance and Behavior with Recommendations/Options*, Doyle A. Hanan, Hanan & Associates, Inc., June 28, 2016.

[2] Other beaches are likely to experience similar public health and safety problems as the increasing CSL population causes them to seek new areas to colonize. San Diego can and should develop a solution that others can emulate.

LA JOLLA COMMUNITY SUPPORT

While the CSL problem in the La Jolla Cove area concerns a much larger population of beach lovers, it has its greatest impact on the La Jolla community. La Jolla community leaders know it is a very serious issue because they receive hundreds of complaints and demands that something be done. The La Jolla Town Council (LJTC) is the La Jolla community organization with the broadest scope, so it organized an effort to gather community input and develop a consensus opinion for the community and other affected LJ Cove users. This effort is called *Crisis in the Cove* and included two very well-attended public hearings (June 9 and July 14, 2016) that provided information to the public and collected community comments and suggestions.

As a result of the *Crisis in the Cove* hearings, the LJTC formed "The Community Task Force on Sea Lions." The Task Force (formally a LJTC Committee) members include representatives of other community organizations that provide information and advice to San Diego City authorities (La Jolla Parks and Beaches, La Jolla Shores Association), representatives La Jolla Cove users (La Jolla Cove Swim Club, San Diego Diving Council, Coastwalk), and experts on Marine Mammals and legal constraints. Signatories to this Call represent the range of community interests.

Simply stated, what the La Jolla community (speaking through the Task Force) wants is **prompt and effective action to move and exclude CSL from areas where their presence creates severe public health and safety problems**. This is a long-term problem, and it will require a long-term effort.

The Task Force understands that achieving this objective will require resources (funding, expertise, and manpower). The La Jolla community insists this problem be solved, it wants to be involved, and it can provide substantial resources to support and enhance the City effort.

RECOMMENDATIONS

The Task Force recommendations fall into two categories: (1) actions by San Diego government authorities, and (2) actions the La Jolla community can undertake to support the City actions.

San Diego

- The Mayor should invoke and notify NOAA that he is invoking his legal right to move and exclude CSL from specific areas where they are causing a public health and safety problem (Marine Mammal Protection Act 109(h)).
- The Mayor and City Council should designate the La Jolla Town Council (LJTC) as the contracting entity to develop a short term action plan to move and exclude the CSL's from La Jolla Beaches.
- The Mayor and City Council should give authority for the LJTC to execute a contract to implement that plan.

La Jolla

The La Jolla community can reduce the impact on city resources by doing the following:

- Phase I – Action Plan: The LJTC is willing and able to propose and execute a city-funded contract to plan the project in detail by analyzing the options, developing an implementation plan and schedule, and developing cost estimates. The La Jolla community has many experts in all relevant areas, so the LJTC would execute this contract by creating and managing a team including subcontracted and *pro bono* experts. If and when requested formally or informally, LJTC will submit a proposal for this project.

- Phase II – Plan Implementation: Implementation of the plan will require some number of material and construction vendors. It will also require continuing input from the subcontracted and *pro bono* experts involved the Phase I. The LJTC is able to manage this under a contract from the City, should that be helpful. Also, long-term sustainment of the solution is much more practical and cost-effective with extensive use of *pro bono* experts. The La Jolla community is very rich such resources, so the LJTC could organize and manage this part of the effort. Finally, given a City commitment to solve this problem in a sustained way, LJTC is confident that it can raise substantial amounts of donated money to offset or reduce the needed input of taxpayer funding.

A Few Anecdotes Illustrating the Human Impact of the CSL Problem

- There have been countless instances in which a CSL threatened humans that came too close, and some have resulted in bite wounds requiring medical attention.
- Swimmers have encountered dead CSL as they trained in the ocean at the Cove. The decaying bodies of these large mammals adds to the pollution from CSL waste.
- The 100th annual La Jolla Rough Water Swim scheduled for September, 2016, was cancelled due to bacterial contamination of the La Jolla Cove beach and ocean. This event attracts thousands of swimmers and supporters to La Jolla, so cancellation had a significant impact on local hotels, restaurants, and other businesses.
- An off-duty lifeguard swimming in the Cove contracted a near-fatal staph infection that required hospitalization for days.
- Many lifeguards who patrol the waters at La Jolla Cove have contracted bacterial infections in recent months. As a result, San Diego Lifeguards now ban their personnel from entering La Jolla Cove water except for emergency rescues.
- Due to the new lifeguard policy, the traditional La Jolla 10 mile relay has been moved from La Jolla Cove to a less convenient and scenic location at La Jolla Shores.
- Degraded water quality forced the Challenged Athletes Foundation (CAF) San Diego Triathlon Challenge to move the swim portion of their event from the Cove to the Shores, on a Saturday separate from the rest of the Sunday event, thus dividing their whole event.

May 28, 2017

La Jolla Town Council "Call for Action" Update

Summary

In the summer of 2016 the La Jolla Town Council (LJTC) formed the "LJTC Joint Community Task Force on California Sea Lions" (Task Force) to address the serious problems caused by California Sea Lion (CSL) colonization of the popular La Jolla Cove area (Cove). In essence, the problem is that the growing CSL presence is already limiting human use of the popular Cove beach and adjacent ocean. Without action, the problem will continue to grow as a hazard to public health and safety.

The Task Force recommended a solution and sent it to the Mayor in November. So far, the Mayor has not responded. But the City does seem to be addressing the issues independently. It recently released a document dated called "Marine Coastal Management Plan – La Jolla" (MCMP). The MCMP content appears to be mostly or entirely reproduction of a report written by Dr. Doyle Hanan, a paid consultant. This provides a thorough study of the problem and alternatives for dealing with it. The Task Force strongly supports the MCMP's "Preferred Alternative." However, the MCMP concludes with a section called "Action Items" that retreats from the Preferred Alternative to a human/pinniped beach-sharing solution. The Task Force is convinced that this approach will not work because it will lead to excluding human use of the Cove for most or all of the year.

We don't yet know how the City plans to address (or allow others to address) the CSL problem at the Cove. *What we do know is that the City has a choice to make – is the beach for human recreation or CSL convenience? The La Jolla Community has treasured recreation at the La Jolla Cove and surrounding area for more than a century, and it very much wants to keep it*

Background

In 2016 the LJTC conducted a series of Hearings to address the serious problems caused by California Sea Lion (CSL) colonization of the popular La Jolla Cove area ("Cove"). At the first Hearing LJTC formed a Task Force including representatives of all relevant community organizations, as well as independent experts on the California Sea Lions (CSL's), the problems they are causing (especially in the popular La Jolla Cove area), and the solutions permitted by relevant laws and regulations. The Task Force was strongly influenced by the results of a 2016 study by pinniped-expert Dr. Doyle Hanan (Hanan, 2016). This Hanan report outlined options for dealing with the CSL problem at the Cove, but made no specific recommendations.

The Task Force developed a "Call for Action" recommending an approach to addressing the problem and offering resources (money and manpower) to implement it. This Call for Action was endorsed by La Jolla business leaders and sent to the San Diego Mayor in early November 2016.

As of this date, there has been no response to the Call for Action other than a routine acknowledgement of receipt.

The City has funded a second study by Dr. Hanan, the results of this study provide most of all of the content in the MCMP. It is dated May 1, 2017.

LJTC Call for Action Summary

The Task Force that developed the Call for Action carefully studied the Hanan, 2016 report and agreed that its analysis of the CSL problem is entirely consistent with the experience of the La Jolla community. The Call for Action summarized the problem as follows:

- The CSL occupation of the La Jolla Cove area does indeed pose a serious public health and safety problem.
- The CSL population is expanding rapidly, so without mitigating action the problem will very likely get worse and spread to other areas in San Diego and elsewhere in southern California.

- Under the Marine Mammal Protection Act (MMPA), there are legal methods for moving and excluding CSLs from areas where they pose a hazard to human safety and property.

The Call for Action recommended a specific set of actions to be taken by San Diego government officials and offered the assistance (manpower and funding) of the La Jolla Community.

Summary of Recent San Diego City Actions

According to MPCA, in November, 2016, the City conducted an "expert panel workshop" (partly via teleconference) to discuss the CSL problem in the Cove area. These experts agreed that "sea lions inhabiting and reproducing near a large southern California city is new and certainly rare." They also agreed that their population is likely to expand, and that "sea lion behavior [warrants] the need for constant attention by the City."

The MPCA says that the Workshop concluded that "the situation in La Jolla [is] an opportunity for the City to be a world leader in wild animal management." No representatives of the La Jolla Task Force were consulted, and as far as we know, there was no input from frequent users of the La Jolla Cove beach or other members of the La Jolla Community who must live with the problems caused by the CSLs.

The MCMP is a lengthy document (91 pages) that is almost entirely description and analysis by a scientific expert (presumably Dr. Hanan). The very small fraction that addresses policy issues may include input from City authorities, but there is no way to tell. In any case, the City claims responsibility for the entire report.

The MCMP expands the earlier Hanan, 2016 report by: (1) widening the focus from the Cove area to include the entire Scripps Pier to Windansea Beach area; and (2) providing much more detail about the wildlife frequenting this area and the way other communities have dealt with problems caused by CSLs. While this wider and deeper study is useful and interesting, it doesn't change anything. That is, the problem description is the same as in Hanan, 2016, as are the potential solutions.

From the Task Force perspective, the MCMP omits serious consideration of several important factors. The most important is that CSLs are very different from the Harbor Seals (seals) that occupy the nearby Children's Pool area. Seals are not aggressive, don't like crowding, and their densest population is in the winter pupping season when very few people want to use this beach (it is closed to humans from 15 December to 15 May). Humans do share the beach with the seals in the other seven months, but relatively few of them are there. In contrast, CSLs are several times larger, have a social structure with bulls controlling harems as large as 30 females, can be very aggressive with each other or other intruders, rest in very close contact, and have the densest population in their summer pupping season when the Cove Beach is most popular with human users (the Cove Beach is used all year by divers and swimmers). Their waste contaminates the shoreline and nearby ocean, thereby causing health hazards for humans.

Also, the MCMP does not even mention the effect of the growing CSL population on the adjacent marine protected areas. The ocean adjacent to the La Jolla Cove is within the Matlahuayl State Marine Reserve (SMR) where taking of all living marine resources is prohibited. CSLs are very large (adults weigh 250-800 lbs.) fish-eaters. A single CSL will take far more fish per year than any recreational diver or shoreline angler. What effect does this have on the "protected" fish population? Is there a conflict between the legally mandated protection of marine life in these reserves and the reluctance to disturb the growing CSL population that feeds there? These questions should be addressed in a comprehensive "Marine Coastal Management Plan."

The penultimate section of the MCMP provides a list of alternatives for addressing the CSL problem. These alternatives are essentially the same as those in Hanan, 2016, but they are presented more clearly and crisply. They are as follows (details are provided for each, but are omitted here for brevity):

Alternative A: No Change

……. This method would likely lead to loss of public beach areas as pinniped populations *increase.*

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

Alternative C: Harass pinnipeds off select beaches and bluffs

Alternative D: Fencing

Alternative E: Livestock fencing

Alternative F: ***Preferred Alternative***

A mix of selected management measures described above:

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

The Task Force notes that it found an attractive Alternative not mentioned in the MCMP. This is a tested and proven method for excluding CSLs from selected areas without unsightly fencing or harassment. This is should be considered in a comprehensive MCMP.

Conclusions

The "Marine Coastal Management Plan – La Jolla" concludes with a section called "Action Items." This section retreats from straightforward action to implement Alternative F, the "Preferred Alternative." Instead it recommends that the City Implement Alternative A, extended a bit with Alternative B, plus some fencing to keep the large and mobile CSLs from invading "urban areas." A weak acknowledgement of Alternative F (Preferred Alternative) is added via this sentence: *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.*

So it seems that the final recommendation of the "Marine Coastal Management Plan – La Jolla" is to implement the same beach-sharing approach used to deal with the Harbor Seal occupation of the Children's Pool area, plus a statement that someday the City might allow solutions that protect the beach for exclusive human use.

While beach sharing can be said to work at Children's Pool (albeit with continuing controversy), it works as well as it does due to the very different behavior of Harbor Seals. As described in the earlier discussion of important factors not emphasized appropriately in the MCMP, CSLs have very different characteristics that make human/CSL beach sharing impractical and unsafe. Allowing humans to use a beach occupied by large numbers of CSLs will pose serious public health and safety problems. This will limit human use and probably eliminate it eventually. This is the growing threat that motivated the formation of the Task Force. This Task Force recommends immediate ACTION to implement the Preferred Alternative (Alternative F) described in the MCMP.

Finally, the La Jolla Community strongly recommends that the City listen to input from the people who live in La Jolla who want to preserve human recreational use of our beaches. The La Jolla community is willing and able to provide manpower and financial support to implement and sustain solutions toward that objective.

LJTC Community Task Force ~ California Sea Lion Occupation of LJ Beaches
Position Statement on Recent City Decisions and Actions

In the Spring of 2016 the La Jolla Town Council responded to community concern about the serious public health and safety problems caused by California Sea Lion (CSL) colonization of the La Jolla Cove area by creating a Community Task Force to study the problem and develop recommendations for dealing with it. The following pages summarize what has happened since then. Key points are as follows:

- The Task Force studied the problem with input from pinniped experts, relevant government agencies, and representatives of Cove users and local businesses affected by the CSL colonization. It summarized its conclusions and recommendations in a "Call for Action" submitted to the Mayor in November, 2016. To date have received no reply.
- The City developed a "Marine Coastal Management Plan – La Jolla" (MCMP) dated May 1, 2017, without involvement of the LJ and SD Communities. Further we see no evidence of significant input from the Task Force, Cove users, local businesses, or other broadly based Community representatives.
- However, since the Task Force and City had access to the same information (except for Community input), the "Call for Action" and MCMP generally agree on the scope and seriousness of the problem and alternatives for addressing it. In fact, the "Preferred Alternative" described in the MCMP is essentially the same as the Action recommended by the Task Force.
- Unfortunately, the MCMP deviates from the Task Force recommendations in two important ways:
  1. A stated objective of the MCMP is that "the situation in La Jolla [is] an opportunity for the City to be a world leader in wild animal management." That's nice, but it is also nice to ask the opinion of people living near those wild animals.
  2. The MCMP Action plan does not include implementation of its "Preferred Alternative." Instead, the planned action is to allow and even encourage CSL-human sharing of the Cove area, including the beach. The large size, preference for crowding, and often aggressive behavior of the CSLs makes this impractical. It certainly will not solve the existing and increasing public health and safety problems the Task Force was created to address.

We have two recommendations for the City:

- *Public health and safety should be a very high priority for City authorities. Modify the MCMP accordingly.*
- *Gather and respect input from the La Jolla community. These are the people who live near the CSLs, and their opinions should be considered.*
- The Task Force recommended a solution and sent it to the City authorities in November, 2016. So far, the City authorities have not acknowledged or responded directly, but seem to have been addressing the issues independently and recently released a document called "Marine Coastal Management Plan – La Jolla." It provides a thorough study of the problem and alternatives for dealing with it. The LJ Task Force strongly supports the "Preferred Alternative." solution in their own consultant-funded report. However, the City **retreats from its own Preferred Alternative in its own report to a human/pinniped beach-sharing solution**. La Jolla has ample experience to know that this approach does not work. It inevitably leads to excluding human use for most or all of the year.

- The City plans to address the CSL problem at the Cove by **signs** which have been installed and **gates on the stairs** to the Beaches, an inconvenient barrier to human access in order to keep CSLs from polluting more than the beaches.

- *What we do know is that the City has a choice to make – is the beach for human recreation or CSL convenience? The La Jolla Community has treasured recreation at the La Jolla Cove and surrounding area for more than a century, and it very much wants to keep it. Come to the July 13th 2017 LJTC Monthly Meeting and let your voices be heard!*

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Subject:	Re: Application No. 6-22-0113 seasonal closure of Point La Jolla
Date:	Wednesday, March 9, 2022 10:25:11 AM
Attachments:	Evaluation of Potential Pedestrian Closures Point La Jolla 2021[3672].pdf

Honorable Coastal Commissioners.
The Application No. 6-22-0113 seasonal closure of Point La Jolla

I ask the commission to consider the attached November 5th 2021 "Evaluation of Potential Public Area Closures around La Jolla Cove, California in Consideration of California Sea Lions with Recommendations" authored by Dr. Doyle A. Hanan Hanan & Associates, Inc. This report was contracted by the City of San Diego. It concludes point La Jolla does not warrant a closure for sea lions.

> *"CONCLUSIONS In conclusion, we would seriously question the need for closure to protect CSL because the U.S. population is at OSP as managed by NMFS according to the MMPA. Therefore establishing closures is not a resource question or need and does not warrant any special protections aside from those provided by the MMPA. The CSL population has increased to a level where occupied areas have increased, including areas not documented in modern history (La Jolla). In the future, we may see fluctuations of CSL population above and below carrying capacity of the environment and may include new haul out areas while abandoning other locations. These population characteristics are typical of any ecosystem at or beyond carrying capacity (K)." (page 7)*

Main comments of interests
The number of sea lion berths in the La Jolla area is statistically insignificant, 00.1% of the annual births occur near or at the area in question. (53/47,691 = 00.1%)

- *"While we agree with several Sierra Club conclusions and cited evidence of what confirms a rookery, we caution that two years of unverified counts (53 live births each) are not sufficient to declare the area a rookery. CSL presence and pupping may be temporary, and they may abandon the location as quickly as they have occupied it." (page 4)*
- *"In 2014, NMFS estimated the U.S. west coast population at 257,606 sea lions and a corresponding pup count of 47,691 pups with an annual growth rate of 7.0% (Carretta et al., 2021)." (page 6)*

Sea lions show a preference for the Area 6 (shelf area below restaurants). Also known as the east bluffs.

- "During our 2015-2016 observations, we observed CSL hauling out primarily in Area 6 (shelf area below restaurants). Since then, they have moved to haul out mainly in Area 1 (Boomers Beach)." (page 3)

The sea lions populations are healthy.

- *"CSL are not "depleted" under the Marine Mammal Protection Act (MMPA) nor "threatened/endangered" under the Endangered Species Act (Carretta et al., 2021)." (page 6)*

- *"This stock status means the CSL population was likely still increasing in 2008 as it approached carrying capacity of the environment (K, the 7 maximum population size an ecosystem can support). It is also likely that ENSO will cause fluctuations in pup production and total population for the foreseeable future (McClatchie et al., 2016)" (page 6 and 7)*

Volker Hoehne
6199944175

On Tue, Mar 8, 2022 at 11:31 AM Volker Hoehne <volker.sandiego@gmail.com> wrote:

> Honorable Coastal Commissioners.
> The Application No. 6-22-0113 seasonal closure of Point La Jolla
>
> I would like to bring the attached La Jolla community task force on California Sea Lions 2016 document to the coastal commissions attention. This document highlights the ongoing sea lion problem 20 yards north of the area under consideration for closure "point La Jolla".
>
> I would like to reiterate sea lion excrement is killing the inter-tidal zone at Point La Jolla. In their current state the tide pools pose a bio hazard, unfit for human barefoot traffic. see attached images.
>
> The seal society recently claimed the la Jolla merchants support closing point la Jolla. I would like to your attention that the La Jolla Village Merchants Association does not support nor oppose the closure of point La Jolla. Please reach out to the director for further clarification.
>
> La Jolla Village Merchants Association
> 7590 Fay Avenue, Suite 404, La Jolla, CA 92037
> (858) 230-2725
> Jodi@lajollabythesea.com
>
> --
> Volker Hoehne MBA-- 619 994 4175

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Volker Hoehne MBA-- 619 994 4175

Evaluation of Potential Public Area Closures around La Jolla Cove, California in Consideration of California Sea Lions with Recommendations

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

November 5, 2021

Submitted to the
City of San Diego
Park and Recreation Department
P.O. #PR174201

Table of Contents

INTRODUCTION

Hanan & Associates observed California Sea Lion (CSL), made counts, and enumerated by age and sex at La Jolla Cove near San Diego, California, from March 11, 2015, to March 19, 2016 (Hanan, 2016). We made these observations at all hours of the day and night. Since then, we have observed seals at Children's Pool and CSL around Point La Jolla on approximately a monthly basis. We have found that CSL haul out and occupy at least ten different areas in and around La Jolla Cove. They haul out year-round in locations heavily utilized by the La Jolla community, visitors, and tourists. CSL are occasionally aggressive towards swimmers, beach users, and people who interact closely with them (for petting, pictures, close observation, etc.).

San Diego has been encouraged to close areas to public access around Point La Jolla during CSL pupping and breeding season by the Sierra Club. They presented this closure concept to SD Park and Recreation Department in a brief (Establishing Sea Lion Pupping Season Closure Dates at Pt. La Jolla/Boomer Beach Expert Statements Regarding Pupping & Breeding Season, Sierra Club San Diego Chapter, October 21, 2021). The reason for the suggested closure is assumed to be the protection of CSL, including pups, although not stated in the brief. The brief cites published papers and quotes experts defining the term "rookery" and why Pt. La Jolla/Boomer Beach should be considered a rookery. Perhaps this is true as they also report their counts of CSL live births at 50+ pups for 2020 and 2021 (with 50 pups or greater offered by National Marine Fisheries Service (NMFS) as a rookery). Hanan (2016) reports stillborn pups in 2015 and two live births as well as stillbirths during the spring of 2016. These accounts appear to be the first reports of CSL live births at this location. During our 2015-2016 observations, we observed CSL hauling out primarily in Area 6 (shelf area below restaurants). Since then, they have moved to haul out mainly in Area 1 (Boomers Beach).

The Sierra Club brief concludes: "Pt. La Jolla/Boomer Beach meets the definition of a rookery as defined by NOAA. While being recognized by NOAA as a rookery, this designation doesn't provide additional protections beyond what is provided for in the Marine Mammal Protection Act. This unique rookery does however, warrant research, management and enforcement of the MMPA as it is the only rookery on California's west coast in an urban environment and draws significant tourism."

While we agree with several Sierra Club conclusions and cited evidence of what confirms a rookery, we caution that two years of unverified counts (53 live births each) are not sufficient to declare the area a rookery. CSL presence and pupping may be temporary, and they may abandon the location as quickly as they have occupied it.

A significant phenomenon on the U.S. west coast is called ENSO (El Niño Southern Oscillation), when the Pacific Ocean cycles through periods of warm (El Niño, with low ecosystem productivity) or cold surface temperatures (La Niña, with upwelling of nutrient-rich water and high productivity) (Beaufort and Grelaud, 2017). ENSO is known to affect CSL population fluctuations and pup productivity (McClatchie *et al.* 2016). The model used by Lowry *et al.* (2017) indicated that female CSL during cold-water conditions (La Niña) produced more pups than during warm water conditions (El Niño). Further, they state that fewer non-pups were present at southern California rookeries during warm-water conditions and more during cold-water conditions.

The Sierra Club recorded their counts during La Niña (cold) events (known periods of high nearshore Pacific Ocean productivity). Pup production and survivorship are known to wane during El Niños (warm, low ocean productivity, and lack of essential fish and squid for CSL forage). CSL, especially lactating female fitness/health, is reduced during El Niño episodes, and pup weight and survivorship decline (Lowry *et al.,* 2017). "The population has come into balance with its environment," said co-author Sharon Melin, a research biologist at the Alaska Fisheries Science Center who has tracked sea lion numbers in Southern California's Channel Islands for years. "The marine environment is always changing, and their population is at a point where it responds very quickly to changes in the environment. When the California Current is not productive, they respond pretty fast and dramatically," Melin said. (NMFS News, 2018).

Even if the La Jolla area is later verified to be a rookery, as the brief states, the "rookery" designation doesn't provide additional protection beyond that provided in the Marine Mammal Protection Act (MMPA). Further, the MMPA places all marine mammal management and enforcement with NMFS. No federal or State law requires the City to establish protected areas

for CSL or other marine mammals, although the State can apply to the Department of Commerce (NMFS) for management return to the State. There are stipulations: 1 stock must be at OSP, 2 state must have an approved management plan that does not allow the stock to go below OSP.

Hanan & Associates also prepared a Marine Coastal Mammal Plan in coordination with the City, California Department of Fish and Wildlife, and National Marine Fisheries Service, which the City mayor approved in 2017.

California Sea Lion information from the San Diego Marine Coastal Mammal Plan:

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, the Gulf of California, and the offshore southern California islands (Carretta *et al.,* 2021). 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 (Hanan *et al., 1989)* and feed naturally on salmon adults and salmon smolt in riverine habitat (NMFS, 1997).

CSL principally occupy the bluffs and sand beaches adjacent to La Jolla Cove in the La Jolla area. They rest in these areas as they travel along their migration routes, and some may be resident animals. 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.

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. However, sexually mature males may not be socially mature (able to fight off other bulls and maintain a harem) until about ten years. 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 approximately four months to a year.

Natural Mortality

Large sharks and killer whales are their primary 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 on population growth (Lowry, 1991; McClatchie *et al.,* 2016; Lowry *et al.,* 2017;). These events result in the scarcity of CSL prey items (squid and small schooling fish).

STATUS OF THE STOCK

CSL are not "depleted" under the Marine Mammal Protection Act (MMPA) nor "threatened/endangered" under the Endangered Species Act (Carretta *et al.,* 2021). In 2014, NMFS estimated the U.S. west coast population at 257,606 sea lions and a corresponding pup count of 47,691 pups with an annual growth rate of 7.0% (Carretta *et al.,* 2021). NMFS also estimated Potential Biological Removal (PBR) at 14,011 sea lions per year from the U.S. stock. The MMPA defines PBR as the number of CSL that could be removed from a population, not including natural mortalities, while allowing that stock to reach or maintain its optimum sustainable population (OSP). This stock's annual human-caused mortality and serious injury are ≥ 321 animals (Carretta *et al.,* 2021). Laake *et al.* (2018) found CSL above maximum net productivity level (MNPL) and within OSP in 2008. This stock status means the CSL population was likely still increasing in 2008 as it approached carrying capacity of the environment (K, the

maximum population size an ecosystem can support). It is also likely that ENSO will cause fluctuations in pup production and total population for the foreseeable future (McClatchie *et al.,* 2016).

CONCLUSIONS

In conclusion, we would seriously question the need for closure to protect CSL because the U.S. population is at OSP as managed by NMFS according to the MMPA. Therefore establishing closures is not a resource question or need and does not warrant any special protections aside from those provided by the MMPA.

The CSL population has increased to a level where occupied areas have increased, including areas not documented in modern history (La Jolla). In the future, we may see fluctuations of CSL population above and below carrying capacity of the environment and may include new haul out areas while abandoning other locations. These population characteristics are typical of any ecosystem at or beyond carrying capacity (K).

RECOMMENDATIONS

1. We do not endorse closing any areas of La Jolla for the benefits of CSL, an abundant stock at OSP and fully recovered (Laake *et al.* 2018). We believe NMFS should maintain management authority and ensure the health of CSL following federal law as realized in the MMPA statutes and NMFS rulemaking.
2. Suppose the City decides to put closures in place to reduce harassment of CSL adults and pups. In that case, we recommend the closures be temporary with the flexibility to place them in any areas of concern throughout City limits. We recommend this because CSL do change hauling locations. During our 2015-2016 observations, we observed CSL primarily hauling out in Area 6 (shelf area just southeast of La Jolla cove below restaurants). Since then, they have moved to haul out principally in Area 1 (Boomers Beach). They may move again or abandon La Jolla completely; therefore, there should be no permanent closures.
3. If the City goes ahead with closures to reduce harassment, we recommend amending the SD Marine Coastal Mammal Plan to include procedures for accomplishing this action.

Perhaps there could be a threshold of viable pups born at a particular location during a pupping season and verified by park rangers or lifeguards that might trigger such an action. The temporary closure in 2021 worked reasonably well, keeping people away from CSL. We would recommend similar treatments of temporary closures, including signage, blockades of footpaths/access points, and the presence of rangers and docents. Given peak pupping occurs around July 2 and pups can swim proficiently at 4-months, we recommend the temporary closure period (7/1-11/1). Considering NMFS enforcement of harassment protocol, depending on location, we would recommend the public should generally be kept 25 to 50 feet from CSL. Technically, the distance depends on whether the animals change their behavior in response to harassment, by physically moving or becoming agitated or moving their heads to look at or away from the disturbance.

LITERATURE CITED

Beaufort, L., Grelaud, 2017. M. A 2700-year record of ENSO and PDO variability from the Californian margin based on coccolithophore assemblages and calcification. *Prog. in Earth and Planet. Sci.* **4,** 5 (2017). https://doi.org/10.1186/s40645-017-0123-z

James V. Carretta, Erin M. Oleson, Karin. A. Forney, Marcia M. Muto, David W. Weller, Aimee R. Lang, Jason Baker, Brad Hanson, Anthony J. Orr, Jay Barlow, Jeffrey E. Moore, and Robert L. Brownell Jr. 2021. U.S. Pacific Marine Mammal Stock Assessments: 2020, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-646. 394 pages.

Hanan, D. A. 2016. Final Report. California Sea Lion Observations at La Jolla Cove, Initial Investigation of Abundance and Behavior with Recommendations/Options. Submitted to City of San Diego, Park and Recreation Department, San Diego, CA 92101. June 28, 2016. 39 pages.

Hanan & Associates. 2017. Marine Coastal Management Plan – La Jolla. Contracted by: City of San Diego, Park and Recreation Department, San Diego, CA 92101. March 15, 2017. 65 pages.

Hanan, D. A., L. M. Jones, and R. B. Read. 1989. California sea lion interaction and depredation rates with the commercial passenger fishing vessel fleet near San Diego. *California Cooperative Oceanic Fisheries Investigations Reports.* 30:122-126.

Laake, J.L., M.S. Lowry, R.L. DeLong, S.R. Melin, and J.V. Carretta. 2018. Population growth and status of California sea lions. The Journal of Wildlife Management, DOI: 10.1002/jwmg.21405.

Lowry, M.S. 1991. Seasonal and annual variability in the diet of California sea lions Zalophus californianus at San Nicolas Island, California, 1981–86. Fish. Bull. (Seattle) 89:339–346.

Lowry, Mark S., Sharon R. Melin, and Jeffrey L. Laake. 2017. Breeding season distribution and Population growth of California sea lions, *Zalophus californianus*, in the United States during 1964-2014. U.S. Department of Commerce, NOAA Technical Memorandum. NOAA-TM-NMFS-SWFSC-574. 66 pages. https://doi:10.7289/V5/TM-SWFSC-574.

McClatchie S, Field J, Thompson AR, Gerrodette T, Lowry M, Fiedler PC, Watson W, Nieto KM, Vetter RD. 2016. Food limitation of sea lion pups and the decline of forage off central and southern California. Nine pages. R.Soc.OpenSci. 3: 150628. http://dx.doi.org/10.1098/rsos.150628.

National Marine Fisheries Service (NMFS). 1997. Investigation of Scientific Information on the Impacts of California Sea Lions and Pacific Harbor Seals on Salmonids and on the Coastal Ecosystems of Washington, Oregon, and California. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-28, 172 p.

NMFS News. 2018. California Sea Lion Population Rebounded to New Highs. https://www.fisheries.noaa.gov/feature-story/california-sea-lion-population-rebounded-new-highs

From:	Hoehne, Volker
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Cc:	fgc@fgc.ca.gov
Subject:	Re: RE: Point La Jolla Follow up meeting with CCC- Application 6-22-0113
Date:	Thursday, March 10, 2022 1:49:56 PM
Attachments:	Crisis at The Cove from 5-years ago.pdf Evaluation of Potential Pedestrian Closures Point La Jolla 2021[3672].pdf

Kaitlin and Kanani,

thank you hearing our comments and concerns regarding CCC- Application 6-22-0113.

The fishing, and surfing communities are concerned by the proposed closure of point La Jolla against the recommendation of the cities contracted biologist. This will be the third closure to accommodate seals. (seal rock, childrens pool) during the childrens pool closure, commission promised not to close additional areas.

1. 2021 Hannon report does not support closing point La Jolla (Attached)
2. Loss of ocean access to no-mans (historic access spot since 1933)
3. Retain Sea wall architectural and historic characteristics. (remove graffiti, no signs, or railing)
4. Sea lions in the cove=>Jolla community task force on California Sea Lions 2016 document (Attached)
5. No Access => Cannot legally transit through adjacent MPA. (Conflicting state and city regulations).

Please work with Fish and Wildlife on resolution.

Calla Allison
Director, MPA Collaborative Network
calla.allison@resources.ca.gov
(858) 735-5945

6. No Safe access to boomer beach during closure. Proposed trail not safe.
7. Intertidal zone at Point La Jolla. =>sea lion excrement,

   A 3000 lbs to 5000 lbs of sea lion sewage is 350 to 600 gallons of sewage per day

8. Ongoing & year-round harassment by Seal Docents

   Blocked legal access during open period, Verbal and physical bulling

We desire safe and peaceful access to the ocean.

Volker Hoehne
Cell 619-994-4175

From: Hoehne, Volker <vohoehne@corelogic.com>
Sent: Thursday, March 10, 2022 1:10 PM
To: Volker Hoehne <volker.sandiego@gmail.com>; kaitlin.carney@coastal.ca.gov <kaitlin.carney@coastal.ca.gov>; wkotow@ccacalifornia.org <wkotow@ccacalifornia.org>; Kanani.Leslie@coastal.ca.gov <Kanani.Leslie@coastal.ca.gov>; aleach07@gmail.com <aleach07@gmail.com>; upfrontcomms@gmail.com <upfrontcomms@gmail.com>; kurthoffman@san.rr.com <kurthoffman@san.rr.com>; calla.allison@resources.ca.gov <calla.allison@resources.ca.gov>
Cc: fgc@fgc.ca.gov <fgc@fgc.ca.gov>
Subject: Re: RE: Point La Jolla Follow up meeting with CCC- Application 6-22-0113

'CRISIS IN THE COVE': A CALL FOR ACTION

La Jolla Community Task Force on California Sea Lions

Ann Kerr Bache
President La Jolla Town Council
Chair LJ Community Task Force

Dan Simonelli
President
La Jolla Cove Swim Club

Doug Burleigh
VP La Jolla Cove Swim Club

Nick Lebeouf
President
La Jolla Shores Association

Phyllis Minick
Chair
Children's Pool Walk Beautification Project, LJPB

C.A. Marengo
President
La Jolla Merchants Association

Mary Coakley
Task Force Liaison
LJ Shores Association

Debbie Beacham
Task Force Liaison
LJ Parks and Beaches

Joel Tracey
President
San Diego Council of Divers

Steve Haskins
Chair LJTC Coastal Committee

Angie Preisdorfer
President
La Jolla Shores Business Association

David Valentine
Marine Mammal Expert

Elisabeth King
Owner La Jolla Gallery

OBJECTIVE

Prompt and effective action to move and exclude **California Sea Lions** (CSL) from areas where their presence creates a severe public health and safety problem.

BACKGROUND

In recent years CSL occupation of the La Jolla Cove area has grown rapidly, and it now includes the very popular La Jolla Cove Beach that is used by thousands of people from the local community, the surrounding city and county, and visitors from throughout the U.S. and around the world. The beach has become a dirty CSL litterbox, the San Diego County Department of Environmental Health has posted signs warning swimmers and divers about high bacterial contamination of the water, and strollers cover their noses to block the foul odors (some illustrative anecdotes appear in a box at the end of this paper). While there have so far been only a few CSL attacks on humans, such things seem inevitable as these wild animals come in close contact with humans.

City and County officials and La Jolla community organizations have received countless complaints about this, and it has received much coverage in newspapers and other news sources. So the problem is well known. The City has responded by commissioning an expert report[1] (the "Hanan Report") that carefully analyzes the problem and provides options for solving it. The key conclusions of this report include:

- The CSL occupation of the La Jolla Cove area does indeed pose a serious public health and safety problem.
- The CSL population is expanding rapidly, so without mitigating action the problem will very likely get worse and spread to other areas in San Diego and elsewhere in southern California.
- Under the Marine Mammal Protection Act (MMPA), there are legal methods for moving and excluding CSLs from areas where they pose a hazard to human safety and property. The Hanan Report describes the options and summarizes many of their advantages and disadvantages.

Since the Hanan Report was completed, CSL have begun to colonize other beaches (e.g., La Jolla Shores) in La Jolla, so the problem is spreading beyond the La Jolla Cove area. It is a large and growing problem that is best addressed sooner than later.

In summary, the City has taken an important first step by obtaining a careful analysis of the problem by a recognized expert. This expert provides a menu of options for addressing the problem. **It is time to move forward by choosing the best option and implementing it.**[2]

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[1] *California Sea Lion Observations at La Jolla Cove – Initial Investigation of Abundance and Behavior with Recommendations/Options*, Doyle A. Hanan, Hanan & Associates, Inc., June 28, 2016.

[2] Other beaches are likely to experience similar public health and safety problems as the increasing CSL population causes them to seek new areas to colonize. San Diego can and should develop a solution that others can emulate.

LA JOLLA COMMUNITY SUPPORT

While the CSL problem in the La Jolla Cove area concerns a much larger population of beach lovers, it has its greatest impact on the La Jolla community. La Jolla community leaders know it is a very serious issue because they receive hundreds of complaints and demands that something be done. The La Jolla Town Council (LJTC) is the La Jolla community organization with the broadest scope, so it organized an effort to gather community input and develop a consensus opinion for the community and other affected LJ Cove users. This effort is called *Crisis in the Cove* and included two very well-attended public hearings (June 9 and July 14, 2016) that provided information to the public and collected community comments and suggestions.

As a result of the *Crisis in the Cove* hearings, the LJTC formed "The Community Task Force on Sea Lions." The Task Force (formally a LJTC Committee) members include representatives of other community organizations that provide information and advice to San Diego City authorities (La Jolla Parks and Beaches, La Jolla Shores Association), representatives La Jolla Cove users (La Jolla Cove Swim Club, San Diego Diving Council, Coastwalk), and experts on Marine Mammals and legal constraints. Signatories to this Call represent the range of community interests.

Simply stated, what the La Jolla community (speaking through the Task Force) wants is **prompt and effective action to move and exclude CSL from areas where their presence creates severe public health and safety problems**. This is a long-term problem, and it will require a long-term effort.

The Task Force understands that achieving this objective will require resources (funding, expertise, and manpower). The La Jolla community insists this problem be solved, it wants to be involved, and it can provide substantial resources to support and enhance the City effort.

RECOMMENDATIONS

The Task Force recommendations fall into two categories: (1) actions by San Diego government authorities, and (2) actions the La Jolla community can undertake to support the City actions.

San Diego

- The Mayor should invoke and notify NOAA that he is invoking his legal right to move and exclude CSL from specific areas where they are causing a public health and safety problem (Marine Mammal Protection Act 109(h)).
- The Mayor and City Council should designate the La Jolla Town Council (LJTC) as the contracting entity to develop a short term action plan to move and exclude the CSL's from La Jolla Beaches.
- The Mayor and City Council should give authority for the LJTC to execute a contract to implement that plan.

La Jolla

The La Jolla community can reduce the impact on city resources by doing the following:

- Phase I – Action Plan: The LJTC is willing and able to propose and execute a city-funded contract to plan the project in detail by analyzing the options, developing an implementation plan and schedule, and developing cost estimates. The La Jolla community has many experts in all relevant areas, so the LJTC would execute this contract by creating and managing a team including subcontracted and *pro bono* experts. If and when requested formally or informally, LJTC will submit a proposal for this project.

- Phase II – Plan Implementation: Implementation of the plan will require some number of material and construction vendors. It will also require continuing input from the subcontracted and *pro bono* experts involved the Phase I. The LJTC is able to manage this under a contract from the City, should that be helpful. Also, long-term sustainment of the solution is much more practical and cost-effective with extensive use of *pro bono* experts. The La Jolla community is very rich such resources, so the LJTC could organize and manage this part of the effort. Finally, given a City commitment to solve this problem in a sustained way, LJTC is confident that it can raise substantial amounts of donated money to offset or reduce the needed input of taxpayer funding.

A Few Anecdotes Illustrating the Human Impact of the CSL Problem

- There have been countless instances in which a CSL threatened humans that came too close, and some have resulted in bite wounds requiring medical attention.
- Swimmers have encountered dead CSL as they trained in the ocean at the Cove. The decaying bodies of these large mammals adds to the pollution from CSL waste.
- The 100th annual La Jolla Rough Water Swim scheduled for September, 2016, was cancelled due to bacterial contamination of the La Jolla Cove beach and ocean. This event attracts thousands of swimmers and supporters to La Jolla, so cancellation had a significant impact on local hotels, restaurants, and other businesses.
- An off-duty lifeguard swimming in the Cove contracted a near-fatal staph infection that required hospitalization for days.
- Many lifeguards who patrol the waters at La Jolla Cove have contracted bacterial infections in recent months. As a result, San Diego Lifeguards now ban their personnel from entering La Jolla Cove water except for emergency rescues.
- Due to the new lifeguard policy, the traditional La Jolla 10 mile relay has been moved from La Jolla Cove to a less convenient and scenic location at La Jolla Shores.
- Degraded water quality forced the Challenged Athletes Foundation (CAF) San Diego Triathlon Challenge to move the swim portion of their event from the Cove to the Shores, on a Saturday separate from the rest of the Sunday event, thus dividing their whole event.

May 28, 2017

La Jolla Town Council "Call for Action" Update

Summary

In the summer of 2016 the La Jolla Town Council (LJTC) formed the "LJTC Joint Community Task Force on California Sea Lions" (Task Force) to address the serious problems caused by California Sea Lion (CSL) colonization of the popular La Jolla Cove area (Cove). In essence, the problem is that the growing CSL presence is already limiting human use of the popular Cove beach and adjacent ocean. Without action, the problem will continue to grow as a hazard to public health and safety.

The Task Force recommended a solution and sent it to the Mayor in November. So far, the Mayor has not responded. But the City does seem to be addressing the issues independently. It recently released a document dated called "Marine Coastal Management Plan – La Jolla" (MCMP). The MCMP content appears to be mostly or entirely reproduction of a report written by Dr. Doyle Hanan, a paid consultant. This provides a thorough study of the problem and alternatives for dealing with it. The Task Force strongly supports the MCMP's "Preferred Alternative." However, the MCMP concludes with a section called "Action Items" that retreats from the Preferred Alternative to a human/pinniped beach-sharing solution. The Task Force is convinced that this approach will not work because it will lead to excluding human use of the Cove for most or all of the year.

We don't yet know how the City plans to address (or allow others to address) the CSL problem at the Cove. *What we do know is that the City has a choice to make – is the beach for human recreation or CSL convenience? The La Jolla Community has treasured recreation at the La Jolla Cove and surrounding area for more than a century, and it very much wants to keep it*

Background

In 2016 the LJTC conducted a series of Hearings to address the serious problems caused by California Sea Lion (CSL) colonization of the popular La Jolla Cove area ("Cove"). At the first Hearing LJTC formed a Task Force including representatives of all relevant community organizations, as well as independent experts on the California Sea Lions (CSL's), the problems they are causing (especially in the popular La Jolla Cove area), and the solutions permitted by relevant laws and regulations. The Task Force was strongly influenced by the results of a 2016 study by pinniped-expert Dr. Doyle Hanan (Hanan, 2016). This Hanan report outlined options for dealing with the CSL problem at the Cove, but made no specific recommendations.

The Task Force developed a "Call for Action" recommending an approach to addressing the problem and offering resources (money and manpower) to implement it. This Call for Action was endorsed by La Jolla business leaders and sent to the San Diego Mayor in early November 2016.

As of this date, there has been no response to the Call for Action other than a routine acknowledgement of receipt.

The City has funded a second study by Dr. Hanan, the results of this study provide most of all of the content in the MCMP. It is dated May 1, 2017.

LJTC Call for Action Summary

The Task Force that developed the Call for Action carefully studied the Hanan, 2016 report and agreed that its analysis of the CSL problem is entirely consistent with the experience of the La Jolla community. The Call for Action summarized the problem as follows:

- The CSL occupation of the La Jolla Cove area does indeed pose a serious public health and safety problem.
- The CSL population is expanding rapidly, so without mitigating action the problem will very likely get worse and spread to other areas in San Diego and elsewhere in southern California.

- Under the Marine Mammal Protection Act (MMPA), there are legal methods for moving and excluding CSLs from areas where they pose a hazard to human safety and property.

The Call for Action recommended a specific set of actions to be taken by San Diego government officials and offered the assistance (manpower and funding) of the La Jolla Community.

Summary of Recent San Diego City Actions

According to MPCA, in November, 2016, the City conducted an "expert panel workshop" (partly via teleconference) to discuss the CSL problem in the Cove area. These experts agreed that "sea lions inhabiting and reproducing near a large southern California city is new and certainly rare." They also agreed that their population is likely to expand, and that "sea lion behavior [warrants] the need for constant attention by the City."

The MPCA says that the Workshop concluded that "the situation in La Jolla [is] an opportunity for the City to be a world leader in wild animal management." No representatives of the La Jolla Task Force were consulted, and as far as we know, there was no input from frequent users of the La Jolla Cove beach or other members of the La Jolla Community who must live with the problems caused by the CSLs.

The MCMP is a lengthy document (91 pages) that is almost entirely description and analysis by a scientific expert (presumably Dr. Hanan). The very small fraction that addresses policy issues may include input from City authorities, but there is no way to tell. In any case, the City claims responsibility for the entire report.

The MCMP expands the earlier Hanan, 2016 report by: (1) widening the focus from the Cove area to include the entire Scripps Pier to Windansea Beach area; and (2) providing much more detail about the wildlife frequenting this area and the way other communities have dealt with problems caused by CSLs. While this wider and deeper study is useful and interesting, it doesn't change anything. That is, the problem description is the same as in Hanan, 2016, as are the potential solutions.

From the Task Force perspective, the MCMP omits serious consideration of several important factors. The most important is that CSLs are very different from the Harbor Seals (seals) that occupy the nearby Children's Pool area. Seals are not aggressive, don't like crowding, and their densest population is in the winter pupping season when very few people want to use this beach (it is closed to humans from 15 December to 15 May). Humans do share the beach with the seals in the other seven months, but relatively few of them are there. In contrast, CSLs are several times larger, have a social structure with bulls controlling harems as large as 30 females, can be very aggressive with each other or other intruders, rest in very close contact, and have the densest population in their summer pupping season when the Cove Beach is most popular with human users (the Cove Beach is used all year by divers and swimmers). Their waste contaminates the shoreline and nearby ocean, thereby causing health hazards for humans.

Also, the MCMP does not even mention the effect of the growing CSL population on the adjacent marine protected areas. The ocean adjacent to the La Jolla Cove is within the Matlahuayl State Marine Reserve (SMR) where taking of all living marine resources is prohibited. CSLs are very large (adults weigh 250-800 lbs.) fish-eaters. A single CSL will take far more fish per year than any recreational diver or shoreline angler. What effect does this have on the "protected" fish population? Is there a conflict between the legally mandated protection of marine life in these reserves and the reluctance to disturb the growing CSL population that feeds there? These questions should be addressed in a comprehensive "Marine Coastal Management Plan."

The penultimate section of the MCMP provides a list of alternatives for addressing the CSL problem. These alternatives are essentially the same as those in Hanan, 2016, but they are presented more clearly and crisply. They are as follows (details are provided for each, but are omitted here for brevity):

Alternative A: No Change

……. This method would likely lead to loss of public beach areas as pinniped populations *increase.*

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

Alternative C: Harass pinnipeds off select beaches and bluffs

Alternative D: Fencing

Alternative E: Livestock fencing

Alternative F: ***Preferred Alternative***

A mix of selected management measures described above:

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

The Task Force notes that it found an attractive Alternative not mentioned in the MCMP. This is a tested and proven method for excluding CSLs from selected areas without unsightly fencing or harassment. This is should be considered in a comprehensive MCMP.

Conclusions

The "Marine Coastal Management Plan – La Jolla" concludes with a section called "Action Items." This section retreats from straightforward action to implement Alternative F, the "Preferred Alternative." Instead it recommends that the City Implement Alternative A, extended a bit with Alternative B, plus some fencing to keep the large and mobile CSLs from invading "urban areas." A weak acknowledgement of Alternative F (Preferred Alternative) is added via this sentence: *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.*

So it seems that the final recommendation of the "Marine Coastal Management Plan – La Jolla" is to implement the same beach-sharing approach used to deal with the Harbor Seal occupation of the Children's Pool area, plus a statement that someday the City might allow solutions that protect the beach for exclusive human use.

While beach sharing can be said to work at Children's Pool (albeit with continuing controversy), it works as well as it does due to the very different behavior of Harbor Seals. As described in the earlier discussion of important factors not emphasized appropriately in the MCMP, CSLs have very different characteristics that make human/CSL beach sharing impractical and unsafe. Allowing humans to use a beach occupied by large numbers of CSLs will pose serious public health and safety problems. This will limit human use and probably eliminate it eventually. This is the growing threat that motivated the formation of the Task Force. This Task Force recommends immediate ACTION to implement the Preferred Alternative (Alternative F) described in the MCMP.

Finally, the La Jolla Community strongly recommends that the City listen to input from the people who live in La Jolla who want to preserve human recreational use of our beaches. The La Jolla community is willing and able to provide manpower and financial support to implement and sustain solutions toward that objective.

LJTC Community Task Force ~ California Sea Lion Occupation of LJ Beaches
Position Statement on Recent City Decisions and Actions

In the Spring of 2016 the La Jolla Town Council responded to community concern about the serious public health and safety problems caused by California Sea Lion (CSL) colonization of the La Jolla Cove area by creating a Community Task Force to study the problem and develop recommendations for dealing with it. The following pages summarize what has happened since then. Key points are as follows:

- The Task Force studied the problem with input from pinniped experts, relevant government agencies, and representatives of Cove users and local businesses affected by the CSL colonization. It summarized its conclusions and recommendations in a "Call for Action" submitted to the Mayor in November, 2016. To date have received no reply.
- The City developed a "Marine Coastal Management Plan – La Jolla" (MCMP) dated May 1, 2017, without involvement of the LJ and SD Communities. Further we see no evidence of significant input from the Task Force, Cove users, local businesses, or other broadly based Community representatives.
- However, since the Task Force and City had access to the same information (except for Community input), the "Call for Action" and MCMP generally agree on the scope and seriousness of the problem and alternatives for addressing it. In fact, the "Preferred Alternative" described in the MCMP is essentially the same as the Action recommended by the Task Force.
- Unfortunately, the MCMP deviates from the Task Force recommendations in two important ways:
  1. A stated objective of the MCMP is that "the situation in La Jolla [is] an opportunity for the City to be a world leader in wild animal management." That's nice, but it is also nice to ask the opinion of people living near those wild animals.
  2. The MCMP Action plan does not include implementation of its "Preferred Alternative." Instead, the planned action is to allow and even encourage CSL-human sharing of the Cove area, including the beach. The large size, preference for crowding, and often aggressive behavior of the CSLs makes this impractical. It certainly will not solve the existing and increasing public health and safety problems the Task Force was created to address.

We have two recommendations for the City:

- *Public health and safety should be a very high priority for City authorities. Modify the MCMP accordingly.*
- *Gather and respect input from the La Jolla community. These are the people who live near the CSLs, and their opinions should be considered.*
- The Task Force recommended a solution and sent it to the City authorities in November, 2016. So far, the City authorities have not acknowledged or responded directly, but seem to have been addressing the issues independently and recently released a document called "Marine Coastal Management Plan – La Jolla." It provides a thorough study of the problem and alternatives for dealing with it. The LJ Task Force strongly supports the "Preferred Alternative." solution in their own consultant-funded report. However, the City **retreats from its own Preferred Alternative in its own report to a human/pinniped beach-sharing solution**. La Jolla has ample experience to know that this approach does not work. It inevitably leads to excluding human use for most or all of the year.

- The City plans to address the CSL problem at the Cove by **signs** which have been installed and **gates on the stairs** to the Beaches, an inconvenient barrier to human access in order to keep CSLs from polluting more than the beaches.

- *What we do know is that the City has a choice to make – is the beach for human recreation or CSL convenience? The La Jolla Community has treasured recreation at the La Jolla Cove and surrounding area for more than a century, and it very much wants to keep it. Come to the July 13th 2017 LJTC Monthly Meeting and let your voices be heard!*

From:	Volker Hoehne
To:	Larry, Asakawa; ExecutiveStaff@Coastal; Brownsey, Donne@Coastal; Hart, Caryl@Coastal; Turnbull-Sanders, Effie@Coastal; Aminzadeh, Sara@Coastal; Steve.padilla@coastal.ca.gov; Escalante, Linda@Coastal; Rice, Katie@Coastal; Wilson, Mike@Coastal; Groom, Carole@Coastal; Uranga, Roberto@Coastal; Harmon, Meagan@Coastal; Mann, Zahirah@Coastal; Wayne Kotow; Hoffman, Kurt; Dan, Walsh; Carney, Kaitlin@Coastal; Leslie, Kanani@Coastal
Subject:	Application No. 6-22-0113 seasonal closure of Point La Jolla- Richard Requa sea wall.
Date:	Thursday, March 10, 2022 6:37:27 PM
Attachments:	Asakawa_01[3670].pdf

Honorable Coastal Commissioners.
The Application No. 6-22-0113 seasonal closure of Point La Jolla

I would like to bring your attention that the sea wall south east of point La Jolla is architecturally and historically significant. It was designed by the father of Southern California Style Richard Requa in 1925. he was an American architect, was known for his work in San Diego, California. Requa was the Master Architect for the California Pacific International Exposition held in Balboa Park in 1935–36. He improved and extended many of the already existing buildings from an earlier exposition, as well as creating new facilities including the Old Globe Theater.

His designs were predominantly in the Spanish Revival architectural style, occasionally blending them with American Craftsman influences, working to preserve San Diego's Spanish-influenced history. His firm, Requa and Jackson, were the architects of choice in San Diego during the 1920s, dominating the area with their "Southern California Style" that blended Mediterranean and Mission stylings.

We ask the commission to preserve this historic San Diego icon. Prohibit graffitiing and signage on the Richard Requa sea wall.
Please see attached images of graffiti.

--
Volker Hoehne MBA-- 619 994 4175


DO NOT APPROAC
SEA LIONS


DO NOT APPROACH
MOTHERS OR PUPS

From:	Carney, Kaitlin@Coastal
To:	Carney, Kaitlin@Coastal
Subject:	FW: La Jolla Beach closures
Date:	Monday, March 14, 2022 1:08:17 PM

From: Seth Maxton <puntnsurf@gmail.com>
Sent: Thursday, March 10, 2022 10:02 AM
To: ExecutiveStaff@Coastal <ExecutiveStaff@coastal.ca.gov>
Subject: La Jolla Beach closures

Team,

I am out of town and unable to attend the meetings tomorrow discussing Point La Jolla. I wanted to pass along one man's opinion. I am in the water there very frequently and have been for the last 15 years so I am very familiar with the setting and how the current situation is unnatural, unhealthy and also potentially takes away from citizens' rights. See below from my Facebook post. Thanks for your consideration.

DO YOU KNOW THAT THE PUBLIC IS ABOUT TO LOSE ACCESS TO ONE OF THE JEWELS OF SAN DIEGO?

For people that have spent decades swimming, diving and recreating at Point La Jolla, La Jolla Cove and Boomer, we know that the sea lion expansion at Point La Jolla is an aberration. This quantity of animals never existed in the past. What has happened here is exactly what occurred in many of our National Parks over the last 2 years. Wildlife blossomed and exploded everywhere in the absence of human beings. A quick Google search will provide evidence of this. The difference between Point La Jolla and Yosemite, Yellowstone, Glacier, etc. is that humans were allowed to "re-invade" these National parks where human contact was limited due to regulations and intimidation at Point La Jolla. Now we have a situation that is completely unnatural (most of the public DOESN'T know this) and unsafe for both animals and humans. So what do we do?

The sea lions are here now and there isn't a humane way to change this quickly. I also appreciate their presence and enjoy being able to experience them in the water and out. However, I also appreciate being able to enjoy the waters and the majesty of La Jolla as a fisherman, surfer and diver. A compromise for all is:

1 - Put up K-Rails around area to protect sea lions. Leave No Man's unaffected and accessible. If you look at pictures pre-Covid, you will see that the sea lions NEVER dominated the cliffs south of Point La Jolla they way they do now. They don't need all of the cliffs and beach to breed. They didn't for the last 100 years...why do they now?

2 - Sign the area heavily on the wall and the K-rails. Contrary to popular belief, there is currently very minimal signage advising people to stay away from the sea lions.

3 - Deter people from going inside the K-rails.

THIS COULD BE DONE BY 3 PEOPLE IN A DAY. The city of La Jolla and concerned citizens have spent millions of dollars in actual $$$ and man-hours from all affected to try to come up with a solution when the above three steps can be done in a day. Come on now.

People of San Diego, realize that once you lose something...you don't get it back. The Children's Pool is evidence of this. Make your voices heard and protect access to YOUR beaches and wild spaces.

#pointlajolla #lajollacove

Provided by: John Leek

To California Coastal Commission:

On the matter of closing off public areas in the Coastal Zone for Federal convenience.

Materials here submitted are to help the Commission push back against Federal overreach in defense of the California State Constitution and the Coastal Act.

Federal forces from NOAA/NMFS have pressed San Diego for decades to carry out pinniped protection actions at local expense that NOAA has also claimed were exclusive federal jurisdiction. (MMPA sec 109a). NOAA SW has pressed San Diego to bear the cost and responsibility to protect marine mammals to the detriment of its citizens and bypass the State Constitution and Coastal Act coastal access protections. But Federal goals do NOT always "override" State governments.

Because San Diego held its Local Coastal Plan, the CCC was forced to help San Diego carry this out at Children's Pool, though not without imposing severe conditions and proof of claims. During deliberations, it was found that rescued seals were released by Sea World under NOAA direction predominately in La Jolla for a decade. The same is going on with sea lions at La Jolla.

Now San Diego has the unwarranted burden of seal and sea lion welfare, after NOAA spent 25 years overbuilding their populations as it described; "Exceeding the carrying capacity of their environment". (NOAA Stock Assessment Reports = SARS). Sea lions had fled the Channel Islands to effect an ecological imbalance on the West Coast. They are bigger, bolder, faster, more prolific than harbor seals. And with federal funding, entitled to free emergency medical care and right of access to California coastline exceeding that of citizens. See folder "Release Tag Research". Of course they have prospered better than, and to the detriment of other species. Anyone opposed to this is labeled an animal hater, just for seeking equal protection under the law.

Here, the holder of a Local Coastal Plan needed a permit to force citizens from a public beach because other possible solutions were unworkable or very expensive and would cause public backlash. A tourist attraction had gotten out of hand but actions concerning marine mammals were clearly federal, and only driving the animals away in a kindly manner was allowable under the Marine Mammal Protection Act (MMPA). Animal rights activists saw leverage for the taking, to "Blackfish" San Diego. The Coastal Commission has to help the holder of the Local Coastal Plan, however reluctantly unless evidence can be found it should not.

This package contains the documentary evidence needed for the Commission to help San Diego uphold the Coastal Act and State Constitution and State Lands Commission and challenge NOAA officials to produce proof of jurisdiction on State land where it has implanted pinnipeds. Then

help San Diego find ways to accommodate a flood of flippered hungry immigrants that San Diego finds useful as a tourist attraction (valuable natural resource) but need not drive its own citizens out. Solutions NOAA Office of Protected Resources might help with, but not impose for its benefit alone.

The illegality of closing Point la Jolla to the public

The public area closure was effected by posting signs, just saying AREA CLOSD with City statute §63.20.13 Here it is.

Rules to be Followed; Posting
It is unlawful for any person, firm or corporation within the limits of any beach areas of The City of San Diego to do any act or acts contrary to the rules established by the Director for the use of the beach area, provided, however, that the rules shall be conspicuously posted in the beach area.

OK, that limits Park rangers to citing people found knowingly violating a posted ordinance.

However, it is being interpreted to mean the Director can make rules as he pleases that are not laws and by posting his personal rule with §63.20.13 under it – has an enforceable statute.
The Director of Parks and Rec can write and enforce his own laws?
Had this been submitted to the CCC (or the City Attorney) for normal review cycle that might not have flown.

The "Emergency Closure" of Point la Jolla was suspicious from the beginning, supposed to be a response to an unexpected and immediate danger of some sort. Yet Parks and Recreation department had been paying special attention to the situation for years. Ranger interns began in 2017 to educate the public all about the situation on weekends, yet had never observed a need to take protective action. Real rangers only replaced the interns after the interns graduated, but those still reported no harmful actions nor made any reports of such to the proper federal authorities. Every claim came from unrecognized "Docents".

In June 2021 with a new "pupping season" begun there was no verification by rangers of sea lion pup infanticide or injurious or deadly harassment. If there ever had been such, then Parks and Rec should have applied for a correcting action permit well before. As holder or the Local Coastal Plan, San Diego could have issued itself a real CDP to effect the alleged needs. The Coastal Commission could have evaluated it then. It gets worse.

§63.20 Beach Areas — Authority and Control
(a) The Park and Recreation Department of the City of San Diego shall have jurisdiction and control over all beaches owned or controlled by the City of San Diego and all waters abutting or adjacent to them within the limits of the City of San Diego, and of all lands owned or controlled by the City, adjoining the waterfront of the Pacific Ocean and the waters of Mission Bay, and it shall be responsible for the control and management of these beaches and lands, and waters abutting or adjacent to them, and of the recreational activities on them.

So this trick only works on beaches and only rangers can enforce it. It forms a closed localized legal system. Or seems to. If you read it as such and nobody challenges it, then it will be legal precedent. All over California.
It would be regrettable if Parks and Rec has read the situation correctly and the CCC will notice nothing presumptive here.

The offered solution.

In the face of a State jurisdiction question, the Commission needs to turn to the State Attorney General, not try to make a ruling itself. And then work only as a State

In the text of the Marine Mammal Protection Act, sec 109a would seem crystal clear.

Sec. 109. (a) [STATE ENFORCEMENT OF STATE LAWS OR REGULATIONS PROHIBITED WITHOUT TRANSFER TO STATE OF MANAGEMENT AUTHORITY BY SECRETARY.] — No State may enforce, or attempt to enforce, any State law or regulation relating to the taking of any species (which term for purposes of this section includes any population stock) of marine mammal within the State unless the Secretary has transferred authority for the conservation and management of that species (hereinafter referred to in this section as "management authority") to the State under subsection (b)(1)

(NOAA maintains it has never transferred authority to California)
However, the Act defines its jurisdiction within. As in 102(1) "*for any person subject to the jurisdiction of the United States or any vessel or other conveyance subject to the jurisdiction of the United States*." And is every citizen and town and business "subject to the jurisdiction of the United States?" No.

The MMPA is shot through with references like that above like "*It is unlawful for any person who is subject to the jurisdiction of the United States or any person in waters or on lands under the jurisdiction of the United States*." That last term refers lands purchased by or ceded to federal ownership, Forts, customs houses, open ocean water or navigable rivers. Look it up.

If there is any document issued by NOAA/NMFS asserting MMPA jurisdiction on dry state land, we have not found it. So if federal authorities want their animals cared for and protected per its instructions within the Coastal Zone, they have to propose a State program with expenses met by federal funds. The best example is the stranding rescue programs – even though Sea World does not seek federal grant money for its work, all other rescue organizations in California do.

Establishing State sovereignty over the Coastal Zone, free of federal unwarranted claims to control of any such lands that a pinniped happens onto is a fundamental CCC meed. Otherwise the federalization of Local Coastal Plans will be repeated all over California. In fact, it already has.

The Local Coastal Plan for San Diego should not have been altered or dictated by force of bad federal ideas, not now nor in the future.
Good coastal management of pinniped infested areas is best handled simply with concern for local costs and liability, not federal convenience. Advisory signage on public right of way, City lands, etc. need only say what Judge Timothy Taylor ruled concerning sea lion stench from cliffs below restaurants. "*The City is not responsible for the actions of wild animals*" and a simple warning to tourists and citizens alike at Point la Jolla. "*Enter at your own risk*". NOAA can augment such with all the federal officer it wants.

From: Carney, Kaitlin@Coastal
To: Carney, Kaitlin@Coastal
Subject: FW: Point La Jolla closure issue
Date: Friday, March 18, 2022 7:53:04 AM

From: Mark S. Brown <firstcontactmark@gmail.com>
Sent: Thursday, March 17, 2022 10:15 AM
To: Blistahs <blistahs@googlegroups.com>; Groom, Carole@Coastal <carole.groom@coastal.ca.gov>; Hart, Caryl@Coastal <caryl.hart@coastal.ca.gov>; Brownsey, Donne@Coastal <donne.brownsey@coastal.ca.gov>; Turnbull-Sanders, Effie@Coastal <effie.turnbull-sanders@coastal.ca.gov>; ExecutiveStaff@Coastal <ExecutiveStaff@coastal.ca.gov>; Rice, Katie@Coastal <katie.rice@coastal.ca.gov>; Larry Asakawa <larryasakawa@gmail.com>; Escalante, Linda@Coastal <linda.escalante@coastal.ca.gov>; Harmon, Meagan@Coastal <meagan.harmon@coastal.ca.gov>; Uranga, Roberto@Coastal <roberto.uranga@coastal.ca.gov>; Aminzadeh, Sara@Coastal <sara.aminzadeh@coastal.ca.gov>; Steve.padilla@coastal.ca.gov; Walsh" <upfrontcomms@gmail.com>; Wayne Kotow <wkotow@ccacalifornia.org>; Wilson, Mike@Coastal <mike.wilson@coastal.ca.gov>; Mann, Zahirah@Coastal <zahirah.mann@coastal.ca.gov>
Subject: Point La Jolla closure issue

Distinguished leaders,

I am so fortunate to have intensely enjoyed Scripps Park, La Jolla Cove, and Point La Jolla for a full forty-five years now. I vividly recall in 1977 discovering this jewel of a city park as an ocean lifeguard. The beauty of this rocky coast, the sheer majesty of the sea life, the power of the ocean so up close and personal has been an amazing source of joy in my life.

From lifeguard to dive instructor to Boomer bodysurfer to San Diego paramedic, kayak guide, Park volunteer, ocean safety instructor, I have stayed this course. To me personally, this spot is hugely significant. That said, the latest Point La Jolla brouhaha is startling in its implications. The Seal Society has moved in full force to implement their vision of pinniped breeding support with harsh rules and heavy handed enforcement.

The rejuvenation and restorative power I've been blessed with from this Park have been an important part of who I am. Lifeguard, paramedic, swimmer surfer, diver, walker, rescuer, volunteer, regarding Point La Jolla, I have been one lucky s.o.b. Since 1887, the founding of La Jolla, this area has always been a public treasure. Its continuing legacy is directly threatened by this Seal Society-driven closure issue.

My main concern is the overwhelming NEGATIVITY associated with these proposed changes. This is a drastic departure from the 135 years of uncluttered, unfettered ocean vistas and access, degrading the very character of this precious public real estate. Nowadays, dozens of red-painted warnings blight the place, obnoxious signs block historic trails, and the self-appointed harassers (blue-shirted "seal docents") are poking fingers at everybody! It is all worsening this vital public space. It seems to this citizen and from my near five decades of embracing all this Park has to offer, CLOSURE is a poor choice for us all.

Sea lions are not threatened, their local population is likely transient, NOAA has jurisdiction not the City of San Diego, evidence of harm is unproven, impeding coastal access is against State law, these objections and others are numerous and important. Bottom line, this proposed closure is overreaching, overreacting, and ill-advised.

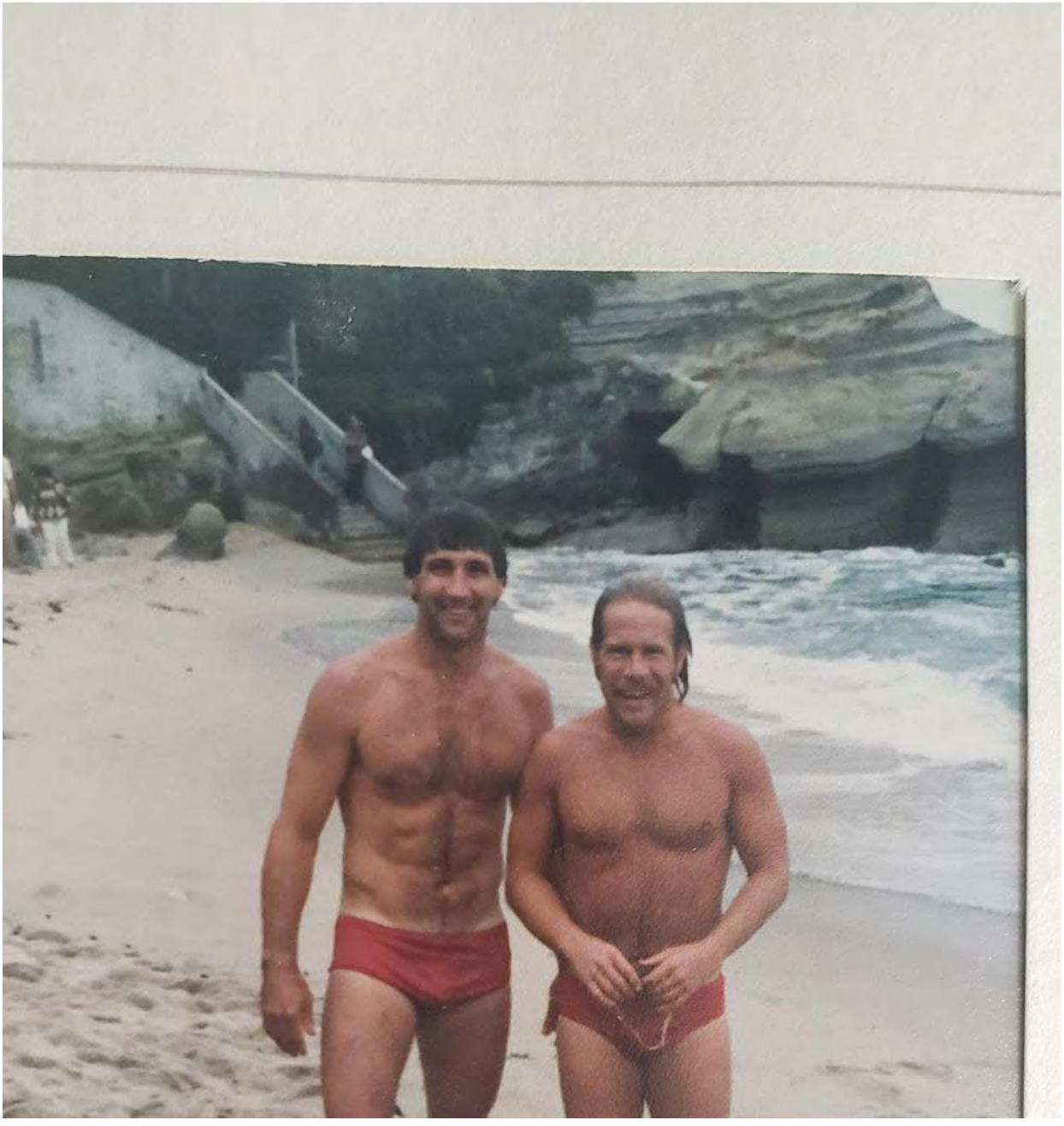
Respectfully,
Mark S. Brown

From: Carney, Kaitlin@Coastal
To: Carney, Kaitlin@Coastal
Subject: FW: Point La Jolla closure issue
Date: Tuesday, March 22, 2022 10:10:10 AM

From: Mark S. Brown <firstcontactmark@gmail.com>
Sent: Thursday, March 17, 2022 6:32 PM
To: Larry Asakawa <larryasakawa@gmail.com>
Cc: Blistahs <blistahs@googlegroups.com>; Groom, Carole@Coastal <carole.groom@coastal.ca.gov>; Hart, Caryl@Coastal <caryl.hart@coastal.ca.gov>; Brownsey, Donne@Coastal <donne.brownsey@coastal.ca.gov>; Turnbull-Sanders, Effie@Coastal <effie.turnbull-sanders@coastal.ca.gov>; ExecutiveStaff@Coastal <ExecutiveStaff@coastal.ca.gov>; Rice, Katie@Coastal <katie.rice@coastal.ca.gov>; Escalante, Linda@Coastal <linda.escalante@coastal.ca.gov>; Harmon, Meagan@Coastal <meagan.harmon@coastal.ca.gov>; Uranga, Roberto@Coastal <roberto.uranga@coastal.ca.gov>; Aminzadeh, Sara@Coastal <sara.aminzadeh@coastal.ca.gov>; Steve.padilla@coastal.ca.gov; Walsh <upfrontcomms@gmail.com>; Wayne Kotow <wkotow@ccacalifornia.org>; Wilson, Mike@Coastal <mike.wilson@coastal.ca.gov>; Mann, Zahirah@Coastal <zahirah.mann@coastal.ca.gov>
Subject: Re: Point La Jolla closure issue

Will do, LA, thanks for the kudos. The Hanan conclusions are the game changer, right? Volker did a fine job with that! It was you who said "local character" matters to the CCC so crafting my argument around degrading our precious Park is my focus. Me been around…see pic.

The fight continues, Glory to Ukraine!



On Thu, Mar 17, 2022 at 6:14 PM Larry Asakawa <larryasakawa@gmail.com> wrote:

> Bravo Mark S. Brown! I heard your testimony last Friday and it's at least as excellent in print!
>
> Could you please send your compelling essay to the La Jolla Light? I think the only change you would need is to remove the salutation "Distinguished Leaders" and send it to the LJ Light as an individual opinion advocating for Ocean Access. MYF
>
> On Thu, Mar 17, 2022 at 7:15 AM Mark S. Brown <firstcontactmark@gmail.com> wrote:
>
> > Distinguished leaders,
> >
> > I am so fortunate to have intensely enjoyed Scripps Park, La Jolla Cove, and Point La Jolla for a full forty-five years now. I vividly recall in 1977 discovering this jewel of a city park as an ocean lifeguard. The beauty of this rocky coast, the sheer majesty of the sea life, the power of the ocean so up close and personal has been an amazing source of joy in my life.
> >
> > From lifeguard to dive instructor to Boomer bodysurfer to San Diego paramedic, kayak guide, Park volunteer, ocean safety instructor, I have stayed this course. To me personally, this spot is hugely significant. That said, the latest Point La Jolla brouhaha is startling in its implications. The Seal Society has moved in full force to implement their vision of pinniped breeding support with harsh rules and heavy handed enforcement.

The rejuvenation and restorative power I've been blessed with from this Park have been an important part of who I am. Lifeguard, paramedic, swimmer surfer, diver, walker, rescuer, volunteer, regarding Point La Jolla, I have been one lucky s.o.b. Since 1887, the founding of La Jolla, this area has always been a public treasure. Its continuing legacy is directly threatened by this Seal Society-driven closure issue.

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Respectfully,
Mark S. Brown

doi:10.7289/V5/TM-SWFSC-574

NOAA Technical Memorandum NMFS

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BREEDING SEASON DISTRIBUTION AND POPULATION GROWTH OF CALIFORNIA SEA LIONS, *Zalophus californianus*, IN THE UNITED STATES DURING 1964-2014

Mark S. Lowry, Sharon R. Melin, and Jeffrey L. Laake

NOAA-TM-NMFS-SWFSC-574

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center

The National Oceanic and Atmospheric Administration (NOAA), organized in 1970, has evolved into an agency that establishes national policies and manages and conserves our oceanic, coastal, and atmospheric resources. An organizational element within NOAA, the Office of Fisheries, is responsible for fisheries policy and the direction of the National Marine Fisheries Service (NMFS).

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doi:10.7289/V5/TM-SWFSC-574

NOAA Technical Memorandum NMFS
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BREEDING SEASON DISTRIBUTION AND POPULATION GROWTH OF CALIFORNIA SEA LIONS, *Zalophus californianus*, IN THE UNITED STATES DURING 1964-2014

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NOAA-TM-NMFS-SWFSC-574

U.S. DEPARTMENT OF COMMERCE
Wilbur L. Ross, Secretary of Commerce

National Oceanic and Atmospheric Administration
Benjamin Friedman, Acting NOAA Administrator

National Marine Fisheries Service
Samuel D. Rauch III, Acting Assistant Administrator for Fisheries

ABSTRACT

Breeding-season distribution and population growth rate of California sea lions (*Zalophus californianus*) in the U.S. population are estimated from counts of pups and non-pups collected during 1964 to 2014. Pup and non-pup count data were compiled from published and unpublished sources. These data showed that during this period the U.S. count of live-pups increased at an average annual rate of 4.7% per year (L95% CI=4.2%, U95% CI=5.2%). Average annual growth rates of live-pup counts at the four main island-rookeries in southern California (Santa Barbara Island, San Clemente Island, San Nicolas Island, and San Miguel Island; hence fore referred to as the Main Channel Islands) ranged from 4.2% to 5.5% from 1964 to 2014. The Channel Islands count of non-pups (non-pup counts were unavailable for the entire U.S. population prior to 2003) increased at an average annual growth rate of 2.8% per year (L95% CI=2.4%, U95% CI=3.4%). San Nicolas Island and San Miguel Island were the largest rookeries in the U.S. population, both having the most pups and non-pups. Prior to 1990, 59.2% of live pups counted in the Channel Islands were on San Miguel Island, and 32.4% were on San Nicolas Island. After 1990, these islands constituted 44.9% and 45.6% of Channel Island pups, respectively. California-wide surveys conducted during 2003-2005, 2007, and 2011-2013 indicated that the Main Channel Islands rookeries accounted for 99.71% of live pups counted in California and 77.35% of hauled-out non-pups in California during the breeding season. Sea lion counts were modeled (using generalized linear modeling) as a function of sea level height at Los Angeles, California (SLH-LA), Pacific Decadal Oscillation (PDO), North Pacific Gyre Oscillation (NPGO), and Multivariate El Niño Index (MEI). This model indicated that more pups were produced during cold-water conditions and fewer pups were produced during warm-water conditions, and that fewer non-pups were present at southern California rookeries during warm-water conditions and more were present during cold-water conditions.

INTRODUCTION

California sea lions (*Zalophus californianus*) are distributed from central Mexico to Alaska. The primary California sea lion (CSL) rookeries in the United States (U.S.) are located at the Channel Islands in southern California (Figure 1) and are separated by approximately 600 km from the primary rookeries of western Baja California, Mexico. The U.S. and Mexico populations are genetically distinct (Schramm et al., 2009). Although mixing of individuals occurs within their range, it is hypothesized that philopatric behavior, physical oceanography, and foraging behavior are responsible for creating five genetically distinct stocks of the species (Schramm et al., 2009). Schramm et al. (2009) called the U.S. population the Pacific Temperate population, but here CSLs found in the U.S. during the breeding season will be referred as the U.S. population.

The number of CSLs in southern California expands and contracts during various times of the year as individuals from Mexico enter and leave the area and as individuals from the Channel Islands in southern California migrate southward into Mexico or northward as far as British Columbia, Canada (Bartholomew, 1967; Mate, 1975; Bonnell et al., 1980, 1983; Bigg, 1988; Huber, 1991) and Alaska (Maniscalco et al., 2004). Sexually mature CSLs return to a rookery in the summer for pupping and breeding. Rookeries on four of the Channel Islands (Santa Barbara Island [SBI], San Clemente Island [SCI], San Nicolas Island [SNI], and San Miguel Island [SMI]; Figure 1) are the reproductive center of the U.S. population (Lowry and Maravilla-Chavez, 2005). Although a few births occur at Anacapa Island, Santa Catalina Island, Año Nuevo Island, and the Farallon Islands (Figure 1) or various other sites in central California (Pierotti, et al., 1977; Keith, et al., 1984; Lowry and Maravilla-Chavez, 2005), these sites did not qualify as rookeries previously because fewer than 50 pups were produced at those sites. Since 2007, the accepted definition of a pinniped rookery is one where >50 pups are born annually (Pitcher et al., 2007).

The CSL breeding season at rookeries in the U.S. begins in mid-to-late-May when full-term pups are born, and sub-adult and adult males arrive at the rookery. Adult females are generally year-round residents at the rookeries. Juveniles are present at rookeries year round, as well as at other haulouts throughout California. The number of newborn pups and adult males present at southern California rookeries reaches maximum on or about July 2 (Heath and Francis, 1983, 1984; Stewart and Yochem, 1984, 1986). Soon after that date, the numbers of pups

decrease due to mortality and sub-adult and adult males begin to depart the rookery, leaving adult females at the rookery to forage in local waters and raise their pups. Many sub-adult males and adult males remain at the rookeries until late July, but most migrate north by early-to-mid-August.

Records of historic exploitation and distribution were compiled from the literature and personal communications by Helling (1984), Cass (1985), and Seagars et al. (1985). Extensive hunting of CSLs for their oil and hides took place in the middle 1800's resulting in population declines (Bonnot, 1928). Sea lions were protected by California laws passed in 1909 and 1927, but only in certain regions of the state (Bonnot, 1928). Until the Marine Mammal Protection Act (MMPA) became law in 1972, CSLs continued to be hunted for pet food, hides, trimmings, display (public and scientific), sport, and bounty; and also were killed to reduce fishery depredation and for target practice. It is assumed that when the MMPA was passed in 1972, the population size was below pre-exploitation levels, but to what extent cannot be determined from historical records.

The first documented counts of CSLs in California were made in 1927 and were continued intermittently until the mid-1970s, after which annual counts were made for most years (Bonnot, 1928, 1931, 1937, 1938; Bureau of Marine Fisheries, 1938; Bonnot and Ripley, 1948; Bartholomew and Boolootian, 1960; Ripley et al., 1962; Carlisle and Aplin, 1966, 1970, 1971; Frey and Aplin, 1966, 1970; Bonnell et al., 1980; Lowry and Maravilla-Chavez, 2005). Pups at all four major Channel Island rookeries were first counted during the breeding-season in 1964 (Odell, 1971). The counts were made by biologists on the ground or in small boats and from black-and-white or color photographs taken with small-format and large-format aerial cameras which were either hand-held for oblique photography or mounted vertically inside the aircraft (Table 1).

A complete census of CSLs using counts of hauled-out individuals is not possible because not all age classes are ashore at the same time. In the 1980's counts of pups became the principal age class used for monitoring the CSL population in the U.S. because it is the only age class available for a complete census (DeMaster et al., 1982; Boveng, 1988; Lowry et al., 1992; Lowry and Maravilla-Chavez, 2005). Newborn pup counts have been used to estimate total population size (using a life table model to extrapolate abundance for the other age classes) and to estimate population growth rates (Boveng, 1988; Lowry et al., 1992; Lowry and Maravilla-

Chavez, 2005). Although pups were sometimes surveyed in June before all were born, most surveys were conducted in July, and sometimes in August, after virtually all births had occurred. The slightly inconsistent timing of surveys adds measurement error to the time series in the sense that the fluctuations in the annual count data are in part due to variation in the survey timing rather than true variation in pup production.

In the 1980's ground counts of CSL pups was the primary method used for estimating pup abundance, but large groups of them could not be counted accurately and either a large workforce would be required or a long time-period would be needed to count them over a wide geographical area. In 1987, researchers at the Southwest Fisheries Science Center (SWFSC) developed aerial photographic survey methods using a 126-mm-format surplus military recognizance camera mounted inside a low flying aircraft to census northern elephant seals (*Mirounga angustirostris*), Steller sea lions (*Eumetopias jubatus*), and CSLs (Lowry et al., 1996; Westlake et al., 1997; Lowry, 1999). Counts of CSL pups at San Nicolas Island during 1992-1994 from aerial color photographs taken with this camera were shown to be as accurate (and in some cases more accurate) than ground counts (Lowry, 1999). Subsequently, aerial photographic surveys became the primary method used to census CSLs and other pinniped species in the U.S.

Here, counts of CSLs in the U.S. population during the CSL breeding season are summarized for 1964 to 2014. Pup and non-pup count data from published sources were compiled with previously unpublished data collected by the NOAA Southwest Fisheries Science Center and Alaska Fisheries Science Center (AFSC). A method is presented for correcting live-pup counts that were made prior to the maximum or peak count to obtain annual pup estimates that are more comparable through time. This paper provides estimates of U.S. CSL population growth rates from counts of live pups and non-pups during 1964-2014 and describes geographical distribution of CSLs in California during the breeding season.

METHODS

Survey methods

CSL surveys were first designed to count every pup, and later included other age/sex classes present on land. Surveys were conducted primarily via ground counts through the mid-

1980s. A mix of ground counts and aerial photographic survey methods were used through the 1990s and 2000s. Ground count data was used in the analysis when aerial photographic count data was not obtained.

For ground counts, CSLs were tallied by biologists on the ground using mechanical hand-counters; animals were observed directly or through a hand-held binocular or tripod-mounted spotting scope. Ground counts were made by one or more biologists over several days, depending on the size of the island. Because the counts were conducted when pups were too young to swim, double counting on subsequent days was not a concern for pups. However, movement of non-pups does occur, so we assume that their rate of movement during the survey period is constant within a rookery, between islands, and between wide geographical areas. At SBI, sea lions were also counted from a small boat 20-30 meters offshore. Ground and boat-based counts at SBI, SCI, and SNI were made in a manner that would minimize disturbance to sea lions. Disturbance counts of CSL pups were required at SMI in some areas that were not countable from a distance. In these areas, biologists herded pups into small groups and counted them as the pups streamed out of the herd.

For aerial photographic counts, CSLs were counted from vertical aerial photographs taken with a high-resolution aerial film camera during 1987-2009 or with a digital single lens reflex (DSLR) camera during 2011-2014. Aerial photographic surveys were conducted with a twin-engine, high-winged Aero Commander Twin 500B (1991-1994 aerial photo surveys of Año Nuevo Island) or with a Partenavia P-68 (1992-1993) or Partenavia P-68 Observer model aircraft (1987-1990 and 1994-2014). The glass nose of the Partenavia P-68 Observer model aircraft provided the pilot with excellent forward and downward views for aligning the aircraft over beaches or rocks and became the preferred aircraft for aerial photographic surveys of CSLs. Aircraft were flown at a ground speed of 185 km/h (100 knots) and at an altitude of approximately 213 m (700 ft) during 1987 to 2009 or approximately 244 m (800 ft) during 2011 to 2014, except at the Farallon Islands and SBI where the aircraft was flown at approximately 396 m (1300 ft) to prevent disturbance to nesting seabirds. The low altitude and lens configuration (see below) ensured that CSLs could be detected on rocky substrates (especially when animals were wet and consequently darkly colored), aided in identification of different pinniped species and CSL age/sex classes, and enabled accurate counts from aerial photographs. All CSLs onshore were photographed. The aircraft was flown directly over the coastline or

slightly offshore or inshore to locate and photograph sea lions onshore. Multiple overlapping photographic passes were made over large rocks or portions of coastlines and beaches to ensure that all hauled-out CSLs were photographed. Surveys were made without regard to tidal conditions and at any time of day between approximately 2 hours after sunrise and 2 hours before sunset. Aerial photographic surveys of CSLs in California took one to two weeks to complete.

Prior to the use of digital cameras in 2011, sea lions were photographed with a 126-mm-format Chicago Aerial Industries, Inc. KA-45A or KA-76 military recognizance camera equipped with forward motion compensation and operated at a cycle rate that achieved 67% overlap between adjacent frames. The location of each photograph was recorded by linking the camera to a laptop computer and Global Positioning System (GPS) receiver. The camera was attached to a gimbal camera-mount placed vertically over a camera port inside the aircraft and was manually leveled with a bubble level to obtain a vertical image. A 152-mm-focal-length lens was used for low altitude photography (i.e., altitude of approximately 213 m [700 ft]) and a 305-mm-focal–length lens was used for higher altitude photography (i.e., altitude of approximately 396 m [1300 ft]). The camera was set at an aperture of f/5.6 with a shutter speed between 1/400 second and 1/3000 second. Three types of film were used: (1) Kodak Aerochrome MS Film 2448, a very fine-grained, medium-speed, color transparency, film was used during 1987-1999, (2) Aerochrome HS Film SO-359, a very fine-grained, high-speed, color transparency film was used during 1997-2005, and (3) KODAK Aerochrome III MS Film 2427, a very fine grained, medium-speed color-reversal aerial film was used during 2003-2009.

Two different DSLR cameras were used during 2011-2014. During 2011through 2013, CSLs were photographed with a Canon EOS 1Ds Mark III, full-frame 21.1-megapixel DSLR camera having a Zeiss 85-mm-focal-length lens for photographing at an altitude of approximately 244 m (800 ft) or a Canon 135-mm-focal-length lens for photographing at an altitude of approximately 396 m (1300 ft) altitude. In 2014, CSLs were photographed with a Canon EOS 5D Mark III, full-frame 22.3-megapixel DSLR having a Zeiss 85-mm-focal-length lens for photographing at an altitude of approximately 244 m or a Zeiss 135-mm-focal-length lens to photograph CSLs from 396 m altitude. Image motion compensation was achieved using a custom-made rocking mechanism in the camera mount (manufactured by Aerial Imaging

Solutions[1]). The focus ring of the 85mm lens was immobilized with tape when focused at approximately 244 m and the 135 mm lens was taped when focused at approximately 396 m. A laptop computer was connected to the camera, a GPS receiver, radar altimeter, and controlled the camera's forward motion compensation mechanism. A video camera and monitor provided a view through the camera's viewfinder which allowed the operator to see what was being photographed. For each photograph, the computer recorded the geographical position, date and time the photograph was taken, altitude from the GPS and radar altimeter, lens being used, and ground speed of the aircraft in a comma separated variable (csv) text file. The DSLR camera was attached to a gimbal camera-mount placed vertically over a camera port inside the aircraft and the camera was manually leveled at the vertical position with a bubble level. The computer controlled all camera functions. Camera aperture was set at f/5.6 in aperture priority shooting mode and shutter speed was set at or above 1/800 second by changing the ISO image sensor setting between 100 and 1000. Photographs were overexposed by +1/3 f-stop (for sunny condition) or +2/3 f-stop (for overcast condition). White balance in the camera was set on automatic, and all photographs were taken in JPEG image file format set at fine image quality and at 3:2 aspect ratio. The camera was operated at a cycle rate that achieved 40% overlap between adjacent photographs, and occasionally at 60% overlap for short photographic passes.

CSLs in 126-mm-format transparencies were counted through a 7-70X zoom binocular microscope as the photographs were back-illuminated on a light table. Images of animals were counted and marked on a clear acetate overlay with a different colored pen for each age/sex class category (see "Age-sex classes counted" below). Marks on the acetate were compared and verified with overlapping photographs. If all animals could not be counted in one photograph, the overlay was placed on another photograph at the exact location where the count ended previously and the count continued on the uncounted portion. Sea lions swimming in the water within approximately 30 meters of land were included in the count.

CSLs in digital photographs were counted in a two-step process: creation of mosaics from merged photographs and counting CSLs in the mosaics. Adobe Bridge CS5 was used to review and select digital photographs, and to initiate the photo-merging process. Adobe Photoshop CS5 Extended, version 12.1 x64 on Windows 7 64-bit operating system, received photographs from Adobe Bridge CS5 and was subsequently used to create photographic mosaics

[1] Aerial Imaging Solutions, LLC, 5 Myrica Way, Old Lyme, CT 06371. info@aerialimagingsolutions.com

from multiple overlapping digital photographs of a beach-section or rock within the Adobe Photoshop software screen on a 24-inch or 27-inch Dell ultra-sharp computer monitor. Photographs were merged together manually using the move tool and transpose tools. Under-exposed or over-exposed images were brightened or darkened with image tools in Adobe Photoshop. The brush tool was used to draw a line to separate and mark animals and to code areas on the mosaic that would be counted. Adjacent mosaic files of photographs were compared, and a brush-line was inserted onto the mosaic to separate counted animals from uncounted ones, or to mark areas where animals should be, or not be, counted. Age/sex class categories for counting were manually entered into the count tool of Adobe Photoshop Extended, each animal was marked with a unique colored dot and number using the computer mouse, and the software maintained a running total of each age/sex class category.

The number counted for each age/sex class category were entered into a Microsoft Excel spreadsheet along with other metadata for the counts (e.g., date, time photo was taken location, area codes) and then converted into a Microsoft Access data-table in a database.

Two types of surveys were conducted over the study period: pup counts and total population counts. Surveys focused on counting pups covered all areas where pups were born and covered a smaller area than surveys focused on counting all animals in the population which included breeding and haulout areas. California-wide surveys for total population counts (excluding the continental coastline of southern California) were conducted in 2003-2005 and 2011-2013 to document breeding season distribution of CSLs within the state and estimate total numbers of CSL for seven age-sex classes.

Age-sex classes counted

When the AFSC census of CSLs began in 1971 and by SWFSC in 1981, the primary objective was to census live-pups because pup counts were to be used for estimating population growth rate, population abundance, and to determine population status. While SWFSC biologists counted live-pups, counts were also made of all "non-pups" which included all age/sex classes except pups. The category "adult males" was first included in counts in 1986. Starting in 1992, CSL counts at all breeding areas and non-breeding haulout areas were expanded to include seven age-sex class categories:

1) Live-pup: Newborns, very small compared to other age/sex classes, dark to lite brown in color when dry, black when wet, short neck and muzzle.
2) Dead pup: Pups that are decomposing, are bloated, partially covered with sand, have a western gull (*Larus occidentalis)* eating it, or which are lying on their side with the head bent back toward the spine as a result of rigor mortis.
3) Juvenile: Larger than live-pups, about one-fourth to two-thirds the length of an adult female with brown or lite brown hair, elongated neck and muzzle. Sometimes found suckling on adult female or lying next to one.
4) Adult female: When dry, most often pelage will be blond in color, but sometimes are dark brown. They are dark grey when wet. Cranial sagittal crest is not present.
5) Young male: They are approximately the same size as an adult female. Cranial crest has not begun to develop, dark brown or charcoal color. During breeding season rarely if ever found within groups of breeding adult females but will be found at the periphery of adult female groups or will be within groups of "bachelor" males or juveniles. When in tide pools they will bark like an adult male and will play-fight with similar sized sea lions.
6) Sub-adult male: Sagittal crest is present and may or may not be fully formed; tuft of white hair on sagittal crest may or may not be present. Pelage is dark brown to grey in color. They do not have a wide chest and neck, and are larger than an adult female.
7) Adult male: Sagittal crest is fully formed and has tuft of white hair. Pelage is dark brown to grey in color. Has a wide chest and neck. Will often be patrolling a territory when in water or on land during the breeding season. When stationary or near vertical in the water, the tuft of white hair on the sagittal crest will be visible.

Study areas, 1971 - 2014

A posteriori geographic strata were created (Figure 1A) for summarizing counts. The California coast was divided into three sections: (1) southern California, which includes the continental coast and all Channel Islands (the Coronado Islands, which are in Mexico, were not included); (2) central California, which includes the continental coastline, offshore rocks, and islands between Point Conception (34° 26.8' N, 120° 28.0' W) and Point Reyes (38°00.0' N, 123°00.0' W) and San Francisco Bay estuary; and (3) northern California, which includes the

continental coastline, offshore rocks, and islands between Point Reyes and the California-Oregon border (42° 0' N, 124° 12.7 W). Secondary, smaller strata within each California section were created as follows: (1) Central and northern California were stratified into 7 zones (zones A, B, and C in northern California; zones D, E, F, and G in central California; see Lowry and Forney, 2005); and (2) southern California was stratified into two zones with one zone consisting of the four principal CSL Channel Island rookeries (referred to as the Main Channel Islands and include SBI, SCI, SMI, and SNI) and the other zone having the remaining islands and rocks (referred to as the Other Channel Islands). The continental coast within the southern California section was not surveyed due to too extremely low abundance of CSLs in that area and safety concerns of flying at low level in a large metropolitan coastal area. Counts were also summarized separately for each Channel Island. The Farallon Islands were divided into South Farallon Islands and North Farallon Islands. Within San Francisco Bay Estuary, only CSLs at Pier 39 in San Francisco (37° 48.6' N, 122° 25.2' W) were surveyed during central California surveys.

CSL ground surveys at SMI by AFSC began in 1971 and aerial photographic surveys at SMI by SWFSC began in 1987 (Table 1; Figure 1B). In most years, AFSC ground surveys were also conducted at Castle Rock, a sub-island located 1 km offshore of SMI. Although aerial surveys at SMI by SWFSC began in 1987, ground counts by AFSC continued to be conducted annually to ensure uninterrupted data collection. When aerial survey data were available they were used for estimates of CSLs at SMI to provide consistency in analysis among areas. While AFSC ground counts were only made of pups, SWFSC aerial photographic counts also included other age/sex classes.

CSL ground and aerial photographic surveys at the Channel Islands in southern California by SWFC began at SCI in 1981and were later expanded to include other islands in southern California and the continental coastline of central and northern California (Table 1; Figure 1B). Año Nuevo Island and the Farallon Islands, in central California, were included in aerial photographic surveys in 1992 and 1995, respectively (Table 1; Figure 1C). The continental coastline in central California and northern California between Point Conception, California and the California/Oregon border was included in aerial photographic surveys in 1998 (Table 1; Figure 1A). At SCI, CSL ground surveys were conducted along the western shoreline between Seal Cove (32° 54.5’ N, 118° 32.3’ W) and 2.2 km south of Mail Point (32° 52.1’ N,

118° 30.4’ W) where all CSL pups at that island are born; aerial photographic surveys included the entire island (however, sometimes the entire island was not accessible due to naval operations). Aerial photographic surveys of SNI covered the entire island and ground surveys covered the southern shoreline between Point Vizcaino (33° 16.7’ N, 119° 34.6’ W) and East End Sand Spit (33° 17.8’ N, 119° 25.9’ W) where CSLs occurred. At SBI, ground surveys and small-boat surveys were conducted during 1983-1998 and aerial photographic surveys were conducted during 1997-2014.

Population Growth Rates and Trends

Population growth rates and trends were examined by combining data collected by AFSC and SWFSC during 1971-2014 (Lowry et al., 1987; Oliver and Lowry, 1987; Oliver et al., 1988; Wexler and Oliver, 1988; Oliver, 1991a, 1991b; Oliver and Wexler, 1991; Lowry, 1999; Carretta et al., 2000; Lowry and Maravilla-Chavez, 2005; M. Lowry and S. Melin, unpublished data; Table 2, 3, and 4) with published data collected by other biologists during 1964-1987 (Carlisle and Aplin, 1966; Peterson and Bartholomew, 1967; Odell, 1971, 1972; Bonnell et al., 1980, 1983; Heath and Francis, 1983, 1984; Stewart and Yochem, 1984, 1986; Francis and Heath, 1991; Stewart et al., 1993; Table 5). Two corrections to live-pup count data were made:

1. Castle Rock correction at SMI: CSL live-pups at Castle Rock, a small sub-island just off SMI, were not counted in every year, but Castle Rock is considered part of the SMI CSL colony. When both Castle Rock and SMI were censused, SMI represented an average of 0.962 of the total for the two sites. The inverse of 0.962 (1/0.962=1.04) provided a multiplier that was applied to the years when Castle Rock was not censused to estimate total live-pups for the combined rookery during 1971, 1972, 1978, and 1981-1984.
2. Correction to counts of live-pups made prior to the peak count date of July 2: Heath and Francis (1983, 1984) and Stewart and Yochem (1984, 1986) provide a series of CSL live-pup counts made during the May-July breeding season (Table 6). The proportion of the maximum-live-pup-count was calculated for each count, year, and source. Logistic regression analysis (Figure 2) was used to obtain the following model describing the relationship between Julian date (x) and relative pup count levels (as a proportion of the maximum counts expected around July 2):

$$y = \frac{1}{1 + e^{-\left(\frac{x-165.1168}{4.8434}\right)}}$$

Multiplying the number of live-pups counted prior to July 2 by the inverse of y (i.e., $1/y$) yields an estimate of the July 2 maximum-live-pup-count, which is the metric used for growth rate and trend analysis in the study. The model fit to the data (Figure 2) was extremely precise (Adjusted R^2=0.972), so error in y is ignored. Counts of dead-pups were not added to the count of live-pups because they were not always counted, and they underestimate pre-census mortality due to decomposition, being covered by sand or washed out to sea.

CSL growth rates were computed from counts of live pups and, separately, from counts of non-pups. For counts of live pups, growth rates were estimated for the following: (1) each CSL rookery (SBI, SCI, SMI, SCI, Año Nuevo Island, and South Farallon Islands), (2) the Main Channel Islands rookeries group (which comprise nearly all pups produced in the U.S. [Lowry and Maravilla-Chavez, 2005]), and (3) the U.S. population (includes counts of pups from all available count data). For counts of non-pups, growth rates were estimated for the following: (1) each CSL rookery (SBI, SCI, SMI, SCI, Año Nuevo Island, and South Farallon Islands), (2) the Main Channel Islands rookeries group, (3) Other Channel Islands group, (4) southern California (includes all Channel Islands combined), (5) central and northern California separately and combined, and (6) Año Nuevo Island and South Farallon Islands combined. The initial analysis year was 1964 because that was the first year that pups were counted at all Main Channel Islands rookeries in the same year during the breeding season (prior to 1964, pups were either not counted or were not counted at all rookeries). Not all rookeries and haulout sites were surveyed every year, therefore, there is some sampling variation due to missing data or due to the use of estimated pup count data. A variety of methods were employed by various researchers to count CSLs (Table 1). Very few pups were produced at non-rookery areas. Any pups produced and not censused at non-rookeries were deemed insignificant and were assumed to have no significant effect on calculations for the U.S. population growth rate estimate.

CSL pup production dropped during 1983, 1992-1993, 1998, and 2009-2010 when El Niño conditions existed in the Pacific Ocean (Lowry and Maravilla-Chavez, 2005). To understand the influence of variability in marine environmental conditions on CSL pup production, four environmental indices were used as covariates in the analysis of CSL population

growth rate: (1) the Pacific Decadal Oscillation (PDO), a large-scale ocean-atmospheric cycle that affects productivity in the Pacific ocean (Mantua et al., 1997), (2) North Pacific Gyre Oscillation (NPGO), a basin-scale ocean-atmospheric cycle that affect the north Pacific ocean and is out of phase with the PDO (Di Lorenzo et al., 2008), (3) Multivariate El Niño Index (MEI), a measure of the El Niño Southern Oscillation cycle at the equator (Wolter and Timlin, 1993), and (4) sea level height at Los Angeles, California harbor (SLH-LA) with its seasonal and linear trends removed so as to index anomalies, as a local measure of environmental conditions (Zervas, 2009). PDO values were obtained from The Pacific Decadal Oscillation website (http://research.jisao.washington.edu/pdo/data; accessed on May 25, 2016). NPGO values were obtained from the North Pacific Gyre Oscillation website (http://www.o3d.org/npgo/; accessed on 20 May 2016). MEI values were obtained from NOAA Earth System Research Laboratory, Physical Science Division website (http://www.esrl.noaa.gov/psd/enso/mei/index.html#Home, last accessed February 22, 2016). SLH-LA values were obtained from NOAA Center for Operational Oceanographic Products and Services website (http://tidesandcurrents.noaa.gov/sltrends/sltrends.html; last accessed March 21, 2016). The October-to-May mean was calculated for each covariate because those months corresponded to the gestation period of CSLs and environmental conditions that affect prey available to pregnant females during this period would affect the annual birth rates. Log-transformed live-pup counts and (separately) non-pup counts were modeled as functions of year, PDO, NPGO, MEI, and SLH-LA, using a backward-stepwise Generalized Linear Model (GLM) with a normal/Gaussian error assumption in Systat 13.00.05 64-bit for Windows software. Rookeries having zero values had a 1 added, as per Sokal and Rolf (1995), to all values before being log transformed to prevent zero data from being eliminated in the analysis. The stepwise GLM model removed insignificant covariates ($p>0.05$). The annual rate of increase (λ) was calculated as e^r where r is the year coefficient of the GLM analysis (Eberhardt and Simmons, 1992). The 95% confidence interval for the year coefficient was used to estimate the 95% CI for λ. The average annual growth rate was calculated separately for counts of live pups and counts of non-pups. Average percentage annual growth rate is computed as $\%= (\lambda-1)*100$.

RESULTS

From 1964 to 2014, counts of CSL live-pups in the U.S. population increased from 6,113 to a high of 67,398 in 2012 and counts of non-pups in southern California increased from 29,875 to a high of 95,814 in 2013 (Figure 3). The California wide total count of non-pups was between 91,772 (in 2003) and 113,141 (in 2013; Figure 3). In 2012 there were 169,813 CSLs (pups + non-pups) counted in California (excluding the continental coastline of southern California; Figure 4). This does not represent the full CSL population size because many non-pups were at sea and, thus, unavailable for counting. During the CSL breeding season, southern California had the most CSLs by age/sex class categories, followed by central California and northern California (Tables 2, 3, and 4; Figure 5). SNI and SMI were the largest rookeries in the U.S. population, having the most pups and non-pups (Tables 2, 3, 4, and 5; Figure 6A and 6B). Prior to 1990, 59.2% of live pups counted in the Main Channel Islands rookeries were at SMI and 32.4% were at SNI (Figure 7A). After 1990, 44.9% of live pups were at SMI and 45.6% were at SNI. The percentage distribution of non-pups amongst the Main Channel Islands rookeries and the Other Channel Islands did not change over the years with SMI having the highest proportion (~50%; Figure 7B).

In years when all the California study areas were surveyed, 99.71% (SD=0.239) of pups counted were at the Main Channel Islands rookeries; 0.29% (SD=0.197) were in central California; 0.05% (SD=0.044) were at Other Channel Islands; none were in northern California (Table 7). Counts of non-pups at the Main Channel Islands rookeries averaged 77.35% (SD=5.040) of the California totals, with 2.40% (SD=1.378) found at Other Channel Islands, 18.96% (SD=3.675) in central California, and 1.29% (SD=1.770) in northern California. Those surveys also showed that San Miguel Island and San Nicolas Island had the greatest percentage of each age/sex class within the state (Table 8).

CSLs were not uniformly distributed in central and northern California (Table 3, Figure 5). More pups were produced at Año Nuevo Island (mean=35; SD=35) and South Farallon Islands (mean=53; SD=60), located within zones D and E, respectively, than at other zones (Tables 3 and 4). Beginning in 2009, more than 50 pups were counted at Año Nuevo Island and South Farallon Islands, qualifying them as new rookeries. Zone E had the most non-pups (mean=7,539; SD=3,121), followed by zone G (mean=6,066; SD=2,866) and D (mean=5,027; SD=2,816). Northern California zones A, B, and C had very few CSLs compared to central

California zones (D through G).

From 1964 to 2014, the U.S. count of live-pups and the count of live pups at the Main Channel Islands rookeries, increased at an average annual growth rate of 4.6% per year (L95% CI=4.1%, U95% CI=5.1%; Table 9). For the same period, the southern California count of non-pups increased at an average annual growth rate of 2.8% per year (L95% CI=2.4%, U95% CI=3.4%) and that of the Main Channel Islands rookeries increased at 2.9% per year (L95% CI=2.5%, U95% CI=3.4%); Table 9). Average annual growth rates from live-pup counts were higher at San Nicolas Island (5.7%) and Santa Barbara Island (5.3%) than at San Clemente Island (4.7%) and San Miguel Island (4.1%). However, average annual growth rates from counts of non-pups at each of the Main Channel Islands rookeries were lower (ranged 2.2% to 3.5% for individual rookeries) than was estimated from counts of live-pups at the same rookeries (Table 9).

Stepwise GLM analysis indicated that the environmental covariates SLH-LA and NPGO were negatively related to the count of live pups at the Channel Islands (i.e., the negative slope of the coefficient indicates that fewer pups were produced as SLH-LA and NPGO increased), and that they were positively related to SLH-LA at the central California rookeries at Año Nuevo Island and the South Farallon Islands (i.e., the positive slope of the coefficient indicates that more pups were produced as SLH-LA increased; Table 9). Likewise, SLH-LA was negatively related to counts of non-pups at San Miguel Island, San Nicolas Island, and the combined Main Channel Islands rookeries group (Table 9). Non-pup counts at the South Farallon Islands increased as MEI increased (i.e., as conditions went from cold-water La Niña to warm-water El Niño) and non-pup counts at Año Nuevo Island increased as NPGO increased. None of the environmental covariates improved the model of non-pup counts for central and northern California (Table 9).

DISCUSSION

During the 1980s and 1990s, CSL pup surveys were emphasized to estimate population status and only the Main Channel Islands rookeries were surveyed regularly; non-pups were not counted regularly and not counted at all the rookeries. With time, other age/sex class categories were counted and SWFSC surveys expanded geographically. Eventually, surveys covered all the

California Channel Islands and the continental coastline of California from Point Conception to the California/Oregon border. These surveys along with published data made it possible to examine statewide CSL population growth rates from counts of pups and non-pups over a fifty-year period, and allowed examination of the geographical distribution within California of various age/sex classes during the July breeding season.

The first estimates of average annual growth rates of the U.S. population of CSLs were based on counts of pups at San Miguel Island and San Nicolas Island between 1970 and 1986 (Boveng, 1988). The estimates were variable depending on the time period included in the estimate: 3.4% (1971-1986), 6.4% (1970-1982), and 11.9% (1983-1986). The variability in the rates was attributed to effects of El Niño on pup production (Boveng, 1988). Lowry et al. (1992) then estimated a population growth at 4.6% from pup counts between 1975 and 1990 from the Main Channel Islands rookeries. From 1975 to 2000, the mean annual growth rate was estimated at 6.1% (Lowry and Maravilla-Chavez, 2005), and five years later in 2005 it declined to 5.6% (Carretta et al., 2007). However, analyses generating these two estimates omitted pup counts obtained during 1983-1984, 1992-1993, and 1998 when El Niño conditions resulted in low pup production. The growth rates in this report incorporate more years (1964-2014) and did not omit pup count data but rather used four environmental condition indices as covariates (MEI, SLH-LA, PDO and NPGO) to model the effect of the environmental conditions on pup count data, of which SLH-LA and NPGO were identified as being the most influential. These two environmental indices are positively correlated with ENSO and their negative relationships with pup counts, indicating that elevated temperature reflected by thermal expansion derived from sea level data and NPGO values resulted in fewer pups born.

Counts of non-pups were also used to estimate population growth. The 4.7% average annual growth rate obtained from counts of pups at the Main Channel Islands rookeries during 1964-2014 is probably more representative of California-wide population growth than the 2.9% growth rate obtained from non-pup data because it is unclear whether trends in non-pup counts (number of hauled-out animals) would be linearly 1:1 related to growth of the full population.

For generating stock assessment reports (SARs) under the Marine Mammal Protection Act, a default of 12% is assumed to be the maximum annual rate of increase for pinnipeds (Wade, 1998). The growth rates in this report are much lower. Possibly this reflects some density-dependence in the time series, noting that the population would only be expected to grow

at its intrinsic rate when population size is very low relative to available resources (i.e., in the earliest part of the time series). It is also possible it indicates that CSL maximum growth is less than 12%. One factor likely affecting population growth rate estimates early in the time series was bycatch of non-pups in gillnet-fisheries. Mortality from U.S. west coast gillnet fisheries prior to a gillnet ban in southern California coastal waters in 1994 was on the order of a few thousand animals per year (Barlow et al., 1994), which would have corresponded to several percent of the total population size at the time and thus reduced the population growth rate. This fishery bycatch mortality on non-pups could also partially explain the difference in growth rate estimates between pups and non-pups.

The western coast of the contiguous U.S. periodically experiences above average warm-water periods associated with the El Niño Southern Oscillation (ENSO) cycle that occurs in equatorial waters off South America (Fahrbach et al., 1991). The ENSO cycle is composed of the warm-water El Niño period, the cold-water La Niña period, and a neutral phase. The El Niño periods decrease primary productivity and abundance and availability of CSL forage along the California coast (Arntz et al., 1991). El Niño periods have been observed to have short and long-term effects on the CSL population in the U.S. Short-term effects were apparent in drops in CSL pup production during 1983, 1992-1993, 1998, and 2009-2010 and were the most noticeable effect of recent El Niño periods on population growth (Fig. 3). The decline in pup births reflects an inability of pregnant females to find sufficient food to support the energetic demands of pregnancy. Lower numbers of pup births in the El Niño years resulted in fewer adults in later years for the affected cohorts resulting a long-term population affect. After an El Niño period, pup production sometimes rebounds in the following year to pre-El Niño levels (as was observed in 1994, 1999, and 2011), usually when the event is weak or mild or of short duration. The immediate rebound in pup production will not occur when adult females die during an El Niño event, as probably occurred during the very strong and prolonged 1982-1983 El Niño period (DeLong et al., 1991) due to fewer adult females of reproductive age in the population than were present prior to the El Niño event. Pup production took about five years to reach the level it was at prior to the 1982-1983 El Niño. Other characteristics of El Niño's are higher pup and juvenile mortality rates (DeLong et al., 1991), that also affect future recruitment into the adult population for the affected cohorts, and delayed recruitment into the breeding population of females that are born during El Niño conditions or experience El Niño conditions while they are juveniles (Melin

et al., 2012). These responses also slow population growth as was observed (in the form of reduced pup production) five to six years after the 1992-1993 El Niño (there was a drop in births in 1997 and 1998, with the 1998 also affected by the 1997-1998 El Niño) and in 2002 and 2003 after the 1997-1998 El Niño (Figs. 1 and 6). Other factors that have affected population growth rates are domoic acid poisoning from an environmental toxin that results in adult female and juvenile mortality and reproductive failure, and hookworm infections that result in elevated pup mortality rates (Scholin et al., 2000; Lefebvre et al., 2000; Lyons et al., 2001; Bejarano et al., 2008).

Four environmental covariate indices (MEI, SLH-LA, PDO and NPGO) were examined to determine whether and how they affected the U.S. population growth rate estimates of CSLs. Each of the four indices reflects different environmental conditions. NPGO measures sea surface height in the Northeast Pacific and has been found to correlate with fluctuations in salinity, nitrates, and chlorophyll-a in the southern portion of the California Current (Di Lorenzo et al., 2008). PDO is an El Niño like pattern that measures variability in North Pacific sea surface temperatures (Mantua et al., 1997) over multiple decades (20-30 years). MEI is an ENSO index derived from tropical measurements of sea level pressure, surface wind, and sea surface temperature at the equator (Wolter and Timlin, 1993). SLH-LA is the sea level height at Los Angeles, California harbor with its seasonal variation and long-term trend removed (Zervas, 2009), resulting in a measure of the thermal expansion and contraction of the water mass. The SLH-LA index used here, however, should not be confused with sea level rise due to climate change (e.g., melting glaciers) because seasonal and long-term trend were removed from the observed data.

Population growth rate analysis of CSLs at California rookeries indicated that SLH-LA and NPGO explained the rise and fall of pup production and SLH-LA explained presence/absence of non-pups. The relationship between CSL pup production and distribution of non-pups within California with SLH-LA and NPGO (which both represent heat content in oceanic water) may indicate how CSLs will respond to climate change. If oceanic water temperature increases in the Pacific Ocean (Overland and Wang, 2007) and the Southern California Bight (Auad et al., 2006) due to climate change, it is possible that fewer CSL pups will be produced at southern California rookeries and more CSLs may occur in central and northern California in the future.

ACKNOWLEDGEMENTS

Robert DeLong, George Antonelis, Patrick Gearin, Anthony Orr and Jeff Harris and other AFSC MML staff and many interns and volunteers participated in the live pup counts at San Miguel Island. This report was also made possible by biologists from SWFSC who went to the field to count sea lions; especially Jim Carretta and Chuck Oliver. Thanks to Robert DeLong, Sharon Melin, Anthony Orr, and others from the Alaska Fisheries Science Center, Seattle, WA who provided weather information during aerial surveys and arranged their fieldwork schedules for aerial photographic surveys at San Miguel Island. Channel Islands National Park assisted with aerial photographic surveys and supported fieldwork at Santa Barbara Island and San Miguel Island. Wayne Perryman of SWFSC provided photographic equipment for aerial photographic surveys and Morgan Lynn of SWFSC maintained the cameras in working condition. Thanks to Don Leroy, of Aerial Imaging Solutions, for creating electronic equipment and software for operating the 126-mm-format cameras and for building the digital camera system used in aerial photographic surveys. Jay Barlow and Jeffrey Moore assisted with statistical analysis. Aircraft for conducting aerial photographic surveys were chartered from Everingham Brothers (1987-1991), Air Flight Service (1991-1994), California Department of Fish and Game (2006), and Aspen Helicopters, Inc. (1992-2005 and 2007-2014). Vessel transport to Santa Barbara Island was provided by Channel Islands National Park (1983-1987) and chartered from Peter Howorth of Howorth Associates, Santa Barbara, CA (1988-1998). The U.S. Navy assisted with surveys at San Clemente Island and San Nicolas Island, provided chartered aircraft for conducting aerial surveys in southern California during 2008-2014, and provided funding for counting pinnipeds from aerial photographs during 2013-2014. The U.S. Air Force assisted with surveys at Vandenberg Air Force Base. Aerial DSLR photographs were obtained from Ryan Berger and Russ Bradley of Point Blue Conservation Science and Gerry McChesney of the U.S. Fish and Wildlife Service who conducted the aerial survey at the Farallon Islands on August 6, 2013. Stephanie Nehasil and Beth Jaime helped to count CSLs in surveys conducted in 2013 and 2014, respectively. The report was improved by comments provided by Jay Barlow and Jeffrey Moore. All SWFSC surveys were conducted under Marine Mammal Research Permits 347, 404, 684, 704, 774-1437, 774-1714, and 14097; and National Marine Sanctuary Permits GFNMS/MBNMS/CINMS-04-98, MULTI-2002-003, MULTI-2003-

003, and MULTI-2008-003. AFSC Surveys at San Miguel Island were conducted under Marine Mammal Protection Act Permits 16087-02.

LITERATURE CITED

Arntz, W., W. G. Pearcy, and F. Trillmich. 1991. The time sequence and magnitude of physical effects of El Niño in the eastern Pacific. In F. Trillmich and K. A. Ono (Eds.) Pinnipeds and El Niño: Responses to environmental stress (pp. 8-21), Springer-Verlag, Berlin Heidelberg New York.

Auad, G., A. Miller, and E. Di Lorenzo (2006), Long-term forecast of oceanic conditions off California and their biological implications, J. Geophysical Res., 111, C09008, doi:10.1029/2005JC003219.

Barlow, J, R. W. Baird, J. E. Heyning, K. Wynne, A. M. Manville II, L. F. Lowry, … V. N. Burkanov. 1994. A review of cetacean and pinniped mortality in coastal fisheries along the west coast of the USA and Canada and the east coast of the Russian Federation. Report International Whaling Commission (Special Issue 15):405-426.

Bartholomew, G. A. 1967. Seal and sea lion populations of the Channel Islands. In R. N. Philbrick, (Ed.). Proceedings of the Symposium on the Biology of the California Islands, (pp. 229-243). Santa Barbara Botanic Garden, Santa Barbara, California.

Bartholomew, G. A. and R. A. Boolootian. 1960. Numbers and population structure of the pinnipeds on the California Channel Islands. Journal of Mammalogy 41(3):366-375.

Bejarano, A. C., F. M. Gulland, T. Goldstein, J. St Leger, M. Hunter, L. H. Schwacke, F. M. Van Dolah, and T. K. Rowles. 2008. Demographics and spatio-temporal signature of the biotoxin domoic acid in California sea lion (*Zalophus californianus*) stranding records. Marine Mammal Science 24:899-912. DOI: 10.1111/j.1748-7692.2008.00224.x

Bigg, M. A. 1988. Status of the California sea lion, *Zalophus californianus*, in Canada. Canadian Field Naturalist 102:307-314.

Bonnell, M. L., B. J. Le Boeuf, M. O. Pierson, D. H. Dettman, G. D. Farrens, C. B. Heath, R. F. Gantt, and D. J. Larsen. 1980. Summary of marine mammal and seabird surveys of the Southern California Bight area 1975-1978. Vol. 3, Investigators' Reports, Part 1. Pinnipeds of the Southern California Bight. University of California, Santa Cruz, California. Final Report to the Bureau of Land Management, under contract AA550-CT7-365. NTIS PB81-248-71.

Bonnell, M. L., M. O. Pierson, and G. D. Farrens. 1983. Pinnipeds and sea otters of central and northern California, 1980-1983: Status, abundance, and distribution, Pp-220. Center for Marine Studies, University of California, Santa Cruz. Prepared for: Pacific OCS Region, Minerals Management Service, U.S. Department of Interior, contract #14-12-0001-29090.

Bonnot, P. 1928. Report on the seals and sea lions of California. California Fish and Game Bulletin No. 14.

Bonnot, P. 1931. The California sea lion census for 1930. California Fish and Game 17(2):150-155.

Bonnot, P. 1937. California sea lion census for 1936. California Fish and Game 23(2):108-112.

Bonnot, P. 1938. California sea lion census for 1938. California Fish and Game 24(4):415-419.

Bonnot, P. and W. E. Ripley. 1948. California sea lion census for 1947. California Fish and Game 34(3):89-92.

Bureau of Marine Fisheries. 1938. California sea lion census for 1946. California Fish and Game (331):19-22.

Boveng, P. 1988. Status of the California sea lion population on the U. S. west coast. NMFS, Southwest Fisheries Center, La Jolla, California Administrative Report LJ-88-07.

Carlisle, J. G. and J. A. Aplin. 1966. Sea lion census for 1965 including counts of other California pinnipeds. California Fish and Game 52(2):119-120.

Carlisle, J. G. and J. A. Aplin. 1970. Sea lion census for 1969, including counts of other California pinnipeds. California Fish and Game 56(2):130-133.

Carlisle, J. G. and Aplin, J. A. 1971. Sea lion census for 1970, including counts of other California pinnipeds. California Fish and Game 57(2):124-126.

Carretta, J. V., M. S. Lowry, C. E. Stinchcomb, M. S. Lynn, and R. E. Cosgrove. 2000. Distribution and abundance of marine mammals at San Clemente Island and surrounding offshore waters: results from aerial and ground surveys in 1998 and 1999. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-00-02.

Carretta, J. V., K. A. Forney, M. S. Lowry, J. Barlow, J. Baker, B. Hansen, and M. M. Muto. (2007). U.S. Pacific Marine Mammal Stock Assessments: 2007. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFSC-414.

Cass, V. L. 1985. Exploitation of California sea lions, *Zalophus californianus*, prior to 1972. Marine Fisheries Review 47:36-38.

DeLong, R. L., G. A. Antonelis, C. W. Oliver, B. S. Stewart, M. S. Lowry, and P. K. Yochem. 1991. Effects of the 1982-1983 El Niño on several population parameters and diet of California sea lions on the California Channel Islands. In F. Trillmich and K. A. Ono (Eds.) Pinnipeds and El Niño: Responses to environmental stress (pp. 166-172), Springer-Verlag, Berlin Heidelberg New York.

DeMaster, D. P., D. J. Miller, D. Goodman, R. L. DeLong, and B. S. Stewart. 1982. Assessment of California sea lion fishery interactions. Transactions of the 47th North American Wildlife and Natural Resources Conference, Wildlife Management Institute, Washington, D.C.

Di Lorenzo, E., N. Schneider, K. M. Cobb,…P. Rivière. 2008. North Pacific Gyre Oscillation links ocean climate and ecosystem change. Geophysical Research Letters 35, L08607, doi:10.1029/2007GL032838.

Eberhardt, L. L. and M. A. Simmons. 1992. Assessing rates of increase from trend data. Journal of Wildlife Management 56:603-610.

Fahrbach, E., F. Trillmich, and W. Arntz. 1991. Biological consequences of the 1982-1983 El Niño in the eastern Pacific. In F. Trillmich and K. A. Ono (Eds.) Pinnipeds and El Niño: Responses to environmental stress (pp. 22-42), Springer-Verlag, Berlin Heidelberg New York.

Francis, J. M. and C. B. Heath. 1991. Population abundance, pup mortality, and copulation frequency in the California sea lion in relation to the 1983 El Niño on San Nicolas Island. In F. Trillmich and K. A. Ono (Eds.) Pinnipeds and El Niño: Responses to environmental stress (pp. 119-128). Springer-Verlag, Berlin Heidelberg New York.

Frey, R. W. and J. A. Aplin. 1966. Sea lion census for 1965 including counts of other California pinnipeds. California Fish and Game 52(2):119-120.

Frey, R. W. and J. A. Aplin. 1970. Sea lion census for 1969, including counts of other California pinnipeds. California Fish and Game 56(2):130-133.

Heath, C. B. and J. M. Francis. 1983. Population dynamics and feeding ecology of the California sea lion with applications for management: Results of 1981-1982 research on

Santa Barbara and San Nicolas Islands. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-83-04C.

Heath, C. B. and J. M. Francis. 1984. Results of research on California sea lions, San Nicolas Island, 1983. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-84-41C.

Helling, H. E. 1984. A follow-up report on available data for California and Steller sea lion (*Zalophus californianus*, *Eumetopias jubatus*) exploitation prior to 1950. Administrative Report LJ-84-45C. National Marine Fisheries Service, Southwest Fisheries Center, La Jolla, California. 10 pp.

Huber, H. R. 1991. Changes in the distribution of California sea lions north of the breeding rookeries during the 1982-83 El Niño. In F. Trillmich and K. A. Ono (Eds.) Pinnipeds and El Niño: Responses to environmental stress (pp. 129-137. Springer-Verlag, Berlin Heidelberg, Germany.

Keith, E. O., R. S. Condit, and B. J. Le Boeuf. 1984. California sea lions breeding at Año Nuevo Island, California. Journal of Mammalogy 65:695.

Lefebvre, K., C. Powel, G. Doucette, J. Silver, P. Miller, P. Hughes, … R. Tjeerdema. 2000. Domoic acid-producing diatoms: probable cause of neuroexcitotoxicity in California sea lions. Marine Environmental Research 50:485-488.

Lowry, M. S., L. J. Hansen, and S. D. Hawes. 1987. California sea lion and northern elephant seal pup counts and tagging at Santa Barbara Island, California, from 1983 through July 1986. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-87-03.

Lowry, M. S., P. Boveng, R. J. DeLong, C. W. Oliver, B. S. Stewart, H. DeAnda, and J. Barlow. 1992. Status of the California sea lion (*Zalophus californianus californianus*) population

in 1992. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-92-32.

Lowry, M. S., W. L. Perryman, M. S. Lynn, R. L. Westlake, and F. Julian. 1996. Counts of northern elephant seals, *Mirounga angustirostris*, from large-format aerial photographs taken at rookeries in southern California during the breeding season. Fishery Bulletin, U. S. 94:176-185.

Lowry, M. S. 1999. Counts of California sea lion (*Zalophus californianus*) pups from aerial color photographs and from the ground: A comparison of two methods. Marine Mammal Science 15:143-158.

Lowry, M. S. and K. A. Forney. 2005. Abundance and distribution of California sea lions (*Zalophus californianus*) in central and northern California during 1998 and summer 1999. U.S. Fishery Bulletin 103:331-343.

Lowry, M. S. and O. Maravilla-Chavez. 2005. Recent abundance of California sea lions in western Baja California, Mexico and the United States. In D. K. Garcelon and C. A. Schwemm (Eds.) Proceedings of the Sixth California Islands Symposium, Ventura, California, December 1-3, 2003 (pp. 485-497). National Park Service Technical Publication CHIS-05-01, Institute for Wildlife Studies, Arcata, California.

Lyons, E. T., S. R. Melin, R. L. DeLong, A. J. Orr, F. M. Gulland, and S. C. Oliver. 2001. Current prevalence of adult *Uncinaria* spp. in northern fur seal (*Callorhinus ursinus*) and California sea lion (*Zalophus californianus*) pups on San Miguel Island, California, with notes on the biology of these hookworms. Veterinary Parasitology 97:309-308.

Maniscalco, J. M., K. Wynne, K. W. Pritcher, M. B. Hanson, S. R. Melin, and S. Atkinson. 2004. The occurrence of California sea lions (*Zalophus californianus*) in Alaska. Aquatic Mammals 30:427-433.

Mantua, N. J., S. R. Hare, Y. Zhang, J. M. Wallace, and R. C. Francis. 1997. A Pacific interdecadal climate oscillation with impacts on salmon production. Bulletin of the American Meteorological Society, 78:1069-1079.

Mate, B. R. 1975. Annual migrations of the sea lions *Eumetopias jubatus* and *Zalophus californianus* along the Oregon USA coast. In K. Ronald and A. W. Mansfield (Eds.). Biology of the Seal: Proceedings of a Symposium held in Guelph 14-17 August 1972 (pp. 455-461). Rapports et Process-Verbaux des Reunions Volume 169. Conseil International Pour L'Exploration de la Mer, Charlottenlund Slot, Denmark.

Melin, S. R., J. L. Laake, R. L. DeLong, and D. B. Siniff. 2012. Age-specific recruitment and natality of California sea lions at San Miguel Island, California. Marine Mammal Science 28:751-776. doi:10.1111/j.1748-7692.2011.00538.x

Odell, D. K. 1971. Censuses of pinnipeds breeding on the California Channel Islands. Journal of Mammalogy 52(1):187-190.

Odell, D. K. 1972. Studies on the biology of the California sea lion and the northern elephant seal on San Nicolas Island, California. (Unpublished doctoral dissertation). University of California, Los Angeles.

Oliver, C. W. and M. S. Lowry. 1987. Pinniped studies conducted between August, 1981 and December, 1982 at San Clemente Island, California. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-87-23.

Oliver, C. W., M. S. Lowry, and L. M. Ferm. 1988. Pinniped studies conducted at San Clemente Island, California during 1983. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-88-08.

Oliver, C. W. 1991a. 1986-1987 field studies on pinnipeds at San Clemente Island. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-91-25.

Oliver, C. W. 1991b. 1988-1991 field studies on pinnipeds at San Clemente Island. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-91-27.

Oliver, C. W. and J. Wexler. 1991. 1985 field studies on pinnipeds at San Clemente Island. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-91-24.

Overland, J. E. and M. Wang. 2007. Future climate of the North Pacific Ocean. EOS Transactions of the American Geophysical Union, 88: 178–182.

Peterson, R. S. and G. A. Bartholomew. 1967. The natural history and behavior of the California sea lion. The American Society of Mammalogists, Special Publication No. 1.

Pierotti, R. J., D. G. Finley, and T. J. Lewis. 1977. Birth of a California sea lion on Southeast Farallon Island. California Fish and Game 63:64-66.

Pitcher, K. W., P. F. Olesiuk, R. F. Brown, M. S. Lowry, S. J. Jeffries, J. L. Sease, W. L. Perryman, C. E. Stinchcomb, and L. F. Lowry. 2007. Abundance and distribution of the eastern North Pacific Steller sea lion (*Eumetopias jubatus*) population. U. S. Fishery Bulletin 107:102-115.

Ripley W. E., K. W. Cox, and J. L. Baxter. 1962. California sea lion census for 1958, 1960 and 1961. California Fish and Game 48(4):228-231.

Scholin, C. A., F. Gulland, G. J. Doucette, S. Benson, M. Busman, F. P. Chavez…F. M. Van Dolah. 2000. Mortality of sea lions along the central California coast linked to a toxic diatom bloom. Nature 403:80-84.

Schramm, Y., S. L. Mesnick, J. de la Rosa, D. M. Palacios, M. S. Lowry, D. Aurioles-Gamboa,… S. Escorza-Treviño. 2009. Phylogeography of California and Galapagos sea

lions and population structure within the California sea lion. Marine Biology 156:1375-1387.

Seagars, D. J., D. P. DeMaster and R. L. DeLong. 1985. A survey of historic rookery sites for California and northern sea lions in the Southern California Bight. Administrative Report LJ-85-13, National Marine Fisheries Service, Southwest Fisheries Center, La Jolla, California.

Sokal, R. R. and F. J. Rolf. 1995. Biometry: The principles and practice of statistics in biological research. Third edition. W. H. Freeman and Company, New York.

Stewart, B. S. and P. K. Yochem. 1984. Seasonal abundance of pinnipeds at San Nicolas Island, California, 1980-1982. Bulletin of the Southern California Academy of Sciences 83:121-132.

Stewart, B. S. and P. K. Yochem. 1986. Assessment of population dynamics of the California sea lion (*Zalophus californianus*) at San Nicolas Island, 1984-1985. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-86-11C.

Stewart, B. S., P. K. Yochem, R. L. DeLong, and G. A. Antonelis. 1993. Trends in abundance and status of pinnipeds on the southern California Channel Islands, In F. G. Hochberg (Ed.) Third California Islands Symposium: Recent Advances in Research on the California Islands (pp. 501-516). Santa Barbara Museum of Natural History, Santa Barbara, California.

Wade, P. R. 1998. Calculating limits to the allowable human-caused mortality of cetaceans and pinnipeds. Marine Mammal Science 14:1-37.

Westlake, R. L., W. L. Perryman, and K. A. Ono. 1997. Comparison of vertical photographic and ground censuses of Steller sea lions at Año Nuevo Island, July 1990-1993. Marine Mammal Science 13:207-218.

Wexler, J. and C. W. Oliver. 1988. Pinniped research conducted at San Clemente Island during 1984. NMFS, Southwest Fisheries Science Center, La Jolla, CA, Administrative Report LJ-88-16).

Wolter, K. and M.S. Timlin, 1993: Monitoring ENSO in COADS with a seasonally adjusted principal component index. *Proc. of the 17th Climate Diagnostics Workshop*, Norman, OK, NOAA/NMC/CAC, NSSL, Oklahoma Clim. Survey, CIMMS and the School of Meteor., Univ. of Oklahoma, 52-57.

Zervas, C. 2009. Sea level variations of the United States 1854-2006. NOAA Technical Report NOS-OPS 053.

Table 1. Locations that CSLs were censused by observers on the ground (Gr), or by counts made from aerial color photographs taken with a 35mm-format (35Ph), 126mm-format (Ph), or 9inch-format (9Ph) film cameras, a digital SLR camera (DPh), or by aerial observation (AO) during 1964-2014.

Year	San Clemente Island	Santa Barbara Island	San Nicolas Island	San Miguel Island	Richardson Rock	Santa Rosa Island	Santa Crus Island	Anacapa Island	Santa Catalina Island	Año Nuevo Island	Farallon Islands	Central California	Northern California
1964	9Ph	9Ph	9Ph	9Ph		9Ph	9Ph	9Ph	9Ph				
1965	9Ph	9Ph	Gr	9Ph		9Ph	9Ph	9Ph	9Ph				
1971				Gr									
1972				Gr									
1975	35Ph	35Ph	35Ph	Gr, 35Ph	35Ph	35Ph	35Ph	35Ph	35Ph				
1976	35Ph	35Ph	35Ph	Gr, 35Ph	35Ph	35Ph	35Ph	35Ph	35Ph				
1977	35Ph	35Ph	35Ph	Gr, 35Ph	35Ph	35Ph	35Ph	35Ph	35Ph				
1978		Gr		Gr									
1979		Gr		Gr									
1980			Gr	Gr									
1981	Gr	Gr	Gr	Gr							Gr		
1982	Gr	Gr	Gr	Gr									
1983	Gr	Gr	Gr	Gr							Gr		
1984	Gr	Gr	Gr	Gr							Gr		
1985	Gr	Gr	Gr	Gr									
1986	Gr	Gr	Gr	Gr									
1987	Gr	Gr	Gr	Ph									
1988	Gr	Gr		Ph									
1989	Gr	Gr		Ph									
1990	Gr	Gr	Ph	Ph									
1991	Gr	Gr	Gr	Gr									
1992	Gr	Gr	Gr, Ph	Ph	Ph		Ph			Ph			
1993	Gr	Gr	Gr, Ph	Ph						Ph			
1994	Gr	Gr	Gr, Ph	Ph	Ph					Ph			
1995	Gr, Ph	Gr	Ph	Ph						Ph	Ph		
1996	Gr, Ph	Gr	Ph	Ph						Ph			
1997	Gr, Ph	Gr, Ph	Ph	Ph						Ph	Ph		
1998	Gr, Ph	Gr, Ph	Ph	Ph						Ph	Ph	Ph	Ph
1999	Gr, Ph	Ph	Ph	Ph	Ph					Ph	Ph	Ph	Ph
2000	Gr, Ph	Ph	Ph	Ph	Ph					Ph	Ph	Ph	Ph
2001	Gr, Ph	Ph	Ph	Ph	Ph					Ph	Ph	Ph	Ph
2002	Gr, Ph	Ph	Ph	Ph		AO	Ph		Ph	Ph	Ph	Ph	Ph
2003	Gr, Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph
2004	Gr, Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph		Ph	Ph	Ph	Ph
2005	Gr, Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph
2006	Gr, Ph	Ph	Ph	Ph									
2007	Gr	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	
2008	Gr, Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph				
2009	Gr			Gr						Ph	Ph	Ph	Ph
2010	Gr			Gr									
2011	Gr, DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh
2012	Gr, DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh
2013	Gr, DPh	DPh	DPh	DPh		DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh
2014	Gr, DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh	DPh				

Table 2. The number of California sea lions counted by age/sex class at each of the Channel Islands in southern California from surveys conducted during 1971-2014. Counts were made by biologists on the ground or small boat (Gr), estimated from ground count (Est), and from vertical 126-mm format aerial color photographs (Ph) or vertical aerial digital photographs (DPh). Counts were repeated on some dates by the same counter or counted by different people. AO denotes aerial observation when no animals were observed during the survey. No data obtained for blank cells.

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
Anacapa Island											
2003 Jul 11	Ph	5	0	351	341	0	341	11	10	713	718
2004 Jul 17	Ph	1	0	203	138	2	140	8	4	355	356
2005 Jul 8	Ph	4	0	257	182	1	183	6	11	457	461
2007 Jul 10	Ph	6	0	388	339	60	399	11	28	826	832
2008 Jul 12	Ph	6	0	840	400	2	402	7	14	1,263	1,269
2011 Jul 11	Dph	32	1	323	579	127	706	12	24	1,065	1,097
2012 Jul 13	Dph	50	0	458	418	113	531	15	14	1,018	1,068
2013 Jul 8	Dph	48	0	261	642	179	821	38	26	1,146	1,194
2014 Jul 8	Dph	52	0	189	400	230	630	49	20	888	940
Richardson Rock											
1992 Jul 18	Ph	0	0	17			86	8	5	116	116
1994 Jul 17	Ph	0	0	7			125	42	10	184	184
1999 Jul 12	Ph	0	0	25			97	50	18	190	190
2000 Jul 7	Ph	2	0	35			86	52	24	197	199
2001 Jul 16	Ph	0	0	215			154	33	6	408	408
2003 Jul 8	Ph	0	0	70	77	7	84	78	8	240	240
2004 Jul 11	Ph	0	0	31	145	0	145	30	6	212	212
2005 Jul 21	Ph	0	0	85	46	47	93	33	9	220	220
2007 Jul 10	Ph	0	0	55	197	85	282	36	14	387	387
2008 Jul 12	Ph	0	0	32	171	76	247	36	12	327	327
2011 Jul 13	Dph	0	0	53	186	4	190	23	16	282	282
2012 Jul 14	Dph	1	0	51	135	2	137	20	7	215	216
2014 Jul 10	Dph	0	0	78	387	17	404	19	12	513	513
San Clemente Island											
1981 Aug 18-19[a]	Gr	666								1,052	1,718
1981 Aug 18-19	Gr	605								1,119	1,724
1981 Aug 18-19	Gr	590								1,031	1,621
1982 Jul 27-29[a]	Gr	941								1,280	2,221
1983 Jul 21-25[b]	Gr	353								1,274	1,627
1984 Jul 26-27[c]	Gr	411								841	1,252
1985 Aug 25[d]	Gr	609								739	1,348
1986 Jul 25-28[e]	Gr	718								1,106	1,824
1987 Jul 31-Aug 3[e]	Gr	782								1,034	1,816
1988 Jul 29-Aug 1[f]	Gr	803							65	960	1,763
1988 Jul 29-Aug 1	Gr	790							57	999	1,789

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
San Clemente Island (Continued)											
1989 Jul 21-23[f]	Gr	795							65	1,460	2,255
1990 Jul 20-21[f]	Gr	629							88	960	1,589
1991 Jul 12-14[f]	Gr	913							77	1,560	2,473
1992 Jul 24-25[g]	Gr	789							54	737	1,526
1993 Jul 23-24[g]	Gr	745							52	637	1,382
1994 Jul 23[g]	Gr	1,067							64	1,205	2,272
1995 Aug 15[g]	Gr	1,189								1,656	2,845
1995 Jul 21[g]	Ph	1,028	0	395			1,650	50	90	2,185	3,213
1995 Jul 22[g]	Ph	970	2	362			1,481	39	79	1,961	2,931
1996 Jul 12-14[g]	Gr	1,207		227			1,076	49	111	1,463	2,670
1996 Jul 12-14[g]	Gr	1,047		211			1,081	42	84	1,418	2,465
1996 Jul 12-14[g]	Gr	1,040		225			1,085	45	93	1,448	2,488
1996 Jul 12-14[g]	Gr	1,208		220			1,132	55	112	1,519	2,727
1996 Jul 21[g]	Ph	1,243	3	120			1,192	57	87	1,456	2,699
1996 Jul 23[g]	Ph	1,468	1	138			1,198	29	79	1,444	2,912
1997 Jul 14[g]	Ph	1,326	4	89			953	56	140	1,238	2,564
1997 Jul 15-16[g]	Gr	1,248		147			857	26	89	1,119	2,367
1997 Jul 15-16[g]	Gr	1,203		122			866	26	99	1,113	2,316
1998 Jul 18-20[g]	Gr	537		35			787	7	87	916	1,453
1998 Jul 18-20[g]	Gr	587		44			830	17	84	975	1,562
1998 Jul 20[g]	Ph	682	4	97			1,291	43	123	1,554	2,236
1998 Jul 26[h]	Ph	600	0	80			1,142	41	96	1,359	1,959
1999 Jul 10[g]	Ph	1,004	3	339			1,837	55	161	2,392	3,396
1999 Jul 14[g]	Gr	1,326		220			1,170	8	93	1,491	2,817
2000 Jul 25-26[g]	Gr	1,660		338			1,305	14	87	1,744	3,404
2000 Jul 7[g]	Ph	1,735	1	422			2,454	127	174	3,177	4,912
2001 Jul 12	Ph	1,722	0	330			2,179	102	182	2,793	4,515
2001 Jul 17	Gr	1,629		328			1,576	97	79	2,080	3,709
2002 Jul 13	Ph	2,081	4	438	2,799	38	2,837	100	188	3,563	5,644
2002 Jul 30-31	Gr	1,631		315			2,150	35	51	2,551	4,182
2003 Jul 16-18	Gr	1,128		214			1,232	110	88	1,644	2,772
2003 Jul 7	Ph	1,549	3	311	2,337	5	2,342	148	160	2,961	4,510
2004 Jul 10	Ph	1,839	0	454	2,547	95	2,642	197	180	3,473	5,312
2004 Jul 29	Gr	1,630		96			1,686	33	68	1,883	3,513
2005 Jul 20	Ph	1,587	3	231	2,229	99	2,328	93	199	2,851	4,438
2005 Jul 56	Gr	1,479		129			1,685	91	201	2,106	3,585
2006 Jul 17	Ph	2,130	3	363	2,141	131	2,272	98	202	2,935	5,065
2006 Jul 18-19	Gr	1,859		178			1,581	54	181	1,994	3,853
2007 Jul 24-25	Gr	2,146		143			1,898	47	162	2,250	4,396
2008 Jul 10	Ph	2,144	3	496	2,292	149	2,441	203	267	3,407	5,551
2008 Jul 22-23	Gr	2,086		397			1,348	98	158	2,001	4,087
2009 Jul 21-22	Gr	1,813		566			1,377	62	123	2,128	3,941

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
San Clemente Island (Continued)											
2010 Jul 13-14	Gr	1,680		390			1,812	116	181	2,562	4,242
2011 Jul 11	Dph	2,883	12	344	3,243	104	3,347	57	225	3,973	6,856
2011 Jul 67	Gr	2,460		268			2,327	307	213	3,115	5,575
2012 Jul 13	Dph	3,220	2	689	2,634	60	2,694	176	269	3,828	7,048
2012 Jul 27-28	Gr	2,616		291			2,165	63	118	2,637	5,253
2013 Jul 13	Dph	2,458	11	777	3,703	83	3,786	184	223	4,970	7,428
2013 Jul 26-27	Gr	2,182		389			2,410	54	87	2,940	5,122
2014 Jul 18-21	Gr	1,679		134			2,388	46	151	2,719	4,398
2014 Jul 7	Dph	1,927	12	696	4,064	83	4,147	121	265	5,229	7,156
San Miguel Island											
1971 Jul 25	Gr	5,285[i]									
1971 Jul 25	Est	5,496[j]									
1972 Aug 21	Gr	3,501[i]									
1972 Aug 21	Est	3,641[j]									
1975 Aug 19-20	Gr	7,166									
1976 Jul 28-29	Gr	8,008									
1977 Jul 29-30	Gr	7,095									
1978 Aug 4	Gr	6,854[i]									
1978 Aug 4	Est	7,128[j]									
1979 Jul 31-Aug 2	Gr	8,359									
1980 Aug 2-5	Gr	6,950									
1981 Aug 13	Gr	8,270[i]									
1981 Aug 13	Est	8,601[j]									
1982 Aug 5-7	Gr	10,132[i]									
1982 Aug 5-7	Est	10,537[j]									
1983 Jul 30	Gr	7,326[i]									
1983 Jul 30	Est	7,619[j]									
1984 Aug 2	Gr	8,873[i]									
1984 Aug 2	Est	9,228[j]									
1985 Jul 24 & Aug 4	Gr	9,516									
1986 Jul 26	Gr	12,065									
1987 Jun 28	Ph	12,152[k]									
1987 Jun 28	Est	12,760[k]									
1987 Jul 26	Ph	11,807[l]									
1988 Jul 24	Ph	11,077[l]									
1989 Jul 21	Ph	12,704[g]									
1990 Jul 18	Ph	11,741[g]									
1990 Jul 25	Ph	11,066[g]									

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
San Miguel Island (Continued)											
1991 Aug 4	Gr	16,503									
1992 Jul 18	Ph	9,116[g]	77	4,629			13,413	561	1,367	19,970	29,086
1992 Jul 20	Ph	10,753[g]	23	3,278			14,323	297	1,276	19,174	29,927
1993 Jul 15	Ph	11,985[g]	66	2,390			17,223	1,566	1,760	22,939	34,923
1993 Jul 17	Ph	10,704[g]	20	2,338			15,138	791	1,536	19,803	30,507
1994 Jul 16	Ph	16,539[g]	408	2,190			16,328	1,151	1,249	20,918	37,457
1994 Jul 17	Ph	14,704[g]	446	2,053			19,214	1,436	1,338	24,041	38,745
1995 Jul 23	Ph	15,624[g]	173	8,815			18,873	1,492	1,311	30,491	46,115
1995 Jul 25	Ph	15,711[g]	121	6,782			19,880	1,015	1,044	28,721	44,432
1996 Jul 22	Ph	16,962[g]	166	3,324			13,737	1,157	1,157	19,375	36,337
1997 Jul 14	Ph	14,941[g]	74	3,696			22,350	2,012	2,180	30,238	45,179
1998 Jul 20	Ph	8,111[g]	208	2,275			12,174	1,328	1,509	17,286	25,397
1999 Jul 12	Ph	18,074[g]	110	1,948			19,183	2,501	2,673	26,305	44,379
2000 Jul 7	Ph	20,609[g]	169	4,460			22,020	2,787	3,718	32,985	53,594
2001 Jul 16	Ph	19,552	24	4,803			17,096	1,656	3,405	26,960	46,512
2002 Jul 16	Ph	21,126	50	9,980	19,477	2,071	21,548	2,594	3,295	37,417	58,543
2003 Jul 8	Ph	17,765	104	6,111	14,631	2,024	16,655	3,311	3,641	29,718	47,483
2004 Jul 11	Ph	18,278	56	10,821	25,745	1,764	27,509	2,740	3,145	44,215	62,493
2005 Jul 21	Ph	22,088	62	9,616	25,711	1,981	27,692	1,699	2,889	41,896	63,984
2006 Jul 17	Ph	24,583	47	4,905	25,140	3,129	28,269	1,513	2,092	36,779	61,362
2007 Jul 10	Ph	23,234	15	5,781	26,835	3,351	30,186	1,821	2,841	40,629	63,863
2008 Jul 12	Ph	25,148	21	4,966	26,004	2,829	28,833	2,549	2,688	39,036	64,184
2009 Jul 22-29 & Aug 19	Gr	12,806									
2010 Jul 22-26 & Aug 1	Gr	15,131									
2011 Jul 13	Dph	26,953	260	10,094	26,109	2,003	28,112	2,853	3,401	44,460	71,413
2012 Jul 14	Dph	28,289	708	7,972	21,664	1,508	23,172	3,064	3,163	37,371	65,660
2013 Jul 11	Dph	21,014	167	8,563	26,826	1,708	28,534	3,402	2,878	43,377	64,391
2014 Jul 10	Dph	23,607	393	4,075	23,410	1,223	24,633	2,700	3,490	34,898	58,505
San Nicolas Island											
1990 Jul 18	Ph	10,683[g]									
1990 Jul 25	Ph	11,766[g]									
1991 Jul 19-21	Gr	11,827[m]							1,025	15,929	27,756
1992 Jul 17-18	Gr	6,468[m]							642	9,947	16,415
1992 Jul 18	Ph	8,869[m]	22	554			9,705	438	983	11,680	20,549
1992 Jul 23	Ph	9,348[m]	50	1,397			7,691	187	775	10,050	19,398
1993 Jul 11	Ph	10,595[m]	78	1,556			10,649	747	1,031	13,983	24,578
1993 Jul 11	Ph	10,538[m]	173	1,354			10,878	872	1,078	14,182	24,720
1993 Jul 15	Ph	9,702[m]	53	2,185			10,305	652	1,007	14,149	23,851
1993 Jul 15	Ph	10,409[m]	112	1,876			10,662	1,078	1,082	14,698	25,107
1993 Jul 16-18	Gr	9,262[m]							998	11,696	20,958
1993 Jul 16-18	Gr	9,748[m]							941	12,135	21,883

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
San Nicolas Island (Continued)											
1993 Jul 17	Ph	9,698[m]	84	2,066			9,373	620	1,067	13,126	22,824
1993 Jul 17	Ph	10,345[m]	104	1,706			9,668	907	1,132	13,413	23,758
1993 Jul 23-26	Gr	8,723[m]							400	8,113	16,836
1993 Jul 23-26	Gr	8,382[m]							683	7,782	16,164
1994 Jul 12-13	Gr	16,503[m]							803	15,777	32,290
1994 Jul 14	Ph	15,766[m]	180	1,020			12,534	1,181	1,144	15,879	31,645
1994 Jul 16	Ph	16,889[m]	247	966			12,782	1,101	1,171	16,020	32,909
1995 Jul 21	Ph	17,512[g]	97	4,831			16,591	1,323	1,222	23,967	41,479
1995 Jul 22	Ph	16,926[g]	117	5,363			14,205	1,285	1,055	21,908	38,834
1996 Jul 21	Ph	19,308[g]	112	1,659			12,199	853	1,206	15,917	35,225
1996 Jul 22	Ph	20,285[g]	85	1,776			12,178	603	1,082	15,639	35,924
1997 Jul 14	Ph	20,488[g]	120	1,167			13,531	1,511	1,986	18,195	38,683
1998 Jul 20	Ph	4,885[g]	61	1,679			10,445	900	1,567	14,591	19,476
1999 Jul 10	Ph	19,878[g]	87	2,010			16,531	1,517	2,614	22,672	42,550
2000 Jul 7	Ph	24,167[g]	59	3,951			17,554	2,504	2,908	26,917	51,084
2001 Jul 12	Ph	24,741	56	5,248			17,140	2,037	2,797	27,222	51,963
2002 Jul 22	Ph	19,719	86	2,591	10,806	518	11,324	1,742	1,943	17,600	37,319
2003 Jul 7	Ph	15,702	50	4,496	15,384	1,652	17,036	3,112	2,824	27,468	43,170
2004 Jul 10	Ph	20,866	30	2,722	17,792	2,496	20,288	2,874	2,773	28,657	49,523
2005 Jul 21	Ph	21,799	85	2,459	17,015	1,807	18,822	1,311	2,109	24,701	46,500
2006 Jul 14	Ph	26,154	121	2,228	18,208	2,145	20,353	1,865	3,355	27,801	53,955
2007 Jul 11	Ph	25,198	5	2,053	16,811	2,119	18,930	1,970	3,246	26,199	51,397
2008 Jul 11	Ph	29,052	102	2,307	18,173	2,261	20,434	2,510	3,309	28,560	57,612
2009 Jul 3-4[n]	Est	19,697									
2010 Jul 16[n]	Est	15,131									
2011 Jul 18	Dph	28,087	411	3,629	15,191	924	16,115	1,755	2,316	23,815	51,902
2012 Jul 13	Dph	31,972	276	5,317	20,171	1,527	21,698	2,612	3,251	32,878	64,850
2013 Jul 17	Dph	16,225	78	8,037	24,277	956	25,233	2,688	2,881	38,839	55,063
2014 Jul 9	Dph	19,587	81	4,205	23,363	1,082	24,445	2,446	3,350	34,446	54,033
Santa Barbara Island											
1983 Jun 30[p]	Gr	237									
1984 Jul 11-12[p]	Gr	280									
1985 Jul 5-6[p]	Gr	543									
1986 Jul 9-10[l, p]	Gr	796							110	1,166	1,962
1986 Jul 9-10[l, p]	Gr	792							92	1,241	2,033
1987 Jul 9-10	Gr	917[g]							95	1,349	2,266
1988 Jul 8-9	Gr	1,089[g]									
1989 Jul 14	Gr	1,307[g]							104	2,240	3,547
1990 Jul 8-9	Gr	1,286[g]							155	2,549	3,838
1991 Jul 8-9	Gr	1,504[g]							151	2,974	4,478
1992 Jul 6-7	Gr	1,470[g]							125	1,956	3,427

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
Santa Barbara Island (Continued)											
1993 Jul 6-7	Gr	949[g]		230			1,725	40	106	2,101	3,050
1994 Jul 6-7	Gr	1,688[g]		540			2,637	109	143	3,429	5,117
1995 Jul 17-18	Gr	1,647[g]							164	4,592	6,239
1996 Jul 7	Gr	2,326[g]		549			2,466	175	170	3,360	5,686
1997 Jul 18	Ph	2,095[g]	0	211			2,185	61	146	2,603	4,698
1997 Jul 8	Gr	2,467[g]		146			2,047	83	160	2,436	4,903
1997 Jul 8	Gr	2,351[g]		162			1,898	93	204	2,357	4,709
1998 Jul 13	Gr	564[l]							195	2,616	3,180
1998 Jul 20	Ph	707[g]	1	186			2,191	30	129	2,536	3,243
1999 Jul 31	Ph	2,410[g]	9	266			2,439	14	87	2,806	5,216
2000 Jul 7	Ph	2,851[g]	5	1,009			3,932	166	305	5,412	8,263
2001 Jul 12	Ph	3,061	18	1,328			3,399	167	274	5,168	8,229
2002 Jul 15	Ph	2,697	9	458	3,177	102	3,279	245	242	4,224	6,921
2003 Jul 10	Ph	1,528	6	554	2,613	51	2,664	208	206	3,632	5,160
2004 Jul 10	Ph	2,484	3	545	4,191	112	4,303	196	267	5,311	7,795
2005 Jul 20	Ph	2,827	4	375	2,992	142	3,134	179	257	3,945	6,772
2006 Jul 11	Ph	3,277	11	374	3,294	190	3,484	141	325	4,324	7,601
2007 Jul 12	Ph	3,473	14	435	3,056	181	3,237	204	384	4,260	7,733
2008 Jul 11	Ph	3,424	16	516	2,697	249	2,946	217	342	4,021	7,445
2009[o]	Est	1,597									
2010[o]	Est	1,508									
2011 Jul 18	Dph	3,941	31	359	2,414	165	2,579	134	244	3,316	7,257
2012 Jul 13	Dph	3,558	26	452	2,862	221	3,083	208	271	4,014	7,572
2013 Jul 11	Dph	2,918	24	615	3,495	100	3,595	258	351	4,819	7,737
2014 Jul 8	Dph	2,498	17	296	3,785	111	3,896	153	284	4,629	7,127
Santa Catalina Island											
2002 Jul 13	Ph	0	0	79	0	12	12	1	3	95	95
2003 Jul 10	Ph	0	0	19	16	0	9	2	2	32	32
2005 Jul 20	Ph	0	0	50	0	76	76	6	0	132	132
2007 Jul 11	Ph	0	0	218	135	0	132	0	4	357	357
2008 Jul 10	Ph	0	0	118	89	0	89	3	1	211	211
2011 Jul 11	Dph	17	0	118	251	22	273	2	6	399	416
2012 Jul 13	Dph	31	0	74	147	6	153	4	7	238	269
2013 Jul 12	Dph	20	0	109	294	5	299	10	8	426	446
2014 Jul 7	Dph	19	0	36	247	24	271	3	12	322	341
Santa Cruz Island											
1992 Jul 18	Ph	0	0	31			105	3	6	145	145
2002 Jul 16	Ph	0	0	29	0	98	98	12	6	145	145
2003 Jul 11	Ph	2	0	311	398	122	260	27	4	602	604
2004 Jul 17	Ph	0	0	117	0	256	128	11	2	258	258
2005 Jul 8	Ph	0	0	56	155	17	172	7	6	241	241

Table 2. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
Santa Cruz Island (Continued)											
2007 Jul 10	Ph	0	0	309	740	25	382	13	4	708	708
2008 Jul 12	Ph	0	0	40	305	11	316	18	1	375	375
2011 Jul 11	Dph	1	0	285	683	16	699	38	3	1,025	1,026
2012 Jul 13	Dph	0	0	402	1,078	56	1,134	20	15	1,571	1,571
2013 Jul 8	Dph	0	0	450	935	31	966	34	19	1,469	1,469
2014 Jul 8	Dph	0	0	119	650	56	706	32	13	870	870
Santa Rosa Island											
2002 Jul 16	AO	0	0	0	0	0	0	0	0	0	0
2003 Jul 11	Ph	0	0	33	53	0	53	2	1	89	89
2004 Jul 17	Ph	0	0	8	0	52	26	3	3	40	40
2005 Jul 8	Ph	0	0	4	11	1	12	0	3	19	19
2007 Jul 10	Ph	0	0	6	17	2	19	2	1	28	28
2008 Jul 12	Ph	0	0	234	296	0	296	4	2	536	536
2011 Jul 11	Dph	0	0	365	515	6	521	9	5	900	900
2012 Jul 13-14	Dph	3	0	609	835	87	922	38	12	1,581	1,584
2013 Jul 11	Dph	3	0	155	561	5	566	32	15	768	771
2014 Jul 10	Dph	1	0	109	651	118	769	12	7	897	898

[a]Oliver and Lowry (1987)
[b]Oliver et al. (1988)
[c]Wexler and Oliver (1988)
[d]Oliver and Wexler (1991)
[e]Oliver (1991a)
[f]Oliver (1991)
[g]Lowry and Maravilla-Chavez (2005)
[h]Carretta, et al. (2000)
[i]Castle Rock (the sub-island at San Miguel Island) was not censused
[j]Estimate for Castle Rock added to ground count (ground count multiplied by 1.04)
[k]Revised count for Lowry and Maravilla-Chavez (2005); multiplying 12,152 pups counted by 1.05 yields 12,760 pups.
[l]Revised count for Lowry et al. (1987) and Lowry and Maravilla-Chavez (2005)
[m]Lowry (1999)
[n]Appendix 1
[o]Estimated from data in Appendix 1 (subtracted SMI+SNI+SCI from total estimate)
[p]Lowry, et al. (1987)

Table 3. Number of California sea lions counted within seven zones in central and northern California for surveys conducted in July or August (refer to map in Figure 1A for location of zones). Some zones required more than one day to survey due to weather conditions. Counts were made by biologists on the ground (Gr), from vertical 126-mm format aerial color photographs (Ph), vertical aerial digital photographs (DPh), or hand-held digital photographs (HDPh). AO denotes aerial observation when no animals were observed during the survey.

Census date(s)	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total Live
Northern California: Zone A											
1998 Jul 15-16	Gr/Ph	0	0	358			206	148	22	734	734
1999 Jul 7	Ph	0	0	111			167	5	4	287	287
2000 Jul 8	Ph	0	0	49	0	52	52	3	6	110	110
2001 Jul 17	Ph	0	0	361	0	49	49	37	14	461	461
2002 Jul 9	Ph	0	0	204	0	426	426	1	0	631	631
2003 Jul 12	Ph	0	0	1,521	0	333	333	20	2	1,876	1,876
2004 Jul 5	Ph	0	0	702	0	303	303	4	0	1,009	1,009
2005 Jul 12	Ph	0	0	254	0	267	267	15	1	537	537
2009 Jul 8	Ph	0	0	1,416	19	1,241	1,260	104	68	2,848	2,848
2011 Jul 15	DPh	0	0	34	0	233	233	6	2	275	275
2012 Jul 5-6	DPh	0	0	43	0	228	228	12	20	303	303
2013 Jul 6	DPh	0	0	0	0	5	5	4	4	13	13
Northern California: Zone B											
1998 Jul 7, 13, 15	Ph	0	0	2,382			116	162	62	2,722	2,722
1999 Jul 7	Ph	0	0	6			6	1	1	14	14
2000 Jul 8	Ph	0	0	1	0	1	1	2	0	4	4
2001 Jul 17	Ph	0	0	17	0	31	31	24	7	79	79
2002 Jul 9	Ph	0	0	13	0	6	6	2	0	21	21
2003 Jul 12	Ph	0	0	360	0	51	51	1	1	413	413
2004 Jul 5	Ph	0	0	0	0	9	9	2	1	12	12
2005 Jul 12	Ph	0	0	2	0	3	3	0	0	5	5
2009 Jul 8	Ph	0	0	446	0	161	161	58	31	696	696
2011 Jul 15	DPh	0	0	0	0	1	1	5	3	9	9
2012 Jul 5	DPh	0	0	60	0	88	88	20	23	191	191
2013 Jul 6	AO	0	0	0	0	0	0	0	0	0	0
Northern California: Zone C											
1998 Jul 13, 18	Ph	0	0	320			287	190	101	898	898
1999 Jul 7	Ph	0	0	0			0	1	0	1	1
2000 Jul 12	Ph	0	0	72	0	5	5	28	11	116	116
2001 Jul 17	Ph	0	0	422	0	181	181	132	146	881	881
2002 Jul 12	Ph	0	0	638	0	83	83	2	2	725	725
2003 Jul 8, 11, 12	Ph	1	0	1,644	1	450	451	40	14	2,149	2,150
2004 Jul 9	Ph	0	0	5	0	0	0	0	0	5	5
2005 Jul 12	Ph	0	0	137	0	33	33	10	18	198	198
2009 Jul 8, 10, 12, 13	Ph	0	0	965	62	876	938	94	28	2,025	2,025
2011 Jul 14-15	DPh	1	0	10	19	11	30	2	7	49	50

Table 3. (Continued)

Census date(s)	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total Live
Northern California: Zone C (Continued)											
2012 Jul 4	DPh	0	0	58	0	116	116	16	29	219	219
2013 Jul 5	DPh	0	0	20	10	9	19	6	12	57	57
Central California: Zone D											
1998 Jul 18	Ph	55	0	1,918			7,318	1,283	290	10,809	10,864
1999 Jul 6, 8	Ph	3	0	193			970	109	91	1,363	1,366
2000 Jul 8, 12	Ph	4	0	789	6	441	447	252	90	1,578	1,582
2001 Jul 17	Ph	0	0	1,658	58	856	914	441	190	3,203	3,203
2002 Jul 9, 23	Ph	29	0	2,863	49	2,110	2,159	91	122	5,235	5,264
2003 Jul 8, 9, 14	Ph	48	0	4,117	437	3,043	3,480	241	98	7,936	7,984
2004 Jul 19	Ph	10	0	2,055	47	568	615	451	224	3,345	3,355
2005 Jul 23, 24	Ph	11	0	859	446	1,133	1,579	592	430	3,460	3,471
2007 Jul 18	Ph	12	0	3,893	505	656	1,161	732	262	6,048	6,060
2009 Jul 7, 11, 13	Ph	71	0	1,841	4,988	1,059	6,047	585	170	8,643	8,714
2011 Jul 14	DPh	136	3	399	1,367	727	2,094	184	183	2,860	2,996
2012 Jul 4	DPh	174	2	1,068	963	2,639	3,602	254	257	5,181	5,355
2013 Aug 6	HDPh	141	0	617	2,885	860	3,745	986	346	5,694	5,835
Central California: Zone E											
1998 Jul 10	Ph	54	0	2,920			3,226	564	178	6,888	6,942
1999 Jul 9, 11	Ph	4	0	1,226			5,652	398	65	7,341	7,345
2000 Jul 6, 8	Ph	6	0	6,690	481	759	1,240	224	121	8,275	8,281
2001 Jul 14	Ph	2	0	7,219	306	2,179	2,485	612	283	10,599	10,601
2002 Jul 23	Ph	5	0	7,808	172	2,450	2,622	1,314	480	12,224	12,229
2003 Jul 8	Ph	48	0	1,536	5,451	981	6,432	242	92	8,302	8,350
2004 Jul 9	Ph	11	0	1,764	88	402	490	86	64	2,404	2,415
2005 Jul 10	Ph	11	0	3,408	1,009	23	1,032	124	67	4,631	4,642
2007 Jul 1	Ph	13	0	3,926	228	28	256	85	50	4,317	4,330
2009 Jul 7	Ph	75	1	1,724	8,280	639	8,919	407	125	11,175	11,250
2011 Jul 14, 15, 16	DPh	52	0	3,320	5,567	990	6,557	850	296	11,023	11,075
2012 Jul 3	DPh	94	0	2,046	1,592	2,788	4,380	307	168	6,901	6,995
2013 Jul 7	DPh	92	0	2,061	1,266	224	1,490	152	228	3,931	4,023
Central California: Zone F											
1998 Jul 10	Ph	12	0	63			510	125	50	748	760
1999 Jul 9, 11	Ph	0	0	270			578	90	14	952	952
2000 Jul 6	Ph	0	0	1,569	222	443	665	80	41	2,355	2,355
2001 Jul 14	Ph	0	0	574	248	319	567	124	81	1,346	1,346
2002 Jul 8	Ph	1	0	3,140	24	686	710	61	44	3,955	3,956
2003 Jul 8	Ph	10	0	632	647	387	1,034	52	29	1,747	1,757
2004 Jul 9	Ph	1	0	2,264	0	756	756	31	6	3,057	3,058
2005 Jul 10	Ph	4	0	2,168	694	7	701	57	28	2,954	2,958
2007 Jul 1	Ph	5	0	2,850	525	10	535	24	11	3,420	3,425
2009 Jul 6-7	Ph	0	0	476	985	63	1,048	79	27	1,630	1,630

Table 3. (Continued)

Census date(s)	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total Live
Central California: Zone F (Continued)											
2011 Jul 16	DPh	6	0	1,327	1,195	231	1,426	228	72	3,053	3,059
2012 Jul 3	DPh	6	0	1,712	609	196	805	47	18	2,582	2,588
2013 Jul 7	DPh	0	0	1,619	897	190	1,087	35	21	2,762	2,762
Central California: Zone G											
1998 Jul 10	Ph	0	0	779			1,362	92	30	2,263	2,263
1999 Jul 9	Ph	0	0	919			2,426	186	63	3,594	3,594
2000 Jul 6	Ph	0	0	2,637	1,632	620	2,252	148	61	5,098	5,098
2001 Jul 14, 16	Ph	0	0	3,810	2,271	489	2,760	191	50	6,811	6,811
2002 Jul 8, 23	Ph	0	0	4,825	0	1,496	1,496	214	49	6,584	6,584
2003 Jul 8	Ph	3	0	1,569	754	1,339	2,093	182	50	3,894	3,897
2004 Jul 9, 17	Ph	0	0	2,959	117	2,058	2,175	156	29	5,319	5,319
2005 Jul 10	Ph	0	0	4,757	2,505	7	2,512	195	57	7,521	7,521
2007 Jul 1,10	Ph	1	0	7,949	1,775	587	2,362	146	74	10,531	10,532
2009 Jul 6	Ph	2	0	2,096	7,229	2,973	10,202	288	106	12,692	12,694
2011 Jul 15, 16, 18	DPh	1	0	1,344	2,981	748	3,729	212	72	5,357	5,358
2012 Jul 3	DPh	2	0	2,475	931	673	1,604	166	77	4,322	4,324
2013 Jul 7	DPh	0	0	2,701	1,663	337	2,000	107	62	4,870	4,870

Table 4. Counts of California sea lions at Año Nuevo Island, South Farallon Islands, and North Farallon Islands from aerial photographic surveys conducted during 1992-2013.

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
Año Nuevo Island											
1992 Jul 08	Ph	4	0	554			1,505	179	71	2,309	2,313
1993 Jul 08	Ph	0	0	263			2,975	113	61	3,412	3,412
1994 Jul 06	Ph	1	0	82			2,696	58	59	2,895	2,896
1995 Jul 11	Ph	3	0	1761			3,490	358	96	5,705	5,708
1996 Jul 10	Ph	3	0	383			2,938	417	224	3,962	3,965
1997 Jul 10	Ph	1	0	454			7,404	277	223	8,358	8,359
1998 Jul 10	Ph	51	0	2,692			2,687	451	126	5,956	6,007
1999 Jul 09	Ph	4	0	1,010			4,925	205	61	6,201	6,205
2000 Jul 08	Ph	6	0	4,893	456	353	809	154	93	5,949	5,955
2001 Jul 14	Ph	2	0	5,704	202	1,965	2,167	517	267	8,655	8,657
2002 Jul 23	Ph	5	0	5,525	172	2,147	2,319	1,149	441	9,434	9,439
2003 Jul 08	Ph	48	0	1,077	5,451	69	5,520	196	81	6,874	6,922
2004 Jul 09	Ph	11	0	1,688	88	384	472	74	56	2,290	2,301
2005 Jul 10	Ph	11	0	2,877	927	18	945	109	60	3,991	4,002
2007 Jul 01	Ph	13	0	3,652	225	28	253	85	48	4,038	4,051
2009 Jul 07	Ph	75	1	934	7,157	564	7,721	356	102	9,113	9,188
2011 Jul 14	DPh	52	0	1,418	4,381	320	4,701	624	253	6,996	7,048
2012 Jul 03	DPh	94	0	1,162	1,301	2,226	3,527	275	151	5,115	5,209
2013 Jul 05	DPh	92	0	1,785	1,165	142	1,307	136	209	3,437	3,529
South Farallon Islands											
1995 Jul 11	Ph	11	0	1,432			2,254	211	69	3,966	3,977
1997 Jul 10	Ph	22	0	61			7,226	313	188	7,788	7,810
1998 Jul 18	Ph	55	0	1,380			7,102	1,231	281	9,994	10,049
1999 Jul 06	Ph	3	0	186			939	108	91	1,324	1,327
2000 Jul 12	Ph	4	0	761	6	427	433	250	90	1,534	1,538
2001 Jul 17	Ph	0	0	1,613	58	850	908	427	186	3,134	3,134
2002 Jul 09	Ph	29	0	2,726	49	2094	2,143	78	91	5,038	5,067
2003 Jul 14	Ph	48	0	2,186	437	2855	3,292	233	92	5,803	5,851
2004 Jul 19	Ph	10	0	2,004	47	547	594	434	218	3,250	3,260
2005 Jul 24	Ph	11	0	858	446	1129	1,575	582	414	3,429	3,440
2007 Jul 18	Ph	12	0	3,860	505	632	1,137	659	175	5,831	5,843
2009 Jul 11	Ph	71	0	1,144	4,815	830	5,645	511	145	7,445	7,516
2011 Jul 14	DPh	136	3	398	1,367	727	2,094	184	182	2,858	2,994
2012 Jul 04	DPh	174	2	1,066	963	2599	3,562	254	254	5,136	5,310
2013 Aug 06	DPh	141	0	616	2,876	844	3,720	979	343	5,658	5,799

Table 4. (Continued)

Census date	Method	Live pups	Dead pups	Juveniles	Adult females	Young males	Adult females or young males	Sub-adult males	Adult males	Non-pup total	Total live
North Farallon Islands											
1995 Jul 11	Ph	0	0	48			44	1	1	94	94
1998 Jul 18	Ph	0	0	47			53	14	0	114	114
1999 Jul 06	Ph	0	0	2			1	0	0	3	3
2000 Jul 12	Ph	0	0	27	0	13	13	2	0	42	42
2001 Jul 17	Ph	0	0	1	0	1	1	0	0	2	2
2002 Jul 09	Ph	0	0	136	0	16	16	2	0	154	154
2003 Jul 14	Ph	0	0	171	0	117	117	3	1	292	292
2004 Jul 19	Ph	0	0	51	0	21	21	17	6	95	95
2007 Jul 18	Ph	0	0	20	0	18	18	23	2	63	63
2009 Jul 11	Ph	0	0	100	93	36	129	14	5	248	248
2012 Jul 04	DPh	0	0	2	0	40	40	0	3	45	45
2013 Aug 06	DPh	0	0	1	9	16	25	7	3	36	36

Table 5. Published counts or estimates of CSL live-pups and non-pups used to estimate population trends. Date or count of live-pups enclosed within parenthesis is an estimate.

Census date	Live-pups counted (estimated maximum)	Non-pups counted	Citation
		San Miguel Island	
1964 Jun 20	1,895 (2,350)	12,456	Odell (1971)
1965 Jun 1-3		11,641	Carlisle & Aplin (1966)[a, b]
1975 Jun 27	6,236 (6,610)	12,192[c]	Bonnell et al. (1980)
1976 Jun 19	7,130 (9,269)	16,965[c]	Bonnell et al. (1980)
1976 Jun 30	6,323 (6,513)	16,474[c]	Bonnell et al. (1980)
1977 Jul 2	5,304	14,122[c]	Bonnell et al. (1980)
		San Nicolas Island	
1964 Jun 20	2,300 (2,852)	10,539[d]	Odell (1971)
1965 Jul 4-6	3,604	5,771	Peterson & Bartholomew (1967)
1968 Aug 3-4	875		Odell (1972)
1969 Jun 14-15	2,679 (4,501)	9,056	Odell (1972)
1969 Jul18-20	2,957		Odell (1972)
1970 Jul 3-4	2,271	7,522	Odell (1972)
1971 Jul 3-5	3,500	8,806[e]	Odell (1972)
1975 Jun28	3,800 (3,990)	9,649	Bonnell et al. (1980)
1976 Jun19-20	3,533 (4,381)	10,159	Bonnell et al. (1980)
1976 Jul1	2,887 (2,945)	9,430	Bonnell et al. (1980)
1977 Jul 3	3,773	11,534	Bonnell et al. (1980)
1977 Jul 26-30	3,155		Bonnell et al. (1980)
1978	(3,241 ± 592)		Lowry & Maravilla-Chavez (2005)
1979	(4,880 ±499)		Lowry & Maravilla-Chavez (2005)
1980 Jul 6	6,096	8,211	Stewart & Yochem (1984)
1981 Jul 5	6,704	9,305	Stewart & Yochem (1984)
1981 Jun 24	5,693	11,645	Heath & Francis (1983)
1982 Jun 20	6,648 (8,244)	13,680	Heath & Francis (1983)
1982 Jul 4	7,738	12,554	Stewart & Yochem (1984)
1982 Jul 12	6,805	11,035	Heath & Francis (1983)
1982 Jul 26	6,952	8,547	Heath & Francis (1983)
1983 Jun 19	3,281 (4,265)	9,535	Heath & Francis (1984)
1983 Jul 5	4,405	7,760	Heath & Francis (1984)
1983 Jul 17	4,005	5,645	Heath & Francis (1984)
1984 Jul 2	3,631	6,966	Stewart & Yochem 1986
1985 (Jul 2)	(4,524[f])		Stewart et al. (1993)
1986 (Jul 2)	(4,157[f])		Stewart et al. (1993)
1987 (Jul2)	(5,321[f])		Stewart et al. (1993)
		Santa Barbara Island	
1964 Jun 12	220 (497)	3,062	Odell (1971)
1965 Jun 1-3		1,100	Carlisle & Aplin (1966)[a, b]
1975 Jun 29	684 (711)	1,104	Bonnell et al. (1980)
1976 Jun 19-20	410 (533)	1,382	Bonnell et al. (1980)
1976 Jun 29-Jul 2	515 (530)	1,114	Bonnell et al. (1980)

Table 5. (Continued)

Census date	Live-pups counted (estimated maximum)	Non-pups counted	Citation
	Santa Barbara Island		
1976 Jul 29	582		Bonnell et al. (1980)
1976 Jul 31–Aug 3	403		Bonnell et al. (1980)
1977 Jun 30-Jul 3	349	1,200	Bonnell et al. (1980)
1977 Jul 29	492		Bonnell et al. (1980)
1978 (Jul 2)	465		Heath & Francis (1983)
1979 (Jul 2)	625		Heath & Francis (1983)
1980	(773 ± 54)		Lowry & Maravilla-Chavez (2005)
1981 (Jul 2)	730		Heath & Francis (1983)
1982 (Jul 2)	818		Heath & Francis (1983)
	San Clemente Island		
1964 Jun 12	183 (414)	3,637	Odell (1971)
1965 Jun 1-3		1,900	Carlisle & Aplin (1966)[a, b]
1975 Jun 29	608 (632)	1,239	Bonnell et al. (1980)
1976 Jun 19-20	413 (512)	1,463	Bonnell et al. (1980)
1976 Jul 31-Aug 3	438		Bonnell et al. (1980)
1977 Jul 3	351	1,067	Bonnell et al. (1980)
1978	(465 ± 38)		Lowry & Maravilla-Chavez (2005)
1979	(549 ± 31)		Lowry & Maravilla-Chavez (2005)
1980	(619 ± 34)		Lowry & Maravilla-Chavez (2005)
	Richardson Rock		
1975 Jun 27	0	131	Bonnell et al. (1980)
1976 Jun 19		368	Bonnell et al. (1980)
1976 Jun 30	3	274	Bonnell et al. (1980)
1977 Jul 2	0	305	Bonnell et al. (1980)
	Anacapa Island		
1965 Jun 1-3		0	Carlisle & Aplin (1966)
1975 Jun 27-30	0	0	Bonnell et al. (1980)
1977 Jun 30-Jul 3	0	0	Bonnell et al. (1980)
	Santa Cruz Island		
1964 Jun 20	0	89	Odell (1971)
1965 Jun 1-3		401	Carlisle & Aplin (1966) [a, b]
1975 Jun 27-30	0	25	Bonnell et al. (1980)
1976 Jun 19-20	0	212	Bonnell et al. (1980)
1976 Jun 29-Jul 2	0	239	Bonnell et al. (1980)
1977 Jun 30-Jul 3	0	185	Bonnell et al. (1980)
	Santa Rosa Island		
1964 Jun 20	0	0	Odell (1971)
1965 Jun 1-3		125	Carlisle & Aplin (1966) [a, b]
1975 Jun 27-30	0	0	Bonnell et al. (1980)
1976 Jun 29-Jul 2	0	111	Bonnell et al. (1980)
1977 Jun 30-Jul 3	0	0	Bonnell et al. (1980)

Table 5. (Continued)

Census date	Live-pups counted (estimated maximum)	Non-pups counted	Citation
	Santa Catalina Island		
1964 Jun 20	0	92	Odell (1971)
1965 Jun 1-3		35	Carlisle & Aplin (1966) [a, b]
1975 Jun 27-30	0	0	Bonnell et al. (1980)
1976 Jun 29-Jul 2	0	14	Bonnell et al. (1980)
1977 Jun 30-Jul 3	0	106	Bonnell et al. (1980)
	South Farallon Islands		
1982 July 15	2	1,836	Huber et al. (1983)
1983 July 7	2	3,494	Huber et al. (1985)
1984 July 6	1	2,297	Huber et al. (1986)
	Central California		
1980 July 1-3		4,272	Bonnell et al. (1983)
1981 June 30-July 2		7,935	Bonnell et al. (1983)
1982 June 28-30		11,208	Bonnell et al. (1983)
	Northern California		
1980 July 1-3		214	Bonnell et al. (1983)
1981 June 30-July 2		0	Bonnell et al. (1983)
1982 June 28-30		1	Bonnell et al. (1983)

[a]Counts of CSLs south of Point Conception may include Steller sea lions.

[b]Count of non-pups may contain pups.

[c]Count for Richardson Rock removed from San Miguel Island total.

[d]Non-pup total derived from sum of adult males and females/immature males.

[e]Non-pup total derived from sum of total males and females/immature males.

[f]Counts estimated by digitizing Figure 4 in Stewart et al. (1993).

Table 6. Previously published counts of live California sea lion pups at San Nicolas Island, California used to estimate corrections for survey date (see text) when live pup counts were made prior to the July 2 maximum.

Year	date	Julian day	Live-pup count	Proportion of maximum live-pup count	Source of pup count data
1982	16-May	136	6	0.001	Heath and Francis (1983)
1982	23-May	143	43	0.006	Heath and Francis (1983)
1982	6-Jun	157	1,853	0.267	Heath and Francis (1983)
1982	20-Jun	171	6,648	0.956	Heath and Francis (1983)
1982	12-Jul	193	6,805	0.979	Heath and Francis (1983)
1982	26-Jul	207	6,952	1	Heath and Francis (1983)
1983	15-May	135	2	0	Heath and Francis (1984)
1983	29-May	149	127	0.029	Heath and Francis (1984)
1983	5-Jun	156	728	0.165	Heath and Francis (1984)
1983	19-Jun	170	3,281	0.745	Heath and Francis (1984)
1983	5-Jul	186	4,405	1	Heath and Francis (1984)
1980	17-May	138	34	0.006	Stewart and Yochem (1984)
1980	8-Jun	160	1,276	0.209	Stewart and Yochem (1984)
1980	6-Jul	188	6,096	1	Stewart and Yochem (1984)
1981	16-May	136	0	0	Stewart and Yochem (1984)
1981	22-May	142	121	0.018	Stewart and Yochem (1984)
1981	12-Jun	163	3,336	0.498	Stewart and Yochem (1984)
1981	5-Jul	186	6,704	1	Stewart and Yochem (1984)
1981	11-Jul	192	6,626	0.988	Stewart and Yochem (1984)
1981	24-Jul	205	6,676	0.996	Stewart and Yochem (1984)
1982	29-May	149	274	0.035	Stewart and Yochem (1984)
1982	12-Jun	163	3,396	0.439	Stewart and Yochem (1984)
1982	4-Jul	185	7,738	1	Stewart and Yochem (1984)
1984	19-May	140	3	0.001	Stewart and Yochem (1986)
1984	10-Jun	162	631	0.174	Stewart and Yochem (1986)
1984	17-Jun	169	1,786	0.492	Stewart and Yochem (1986)
1984	2-Jul	184	3,631	1	Stewart and Yochem (1986)

Table 7. Mean percentage distribution (with standard deviation [SD]) of seven CSL age/sex class categories counted at the Main Channel Islands rookeries, Other Channel Islands, central California, and northern California from surveys conducted in 2003-2005, 2007 (pups only), and 2011-2013.

	Southern California							
	Main Channel Island Rookeries		Other Channel Islands		Central California		Northern California	
Age/sex class	Mean %	SD	Mean %	SD	Mean %	SD	Mean %	SD
Live pups	99.71	0.239	0.05	0.044	0.29	0.197	0.00	0.001
Juveniles	59.41	8.142	3.50	1.894	33.70	6.607	3.39	5.741
Adult females	87.22	7.297	2.42	1.590	10.35	6.565	0.01	0.013
Young males	50.40	15.126	2.68	1.525	42.72	14.470	4.21	2.510
Sub-adult males	82.85	6.027	1.29	0.352	15.44	6.108	0.41	0.310
Adult males	91.90	2.748	0.56	0.277	7.22	2.488	0.32	0.324
Non-pups	77.35	5.040	2.40	1.378	18.96	3.675	1.29	1.770

Table 8. Mean percentage distribution (with standard deviation [SD]) of seven CSL age/sex class categories counted at zones in central California, northern California, and at each of the Channel Islands in southern California from surveys conducted in 2003-2005, 2007 (pups only), and 2011-2013. Refer to Figure 1 for location of zones and islands (Richardson rock is 10 km northwest of Point Bennett, San Miguel Island).

Zone, Rock, or Island	Live pups		Juveniles		Adult females		Young males		Sub-adult males		Adult males		Non-pups	
	Mean %	SD	Mean %	SD	Mean %	SD	Mean %	SD	Mean %	SD	Mean %	SD	Mean %	SD
Northern CA, zone A	0.00	0.00	1.77	2.52	0.00	0.00	2.89	1.59	0.16	0.12	0.07	0.10	0.70	0.74
Northern CA, zone B	0.00	0.00	0.30	0.61	0.00	0.00	0.25	0.35	0.07	0.11	0.06	0.12	0.11	0.18
Northern CA, zone C	0.00	0.00	1.32	2.77	0.01	0.01	1.06	1.64	0.18	0.19	0.19	0.14	0.48	0.92
Central CA, zone D	0.14	0.13	6.33	5.91	1.71	1.46	18.49	8.50	7.06	4.83	3.78	1.97	4.77	2.10
Central CA, zone E	0.09	0.07	9.86	3.65	4.79	4.96	10.30	9.72	4.49	4.47	2.18	1.35	6.25	3.25
Central CA, zone F	0.01	0.01	6.69	2.35	1.21	0.66	3.66	2.81	1.19	1.21	0.42	0.33	2.69	0.49
Central CA, zone G	0.00	0.00	10.82	4.74	2.64	1.85	10.28	7.78	2.70	1.08	0.83	0.23	5.25	1.46
Richardson Rock	0.00	0.00	0.24	0.08	0.22	0.08	0.28	0.37	0.56	0.28	0.14	0.05	0.24	0.03
San Miguel Island	44.78	2.96	36.89	7.49	42.70	6.18	26.15	9.27	42.35	2.12	46.18	4.19	40.12	5.22
Santa Rosa Island	0.00	0.00	0.84	1.06	0.56	0.62	0.27	0.35	0.19	0.23	0.09	0.08	0.54	0.61
Santa Cruz Island	0.00	0.00	1.13	0.63	0.95	0.73	0.97	0.99	0.33	0.17	0.12	0.10	0.84	0.53
Anacapa Island	0.04	0.04	1.29	0.42	0.68	0.30	1.16	1.52	0.21	0.13	0.21	0.12	0.78	0.29
Santa Barbara Island	5.80	0.88	2.00	0.37	5.74	1.41	1.86	0.82	3.01	0.67	3.86	0.70	4.17	0.72
San Nicolas Island	44.71	3.49	18.34	7.78	33.54	4.44	20.94	7.46	35.31	5.82	38.78	3.73	29.22	3.91
Santa Catalina Island	0.02	0.02	0.31	0.18	0.23	0.20	0.37	0.56	0.08	0.05	0.06	0.05	0.24	0.15
San Clemente Island	4.41	0.76	1.93	0.85	5.06	0.48	1.14	0.71	2.12	0.67	3.03	0.48	3.64	0.48

Table 9. Average annual rates of increase (λ) during 1964 to 2014 predicted from (A) counts of live-pups and (B) counts of non-pups at rookeries or regions. Rates are estimated from the year coefficient of a backward-stepwise Generalized Linear Model (GLM) with Multivariate ENSO Index (MEI), Sea Level Height at Los Angeles, California harbor (SLH-LA), Pacific Decadal Oscillations (PDO), and North Pacific Gyre Oscillation (NPGO) as continuous covariates. Only significant ($p \leq 0.05$) covariates are included.

Rookery, group, or region (year data range)	N	Adjusted R^2	Effect	Coefficient	t	p-Value	95% CI for regression coefficients		Predicted λ	95% CI for λ	
							Lower	Upper		Lower	Upper
A. Live pup counts											
San Miguel Island (1964-2014)	41	0.878	Constant	-71.364	-14.935	<0.001	-81.037	-61.691			
			Year	0.041	16.909	<0.001	0.036	0.045	1.042	1.037	1.046
			SLH-LA	-2.279	-2.906	0.006	-3.866	-0.691			
San Nicolas Island (1964-2014)	39	0.841	Constant	-101.084	-12.844	<0.001	-114.523	-85.984			
			Year	0.054	13.758	<0.001	0.048	0.062	1.055	1.049	1.064
			SLH-LA	-7.830	-5.776	<0.001	-9.932	-4.090			
			NPGO	-0.115	-2.208	0.034	-0.262	-0.044			
Santa Barbara Island (1964-2014)	38	0.856	Constant	-101.084	-12.844	<0.001	-117.077	-85.09			
			Year	0.054	13.758	<0.001	0.046	0.062	1.055	1.047	1.064
			SLH-LA	-7.83	-5.776	<0.001	-10.585	-5.075			
			NPGO	-0.115	-2.208	0.034	-0.22	-0.009			
San Clemente Island (1964-2014)	38	0.905	Constant	-84.83	-16.817	<0.001	-95.070	-74.589			
			Year	0.046	18.202	<0.001	0.041	0.051	1.047	1.042	1.052
			SLH-LA	-4.633	-6.011	<0.001	-6.198	-3.068			
Año Nuevo Island (1992-2013)	19	0.739	Constant	-421.492	-7.222	<0.001	-545.219	-297.76			
			Year	0.212	7.262	<0.001	0.15	0.274	1.236	1.162	1.315
			SLH-LA	11.951	2.603	0.019	2.216	21.686			
S. Farallon Islands (1981-2013)	18	0.493	Constant	-237.021	-4.137	0.001	-358.472	-115.57			
			Year	0.120	4.185	0.001	0.059	0.181	1.127	1.061	1.198
Año Nuevo Is. + S. Farallon Islands (1995-2013)	15	0.557	Constant	-379.106	-4.118	0.001	-579.693	-178.52			
			Year	0.191	4.158	0.001	0.091	0.291	1.210	1.095	1.338
			SLH-LA	15.651	2.322	0.039	0.968	30.335			
Main Channel Islands rookeries (1964-2014)	34	0.923	Constant	-81.521	-16.992	<0.001	-91.319	-71.723			
			Year	0.046	19.13	<0.001	0.041	0.051	1.047	1.042	1.052
			SLH-LA	-5.369	-6.361	<0.001	-7.092	-3.645			
			NPGO	-0.100	-3.223	0.003	-0.164	-0.037			
U.S. population (1964-2014)	34	0.924	Constant	-81.669	-17.120	<0.001	-91.411	-71.927			
			Year	0.046	19.271	<0.001	0.041	0.051	1.047	1.042	1.052
			SLH-LA	-5.346	-6.370	<0.001	-7.059	-3.632			
			NPGO	-0.099	-3.215	0.003	-0.162	-0.036			
B. Non-pup counts											
San Miguel Island (1964-2014)	26	0.849	Constant	-46.827	-9.793	<0.001	-56.719	-36.935			
			Year	0.029	11.922	<0.001	0.024	0.034	1.029	1.024	1.035
			SLH-LA	-1.785	-2.102	0.047	-3.542	-0.028			
San Nicolas Island (1964-2014)	33	0.891	Constant	-54.591	-13.732	<0.001	-62.710	-46.472			
			Year	0.032	16.176	<0.001	0.028	0.036	1.033	1.028	1.037
			SLH-LA	-2.318	-3.079	0.004	-3.855	-0.780			

Table 9. (Cont.)

Rookery, group, or region (year data range)	N	Adjusted R^2	Effect	Coefficient	t	p-Value	95% CI for regression coefficients Lower	Upper	Predicted λ	95% CI for λ Lower	Upper
B. Non-pup counts (Cont.)											
Santa Barbara Is. (1964-2014)	31	0.575	Constant	-50.12	-5.565	<0.001	-68.539	-31.701			
			Year	0.029	6.449	<0.001	0.020	0.038	1.029	1.020	1.039
San Clemente Island (1964-2014)	39	0.498	Constant	-39.671	-3.879	<0.001	-60.412	-18.93			
			Year	0.024	4.617	<0.001	0.013	0.034	1.024	1.013	1.035
			PDO	-0.277	-3.71	0.001	-0.428	-0.126			
Main Channel Islands rookeries (1964-2014)	26	0.885	Constant	-46.782	-11.237	<0.001	-55.394	-38.17			
			Year	0.029	13.843	<0.001	0.025	0.033	1.029	1.025	1.034
			SLH-LA	-2.157	-2.916	0.008	-3.686	-0.627			
Southern California (1964-2014)	14	0.942	Constant	-45.599	-11.76	<0.001	-54.048	-37.15			
			Year	0.028	14.568	<0.001	0.024	0.033	1.028	1.024	1.034
Other Channel Is. (1964-2014)	14	0.647	Constant	-120.165	-4.71	0.001	-175.751	-64.579			
			Year	0.064	4.978	<0.001	0.036	0.092	1.066	1.037	1.096
Año Nuevo Island (1992-2013)	19	0.197	Constant	20.46	0.6	0.557	-51.884	92.803			
			Year	-0.006	-0.351	0.730	-0.042	0.030	0.994	0.959	1.030
			NPGO	0.204	2.312	0.034	0.017	0.392			
S. Farallon Islands (1982-2013)	18	0.459	Constant	-58.83	-2.641	0.019	-106.31	-11.35			
			Year	0.034	3.010	0.009	0.010	0.057	1.035	1.010	1.059
			MEI	0.403	3.459	0.004	0.155	0.652			
Año Nuevo Island + S. Farallon Is. (1995-2013)	15	0	Constant	23.312	0.729	0.479	-45.794	92.418			
			Year	-0.007	-0.440	0.667	-0.042	0.027	0.993	0.959	1.027
Central California (1980-2013)	16	0.603	Constant	-65.962	-4.251	0.001	-99.244	-32.681			
			Year	0.038	4.878	<0.001	0.021	0.054	1.039	1.021	1.055
N. California (1980-2013)	15	0.340	Constant	-284.712	-2.808	0.015	-503.748	-65.677			
			Year	0.145	2.866	0.013	0.036	0.255	1.156	1.037	1.290
Central + North. California (1980-2013)	15	0.556	Constant	-67.063	-3.754	0.002	-105.653	-28.474			
			Year	0.038	4.301	0.001	0.019	0.058	1.039	1.019	1.060

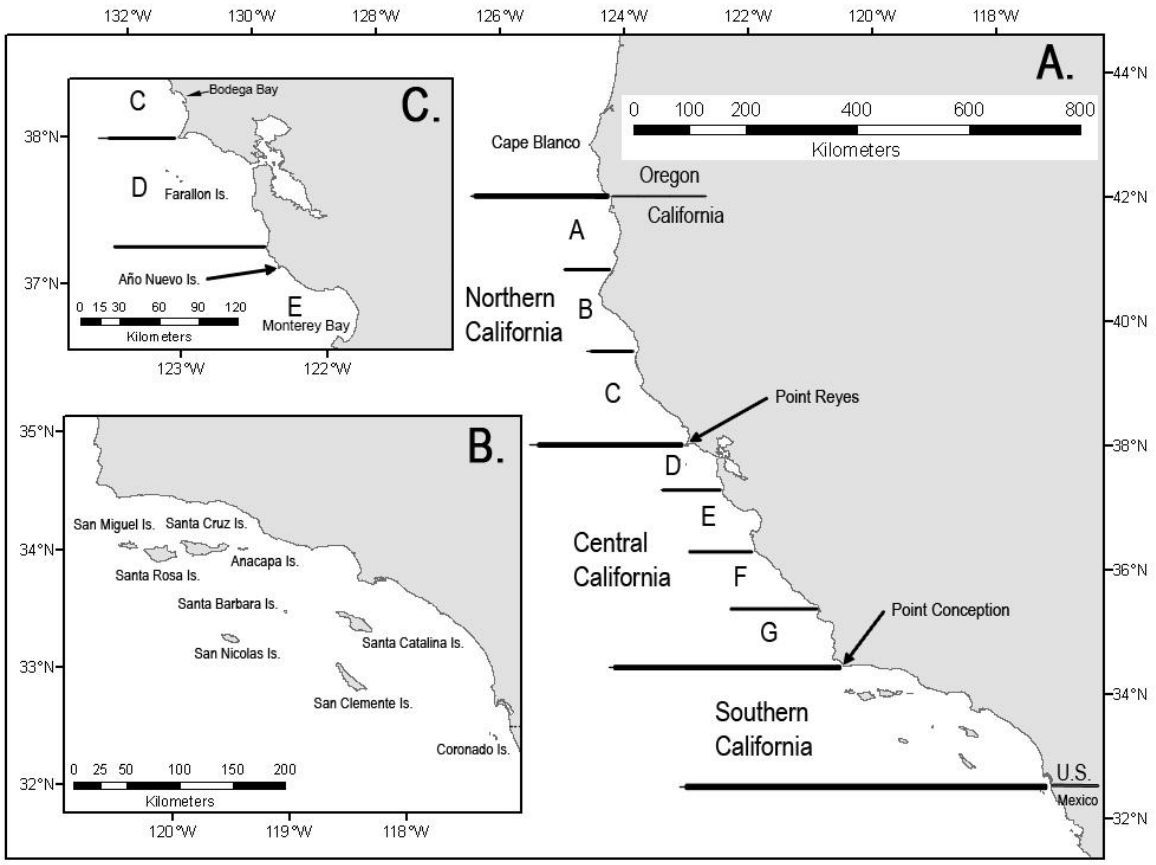

Figure 1. A. Map of California shoreline showing *a posteriori* strata of the coastline comprised of three sections (southern, central, and northern) and zones A through G within central and northern California. B. Map of Southern California strata showing names and location of California Channel Islands. Most of the U.S. population of CSL breeds at rookeries on San Clemente, San Nicolas, Santa Barbara and San Miguel Islands. C. Map of coastline from Monterey Bay to Bodega Bay showing location of northernmost CSL rookeries at Año Nuevo Island and the Farallon Islands.

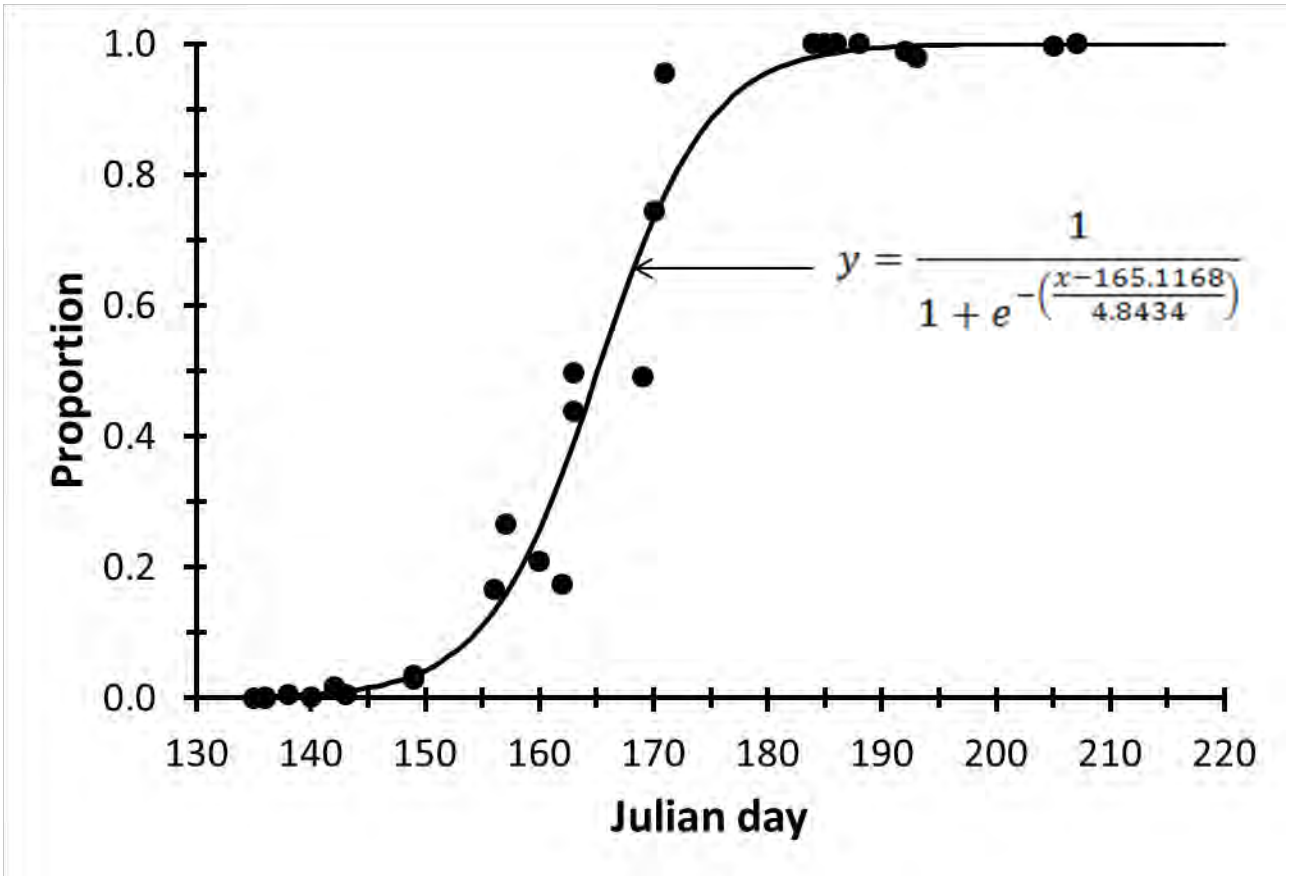

Figure 2. Cumulative proportion of live pups counted for each Julian day that a count was made. Logistic equation (black line) is fit to published data (black circles) of live-pup counts made at San Nicolas during the breeding season (data from Heath and Francis 1983, 1984, Stewart and Yochem 1984, 1986). The logistic curve is parameterized to estimate the expected proportion of pups that would be counted on July 2 (Julian day 183).

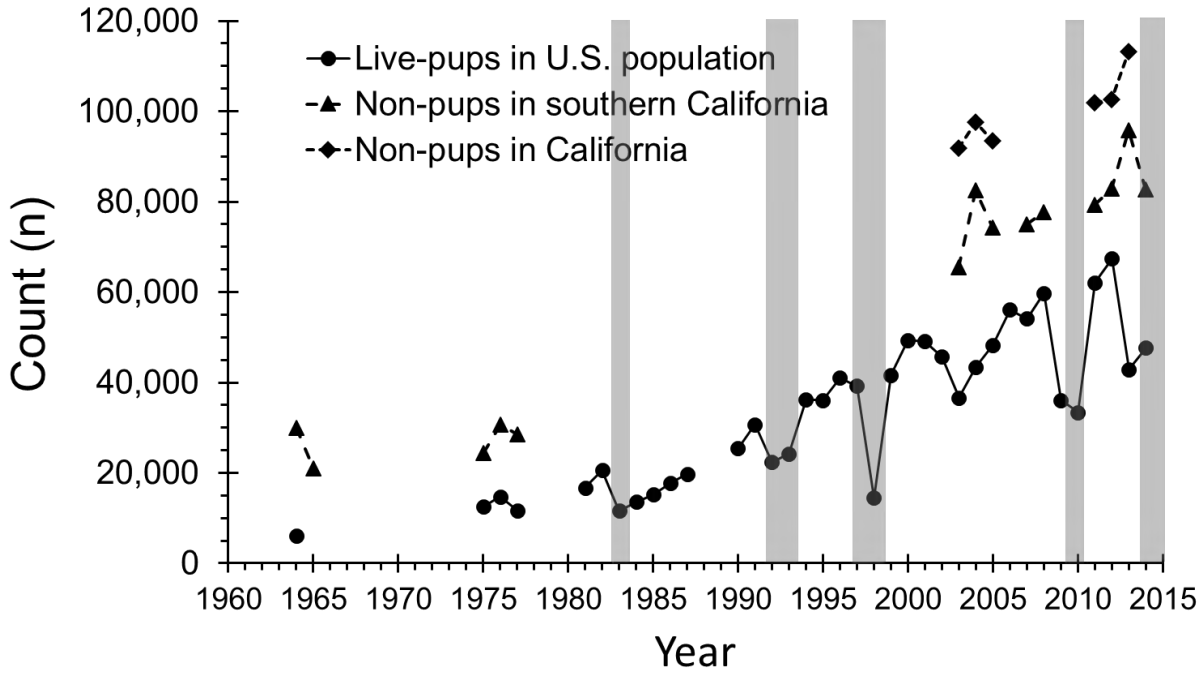

Figure 3. Counts of CSL live-pups in the U.S. population, and counts of non-pups in southern California and total for California (southern California mainland not surveyed) for surveys conducted during 1964-2014. Grey bars indicate moderate or strong El Niño conditions based on SLH-LA. Gaps represent years when no counts were available.

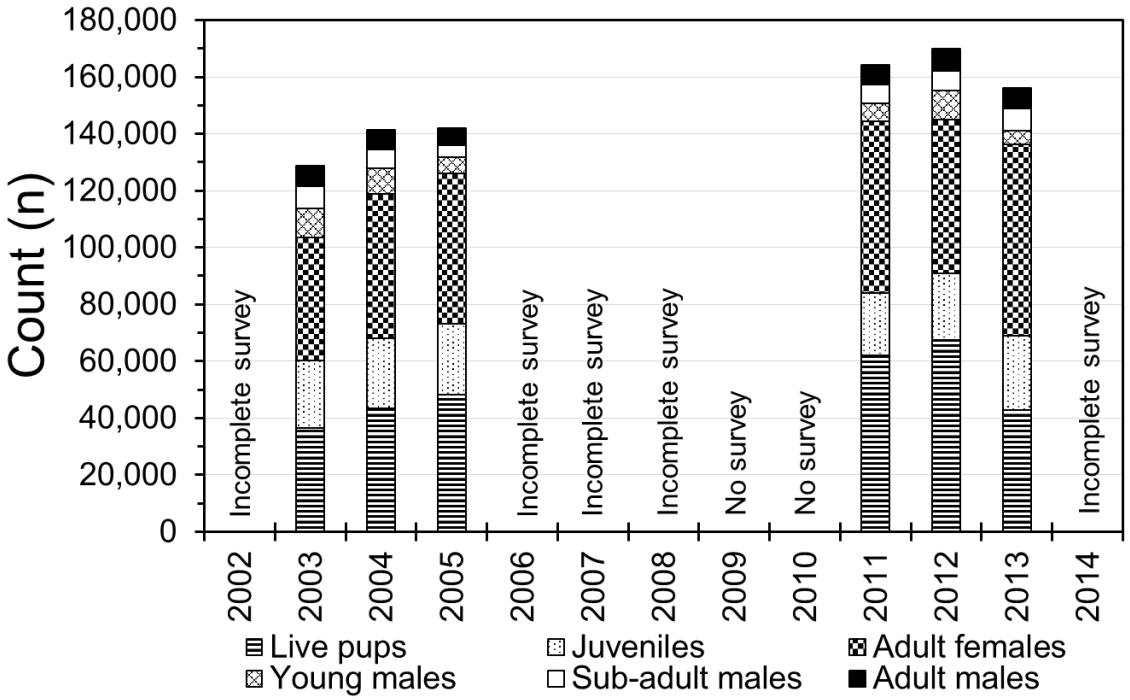

Figure 4. Total of CSL age/sex class counts from complete surveys conducted in southern California, central California, and northern California during non-consecutive years, July 2002-2014.

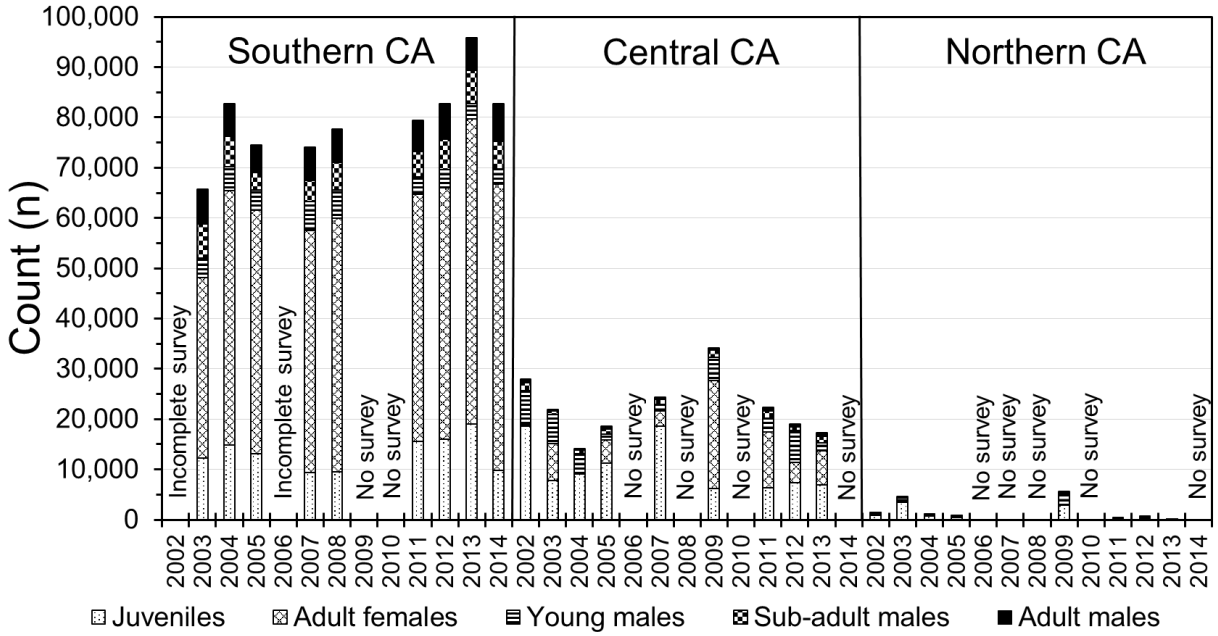

Figure 5. Total of CSL age/sex classes of non-pups counted in southern California (CA), central California, and northern California during surveys conducted in non-consecutive years, July 2002-2014.

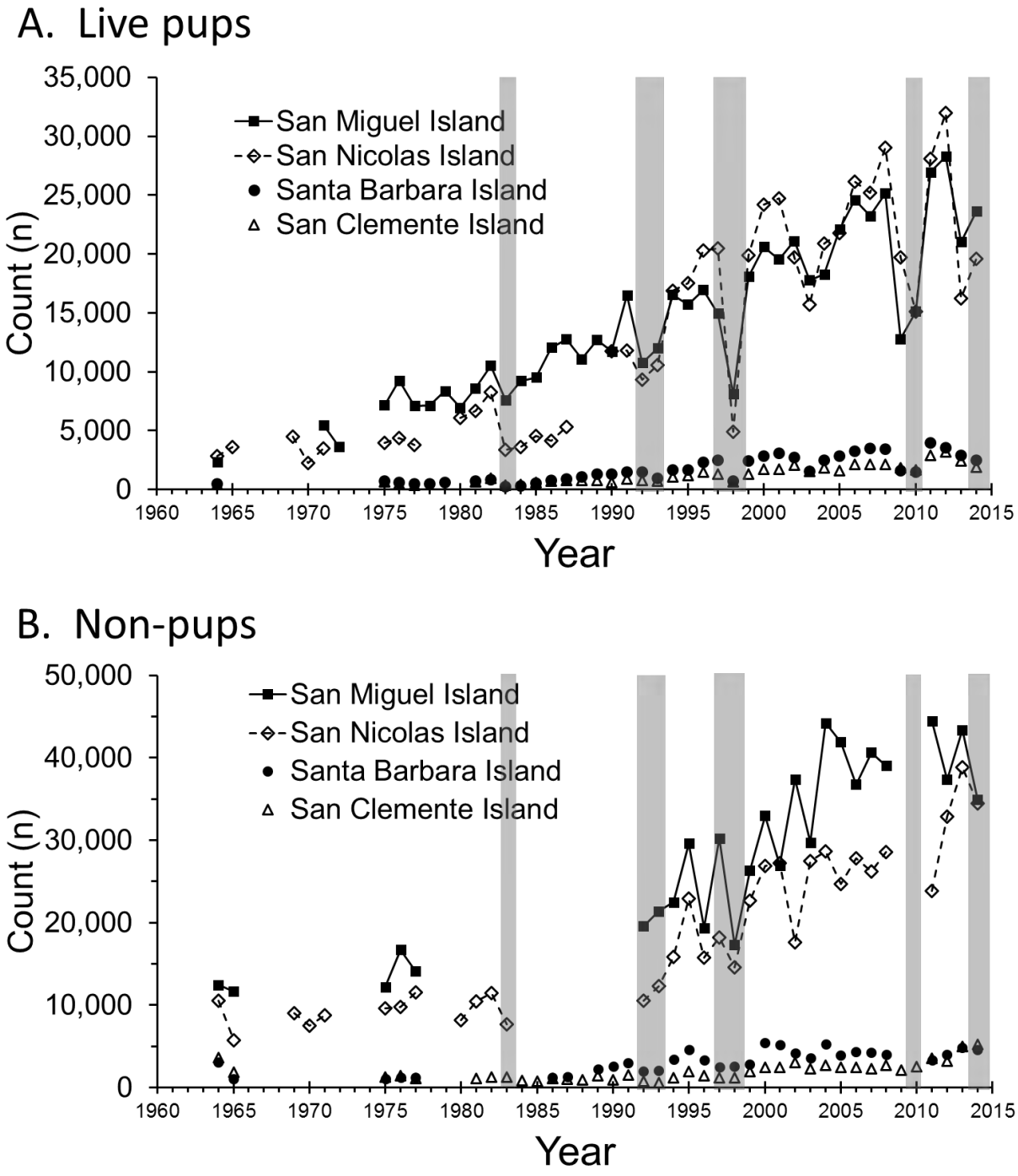

Figure 6. (A) CSL counts of live-pups and (B) counts of CSL non-pups at each of the four Main Channel Islands rookeries in southern California during 1964-2014. Grey bars indicate moderate or strong El Niño conditions based on SLH-LA. Gaps represent years when no counts were available.

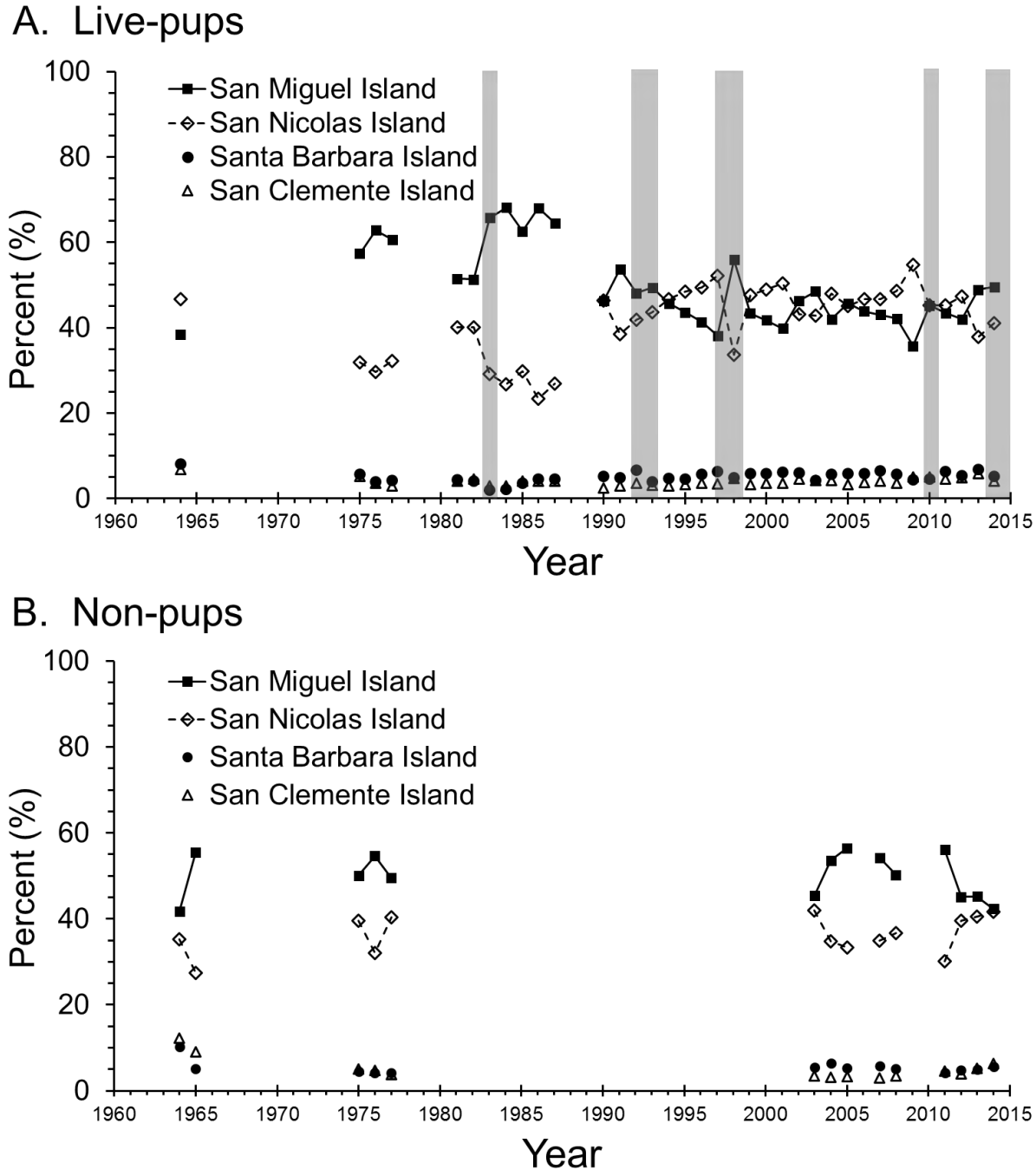

Figure 7. (A) Percentage distribution of CSL counts of live-pups and (B) counts of non-pups at each of the Main Channel Islands rookeries in southern California during 1964-2014. Grey bars in panel (A) indicate moderate or strong El Niño conditions based on SLH-LA. Gaps represent years when no counts were available.

Appendix 1. California sea lion pup calculation for the U. S. stock in 2009-2010

Total California sea lion (CSL) pup counts for the U.S. population were not available for 2009 and 2010, but a complete ground count was available for San Miguel Island (SMI) and a partial ground count was available for San Nicolas Island (SNI). The partial ground counts at SNI were obtained within the SNI trend study area (Figure A1). To expand the partial count from the SNI trend study area to a total island count, aerial photo count data at SNI for the years 1990, 1992-2008, and 2011-2013 was used (Table 3). For each year the proportion of pups in the trend study areas was computed from aerial photographic surveys (Table A1). A temporal trend with a cubic polynomial was fitted to the proportions with a log-link and a normal error distribution (Figure A2). With the predicted proportions from the regression for 2009 and 2010, the partial ground count was expanded to a total island count for SNI for those years. The SNI estimated total count was then added to the SMI ground count (Table A2). With the aerial survey data, the total U.S. count was regressed against the count at SMI and SNI to provide a correction factor to expand the total from SMI and SNI to the total U.S. pup count (Figure A3, Table A2).

Table A1. Aerial survey counts of California sea lion pups from 1990, 1992-2008, and 2011-2013 at San Nicolas Island. Counts are for the entire island and for the SNI trend study area. The proportion of the count in the SNI trend study area is also shown. Multiple counts were available for some years.

Year	SNI Trend study area	U.S. Total	Proportion
1990	9,765	10,683	0.914
1990	10,361	11,766	0.881
1992	7,268	8,869	0.819
1992	7,617	9,348	0.815
1993	8,463	10,595	0.799
1993	8,315	10,538	0.789
1993	7,920	9,702	0.816
1993	8,366	10,409	0.804
1993	7,831	9,698	0.807
1993	8,285	10,345	0.801
1994	11,079	15,766	0.703
1994	11,885	16,889	0.704
1995	11,395	17,512	0.651
1995	11,218	16,926	0.663
1996	11,264	19,308	0.583
1996	11,841	20,285	0.584
1997	11,951	20,488	0.583
1998	2,373	4,885	0.486
1999	9,882	19,878	0.497
2000	11,323	24,167	0.469
2001	11,023	24,741	0.446
2002	8,717	19,719	0.442
2003	6,568	15,702	0.418
2004	8,167	20,866	0.391
2005	8,072	21,799	0.370
2006	9,232	26,154	0.353
2007	8,962	25,198	0.356
2008	10,134	29,052	0.349
2011	9,075	28,087	0.323
2012	10,399	31,972	0.325
2013	4,569	16,225	0.282
2014	5,676	19,587	0.290

Table A2. Ground count of California sea lion pups at San Miguel Island, estimated number of pups at San Nicolas Island from partial ground count and estimate of total number of pups in U.S. waters for 2009-2010.

Year	SMI Ground Count	SNI Estimate	U.S. Total Estimate
2009	12,806	19,697	35,913
2010	15,131	15,554	33,873

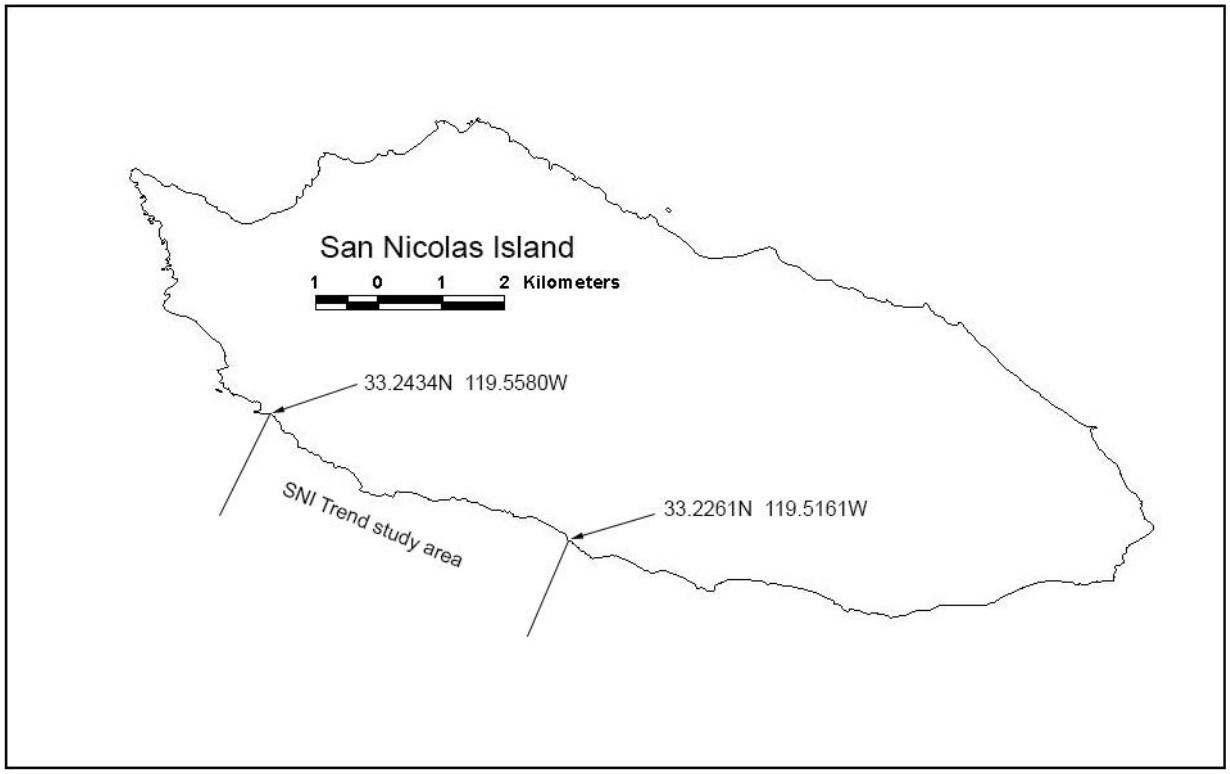

Figure A1. Location of SNI Trend study area for monitoring California sea lion pup production at San Nicolas Island, California.

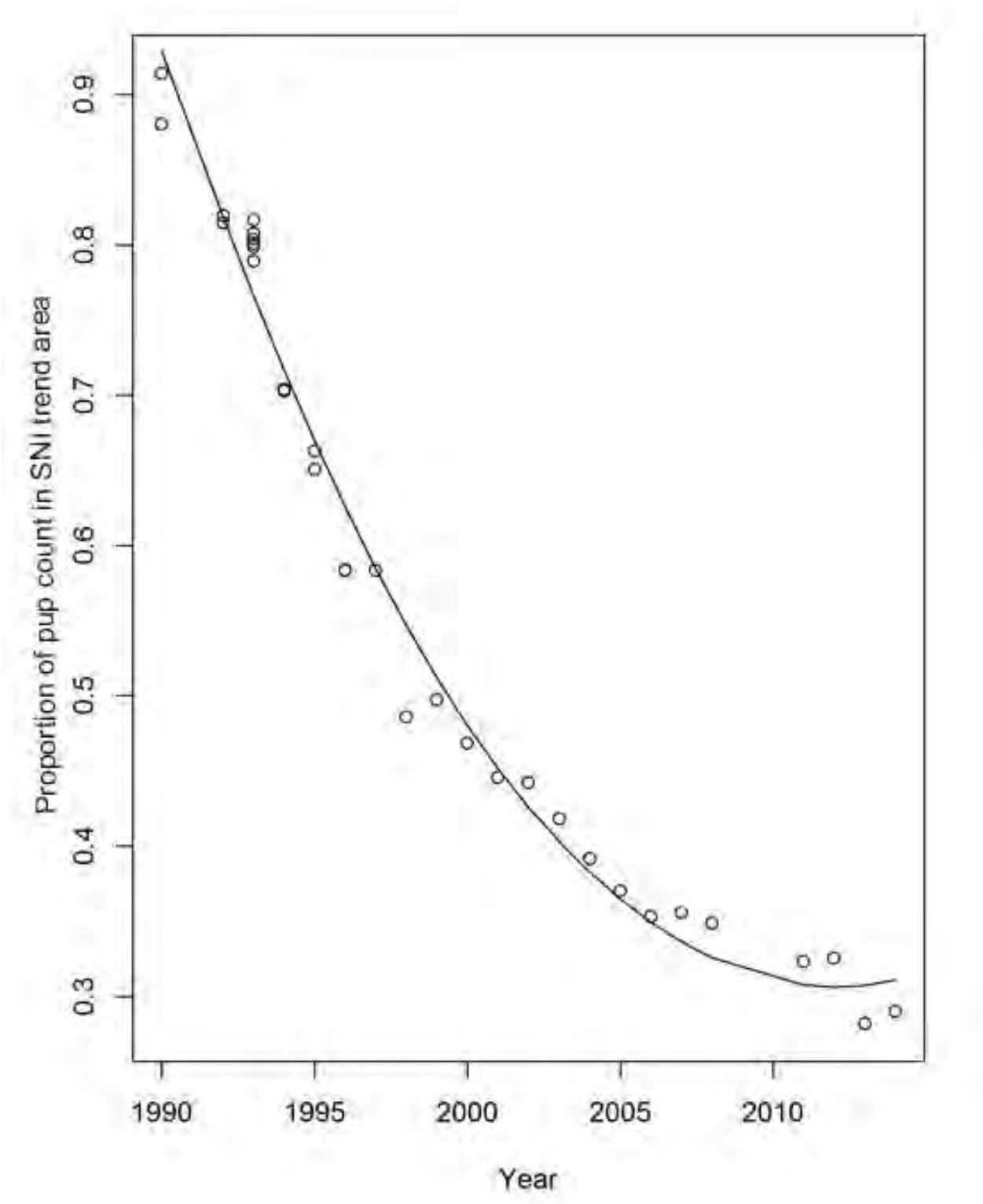

Figure A2. Proportion of California sea lion pup counts in SNI trend area and the fitted cubic polynomial.

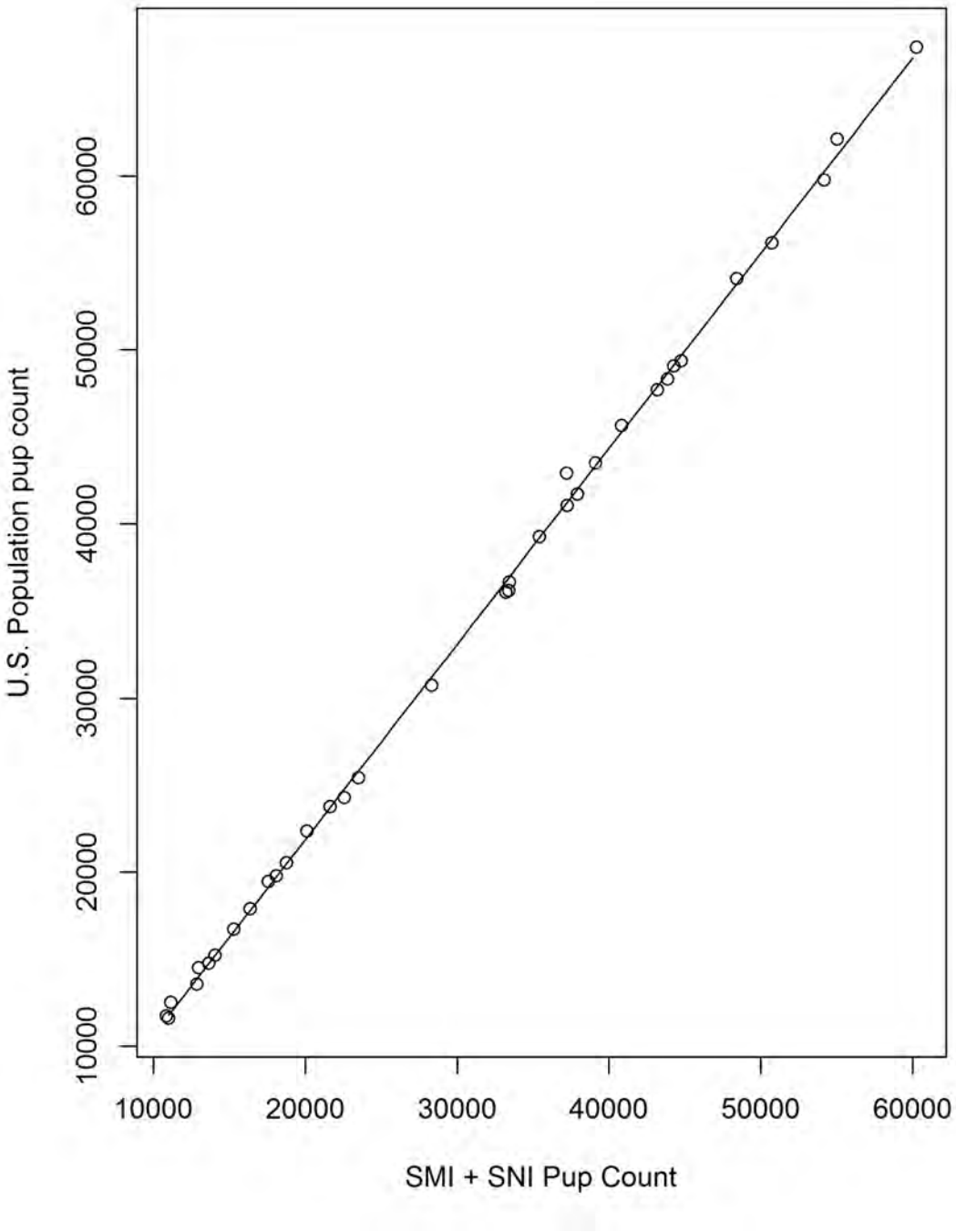

Figure A3. Linear regression of total U.S. pup count against total of San Miguel Island and San Nicolas Island pup counts.

UNPRECEDENTED MORTALITY OF CALIFORNIA SEA LION PUPS ASSOCIATED WITH ANOMALOUS OCEANOGRAPHIC CONDITIONS ALONG THE CENTRAL CALIFORNIA COAST IN 2009

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ABSTRACT

Between May and August 2009, an anomalous oceanographic event occurred along the central California coast. The event was characterized by the strongest negative upwelling observed in 40 years and uncharacteristically warm sea surface temperatures. The timing of the event coincided with the weaning and reproduction of California sea lions in the California Current System. We documented the effects of the event on sea lion pup production, pup mortality, female attendance, and diet at San Miguel Island, California. Simultaneous with the oceanographic event, we also documented a record number of strandings along the California coast of emaciated weaned pups born in 2008. We conclude that the response of California sea lions to the anomalous oceanographic conditions in 2009 was mediated through warmer SSTs that likely reduced availability of their usual summer prey and resulted in the high mortality of the 2008 and 2009 cohorts due to starvation.

INTRODUCTION

The California sea lion (*Zalophus californianus*) population has been growing steadily since its protection under the Marine Mammal Protection Act of 1972 (Caretta et al. 2007). During its period of rapid growth in the 1970s and 1980s, the population experienced significant declines in production during 1982–1983, 1992–1993 and 1998 that were associated with El Niño (EN) events (DeLong et al. 1991; DeLong and Melin 2000; Caretta et al. 2007). The response of California sea lions to EN conditions is presumably mediated through a change in the availability of fish and cephalopods, the primary prey of California sea lions (DeLong et al. 1991; DeLong and Melin 2000). In the California Current System (CCS), EN conditions are characterized by a change in sea level pressure that leads to increased coastal sea level height (Norton et al. 1985), delayed onset of the upwelling season (Bograd et al. 2009), a decrease in the upwelling strength, increased sea surface temperature (SST), and suppression of the thermocline (Norton et al. 1985). These changes result in lower productivity at lower trophic levels which results in reduced availability of fish and cephalopods at upper trophic levels (Barber and Chavez 1983; Chavez et al. 2002). However, anomalous oceanographic conditions also occur outside EN and can have similar effects on the marine community structure at local or regional scales (Schwing et al. 2006). In 2005, a delayed onset of the seasonal upwelling in the northern CCS resulted from a regional shift in oceanographic dynamics (Schwing et al. 2006) and declines in productivity at various trophic levels were reported (Brodeur et al. 2006; Mackas et al. 2006; Sydeman et al. 2006; Thomas and Brickley 2006).

In 2009, and EN in the tropics was confirmed in July (http://www.noaanews.noaa.gov/stories2009/20090709_elnino.html). But, a regional anomalous oceanographic event began two months earlier in the south and central CCS. After a normal start to the upwelling season with strong positive upwelling conditions from February through April in the CCS, a shift to negative upwelling occurred in May (http://www.pfeg.noaa.gov/products/PFEL/modeled/indices/upwelling/NA/data_download.html). The negative upwelling intensified in June and became the strongest negative upwelling event in the past 40 years. SSTs along the central coast were uncharacteristically warm as a result of the reduced upwelling. By September, positive upwelling conditions and cooler SSTs had returned to the CCS. The timing of the event was simultaneous with the weaning and reproductive seasons for California sea lions breeding in the southern CCS. Here, we document the unprecedented mortality of pups born at San Miguel Island, California, and a record number of strandings of emaciated, weaned pups from the 2008 cohort along the central California coast that occurred during the event.

California Sea Lion Life History

California sea lions are permanent residents of the CCS, ranging from northern Mexico to southern Canada. In the United States, the primary breeding colonies are the California Channel Islands. Weaning

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and reproduction occur during late spring and summer, during the peak upwelling period in the CCS (Bograd et al. 2009). During the reproductive season, adult females give birth to a single pup during a 6-week period from late May to the end of June (Peterson and Bartholomew 1967). Lactation lasts up to 11 months or longer. During this time, lactating females travel to sea for 2–5 days to feed and return to the colony for 2 days to nurse their pup (Antonelis et al. 1990; Melin et al. 2000). The pup is solely dependent on its mother until about 6 months old and maintains a fasting cycle while the mother is on foraging trips. The weaning process is gradual and the timing of weaning is poorly known but it begins as early as 8 months old. Peak weaning occurs in April or May when pups are between 10 and 11 months old (Melin et al. 2000).

Adult females and pups from San Miguel Island generally remain south of Monterey Bay, California year-round and feed in coastal waters in the summer and move offshore in the winter (Melin and DeLong 2000; Melin et al. 2008). California sea lions in the Channel Islands feed on more than 30 fish and cephalopod species (Antonelis et al. 1984; Lowry et al. 1990; Antonelis et al. 1990; Lowry 1991) and generally feed within 75 m of the surface but have been reported to dive deeper than 480 m (Feldkamp et al. 1989; Melin et al. 2008).

Oceanographic Indices

The most dominant feature of the CCS is the seasonal upwelling that occurs between January and November each year (Lynn and Simpson 1987; Bograd et al. 2009). Off the central California coast (Point Conception to Cape Mendocino), peak upwelling and productivity usually occurs between April and July when California sea lion pups born the previous year are weaned and a new cohort is born.

During periods of strong negative upwelling in the CCS, such as during ENSO events, regional productivity declines and lactating female California sea lions travel farther from the colony, move farther offshore and dive deeper presumably in response to movement of their prey deeper in the water column or to more productive areas (Melin et al. 2008). Because lactating females are restricted in the distance they can travel and the time they are away from the colony by the fasting capabilities of their pups, movement of their prey outside their normal foraging range (spatially or temporally) results in longer foraging trips (Melin et al. 2000; Melin et al. 2008). This can have negative consequences for a dependent pup. If the duration of the foraging trip exceeds the fasting capability of the pup, the pup may die from starvation and if the female is unable to obtain enough prey or energy for self-maintenance and lactation, she may not be able to support her pup. For newly weaned pups, the movement of prey out of their foraging range or to deeper depths may result in starvation (Fowler et al. 2007). Thus, indices of upwelling strength and SST may provide proxies for prey availability and explain events like the unusually high pup mortality at San Miguel Island and high incidence of stranded yearlings observed along the central California coast in 2009. Here, we use oceanographic indices to explain annual patterns in pup production and mortality indices of the California sea lion population at San Miguel Island, California, and strandings of weaned pups along the central California coast between 1997 and 2009.

METHODS

California Sea Lion Population Indices

Study Sites We measured several population indices for the California sea lion population at San Miguel Island, California (34.03°N, 120.4°W). San Miguel Island represents the northern extent of the breeding range and is one of the largest colonies in the Channel Islands representing about 45% of the U. S. breeding population. As such, it is a useful colony to measure trends and population responses to changes in the marine environment. Because of the large size of the colony, we used index sites for measuring the population parameters. The East Adams Cove Study Area (EACS) is a long-term index site for measuring the timing of reproductive events of a small group of animals (~800 females). West Shelf Rock (WSR) is a small rocky cove where individually marked animals are easily observed and was used as the site for monitoring attendance cycles of females in 2009. The Point Bennett Study Area (PBSA) is used as a long-term index site for monitoring pup production and mortality. About 50% of the pup production that occurs at San Miguel Island takes place in this area, so it provides an index of trends for the entire colony.

Median Birthing Date Between 15 May and 20 July each year between 1997 and 2009, the total numbers of live and dead sea lion pups in the EACS were counted daily to obtain a cumulative count of pups born over the reproductive season. The median birth date was calculated as the date by which 50% of the pups were born. The temporal trend in births was described from the weekly maximum number of pups counted in the EACS. The long-term means for median birth date and maximum number of pups were calculated for 1997–2008, excluding 1998. We excluded 1998 from the long-term dataset because it was an ENSO year and the temporal pattern of births and median birth date were abnormal.

Female Attendance Cycle We conducted 12-hour daily observations of seven branded females at WSR

between 19 June and 21 July 2009. Once a female gave birth, we monitored her attendance. If a female was observed at any time during the observation period, she was considered present for the full day. The small size of the cove and the intensive observation time each day made it unlikely that a female that was present would not be observed. The first foraging trip (post-natal trip) was shorter than subsequent trips for all females (Student's paired T-test, $p = 0.03$), so we calculated a mean for the first trip and a mean for all subsequent trips. A nested analysis of variance (ANOVA) with foraging trips nested within individual females was used to calculate the overall mean for the foraging trips that occurred after the post-natal trips. We compared the attendance pattern in 2009 with previous studies at San Miguel Island in the 1980s (Feldkamp et al. 1989; Antonelis et al. 1990).

Pup Mortality Pup mortality surveys were conducted every 2 weeks from 25 June to early August between 1997 and 2009 in the PBSA as an index of pup mortality for the population. A final survey was conducted the last week of September. Dead pups were removed from the breeding areas as they were counted so they would not be recounted on subsequent surveys. The total number of observed dead pups for each survey described the temporal trend in pup mortality and was an estimate of the cumulative mortality of pups at 5 weeks and 3.5 months of age.

Pup Production Live pups were counted in the PBSA after all pups were born (between 20–30 July) each year between 1997 and 2009. Observers walked through the PBSA, moved adults away from pups, and then counted individual pups. A mean number of live pups for the PBSA was calculated from the total number of live pups counted by each observer. Total production was the sum of the mean number of live pups and the cumulative number of dead pups counted up to the time of the live pup survey. Cumulative pup mortality at 5 weeks of age was calculated as the proportion of dead pups of those counted during the live pup survey. This mortality rate was used to model pup mortality trends over time.

Strandings of California Sea Lion Pups We compiled stranding data for animals that live stranded from San Luis Obispo to Mendocino counties in central California and that were transported to The Marine Mammal Center (TMMC) in Sausalito, California, for rehabilitation to describe trends in strandings of weaned pups between 1997 and 2009. We restricted the stranding dataset to those recovered by TMMC because they are responsible for strandings that occur over the largest area of the central coast and have had consistent recovery effort from 1997 to 2009. The stranding data represent the minimum number of animals that stranded in any year because strandings that occurred in remote areas are not reported and animals that died prior to collection were not included. We excluded dead animals because the cause of death could not be determined. We restricted the dataset to pups of the year that were evaluated by veterinarians at the TMMC to have stranded due to starvation. Pups were classified as animals that were between 0- and 1-year-old with a birth date of 15 June.

Diet Composition and Prey Identification We collected fecal samples from adult female California sea lion haul out areas at San Miguel Island in July or early August in the early 2000s (2000, 2001, 2002, 2004, 2005) and 2009 to examine the diet. Individual samples were placed in bags and frozen until they were processed for prey identification. Fecal samples contained in nylon paint strainer bags were washed in a washing machine to remove fecal matter and the remaining contents were washed through nested sieves to recover fish bones, fish otoliths and cephalopod hard parts that were then identified to family, genus or species (Orr et al. 2003). The similarity of key otolith structures and the degradation from digestion of *Sebastes* spp. otoliths made species identification difficult and we used the genus rather than risk misidentification of the species. Using all identifiable structures, the frequency of occurrence (FO) of each fish taxon was calculated as the number of samples containing the taxon of the total samples with identifiable prey remains. We used FO as a conservative relative measure of prey importance because of the biases associated with extrapolating from fecal contents to biomass or percent mass of prey consumed by pinnipeds (Laake et al. 2002; Joy et al. 2006). The primary fish taxons were defined as those that had FO greater than 10% in any year.

We calculated the diet composition as the percentage of samples that contained fish only, mixed fish and cephalopod, or cephalopod remains only. For each diet component and each fish taxon, a general linear model was constructed to test differences between 2009 and the other years.

Oceanographic Indices

Upwelling Index Anomaly We used a monthly coastal upwelling index (UWI) anomaly between 1997 and 2009 as an index of monthly productivity and prey availability (Schwing et al. 2006). The upwelling index anomaly dataset was obtained from NOAA's Pacific Fisheries Environmental Laboratory (http://pfel.noaa.gov). We used the 33°N 119°W and 36°N 122°W indices because they encompassed the foraging range of juvenile and lactating female California sea lions (fig. 1). The baseline index was calculated from monthly means of upwelling between 1946 and 1986. The

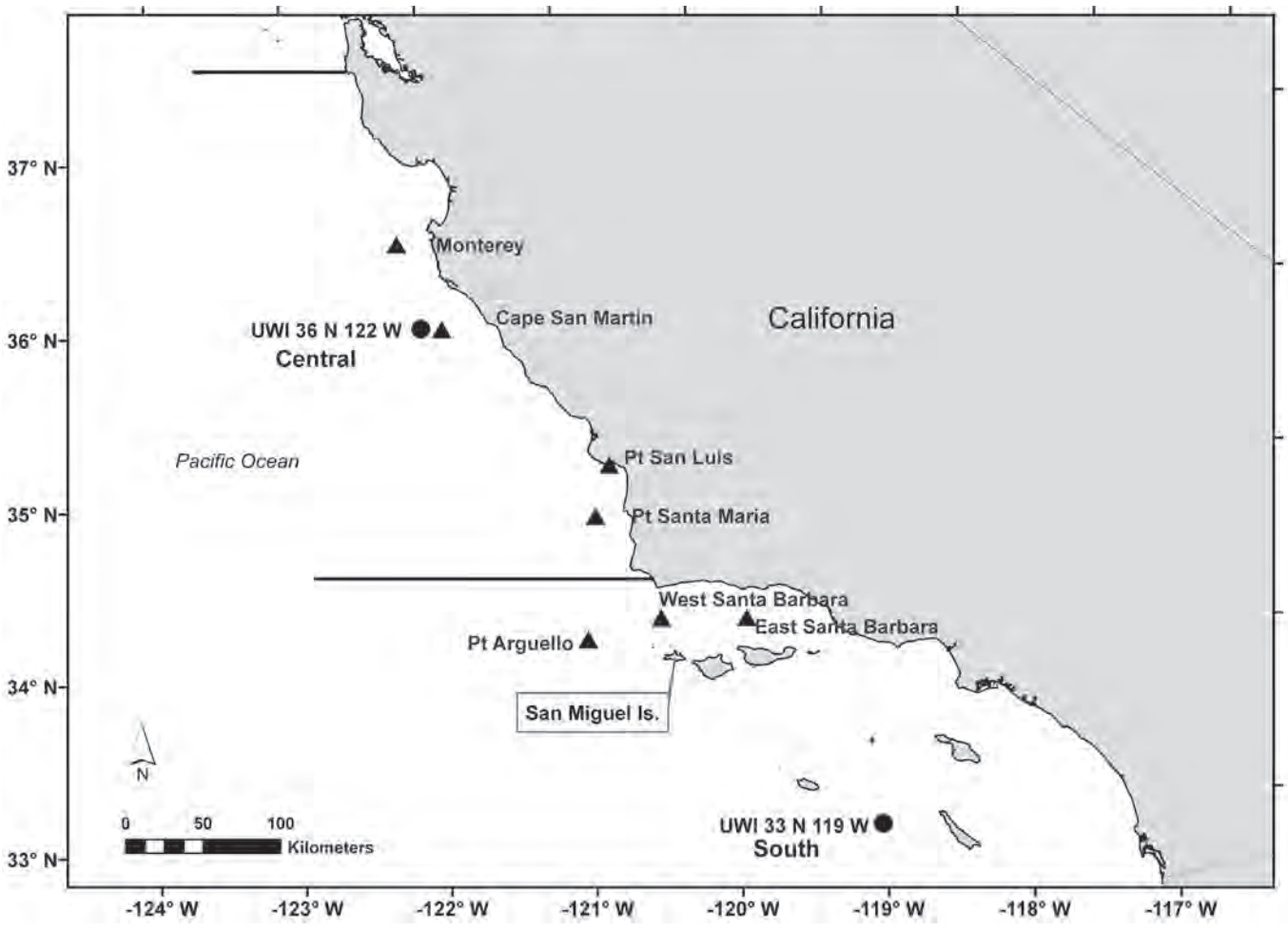

Figure 1. Positions of buoys used to calculate the monthly sea surface temperature index (SSTI) anomaly (▲) and center positions of the monthly upwelling index (UWI) anomaly (●) based on 3° grids. South and central regions for the UWI are defined by horizontal lines.

monthly upwelling anomalies within each year are the difference between the baseline mean and the annual monthly mean.

Sea Surface Temperature Anomaly We used SST anomalies as an indicator of prey availability. We calculated a daily mean SST from seven buoys along the central California coast (fig. 1). The buoy data were obtained from the NOAA National Data Buoy Center (http://www.ndbc.noaa.gov/rmd.shtml). We used the mean daily SST to calculate a mean monthly SST for each buoy and then created a monthly baseline SST for each buoy for the periods 1994 to 1996 and 1998 to 2008. Data for 1997 were not available for many of the months at several buoys, so it was excluded from the baseline calculation. For each buoy, the baseline monthly SST was subtracted from the mean SST value for each month in each year from 1997 to 2009 to construct a time series of anomalies. The anomalies were averaged across the buoys for each month to create a sea surface temperature anomaly index (SSTI).

Model of Early Pup Mortality and Oceanographic Indices

We used R (R Core Development Team 2009) to develop linear models that included year, SSTI and UWI indices to explain the variability in pup mortality at 5 weeks of age between 1997 and 2009. We created four temporal variables for SSTI and UWI to reflect lags in the response of sea lions to oceanographic changes. The variables were as follows: April to July, May to July, May to June, and June to July. We also created a June only and July only variable to account for an immediate impact of oceanographic changes on pup mortality. For the UWI, we created separate variables for 33°N 119°W and 36°N 122°W for each temporal variable. We used the Akaike Information Criterion

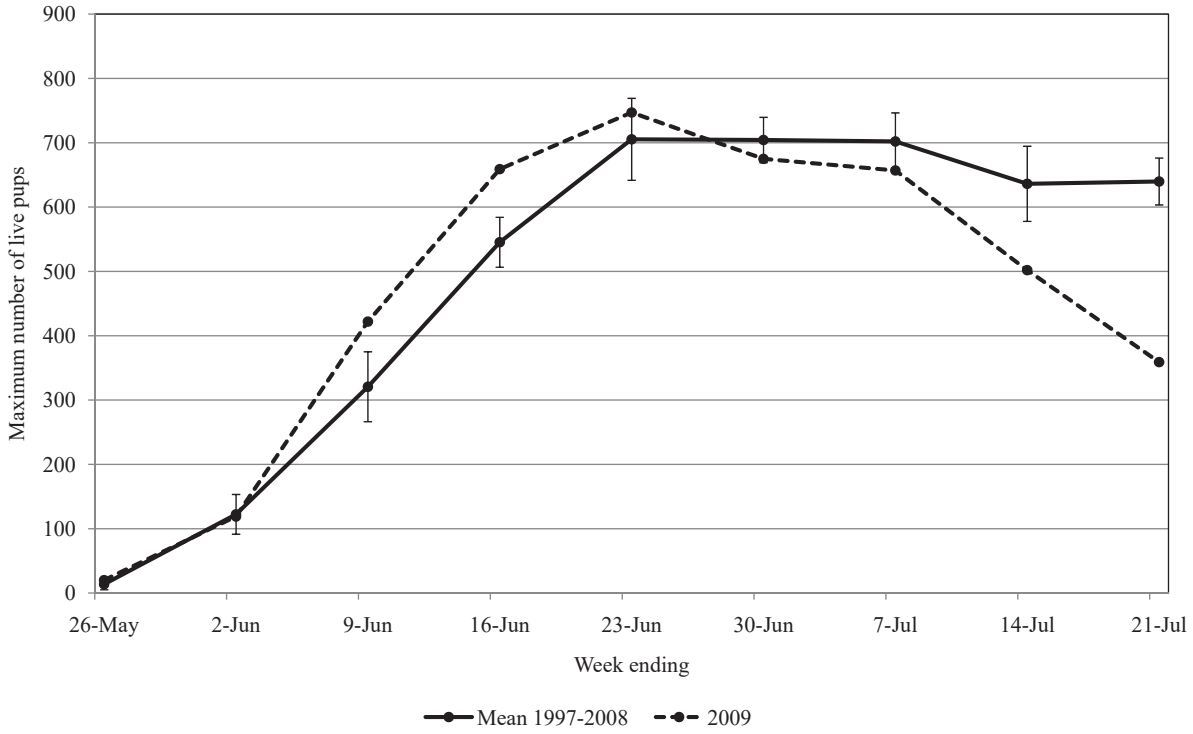

Figure 2. The weekly mean of the maximum number of live California sea lion pups counted in the East Adams Cove Study Area (EACS) at San Miguel Island, California, for 1997 to 2008 and the weekly maximum number of live pups counted in 2009. Error bars represent one standard error about the mean.

adjusted for small sample sizes (AICc) to select the best model (Burnham and Anderson 2002).

RESULTS

California Sea Lion Population Indices

Median Birthing Date Births in the EACS in 2009 followed the long-term pattern with females giving birth beginning in late May, a median birth date of 9 June (1997–2008: mean = 10 June, SE = 0.982 days), the maximum number of live pups occurring by 23 June, and birthing completed by 30 June (fig. 2). The decline in the number of live pups after 7 July in 2009 reflects the high early pup mortality that occurred in late June and early July.

Female Attendance Cycle Seven lactating females made between two and six foraging trips between 19 June and 21 July 2009. The mean post-natal foraging trip duration was 4.3 days (SE = 0.57 days). The mean of all subsequent trips was 7 days (SE = 1.89 days). The mean duration of the visits ashore was not different between the first visit after the post-natal foraging trip and subsequent visits (Student's paired T-test, $p = 0.57$) so the data were pooled. The mean visit ashore for the seven females was 1.9 days (SE = 0.82 days). Previous studies reported mean foraging trip durations of 3.1 days ($n = 25$ females, SE = 0.17 days; Antonelis et al. 1990) and 2.5 days ($n = 8$ females, SE = 0.49 days; Feldkamp et al. 1989) and visits ashore of 2.1 days (SE = 0.16 days; Antonelis et al. 1990).

Pup Production and Mortality The estimated 2009 pup production for the PBSA was 14651 pups. This was similar to the long-term mean between 1997 and 2008 of 14521 (SE = 695 pups) (fig. 3). But early pup mortality during the first 5 weeks of life was 74% in 2009, almost four times greater than the long-term average of 18.7% (SE = 1.6%) (fig. 3).

Pup mortality to 3.5 months of age in 2009 had a dramatically different temporal pattern and magnitude from the long-term average (fig. 4). Pup mortality normally declines slowly from birth, reaching 15% by 1 month of age (fig. 4). The mortality accelerates between 2 and 3 months of age, culminating in a pup mortality rate of about 33% at 3.5 months of age. In 2009, most of the pup mortality occurred early in the season with 65% of the mortality occurring by 1 month of age (fig. 4). By 3.5 months of age, 80% of the pups born in 2009 had died.

Strandings of California sea lion pups Strandings of emaciated pups from the 2008 cohort occurred in record numbers between San Luis Obispo and Mendocino counties in central California in 2009. The long-term mean from the 1997–2008 cohorts was 70 pups per year (SE = 24.0) but in 2009, 640 pups were recovered (fig. 5). Most of the strandings in 2009 occurred between May and August (92%) (fig. 6). Within this

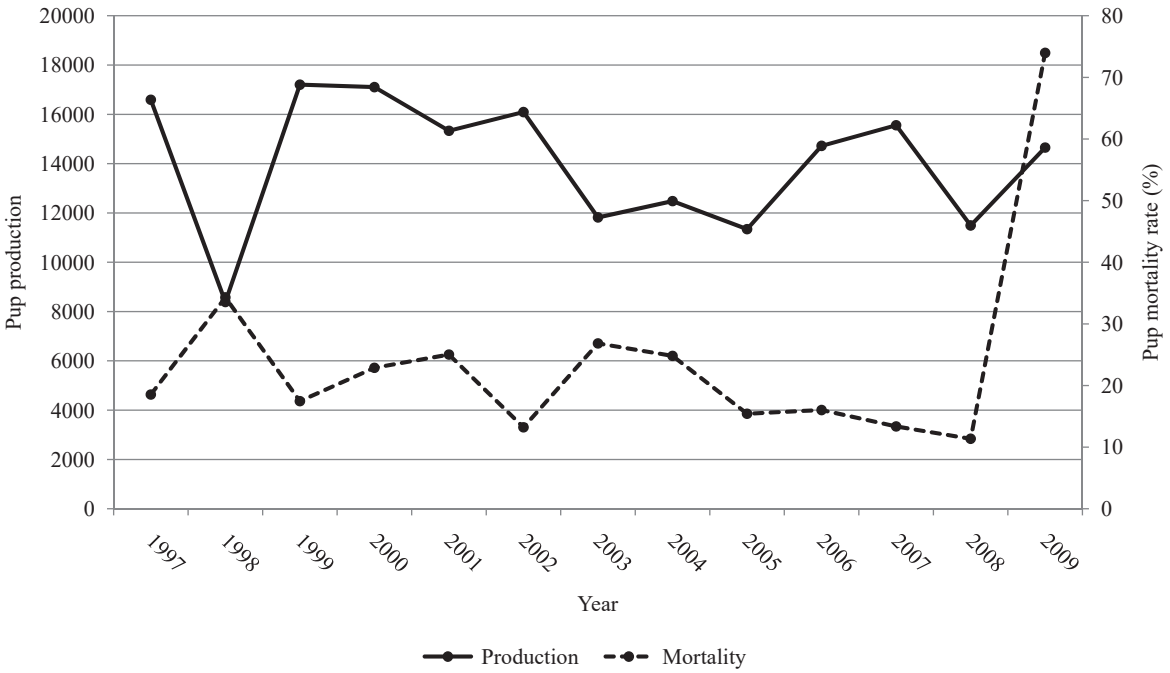

Figure 3. The pup mortality rate at 5 weeks of age and the annual pup production of California sea lions in the Point Bennett Study Area (PBSA) on San Miguel Island, California, between 1997 and 2009.

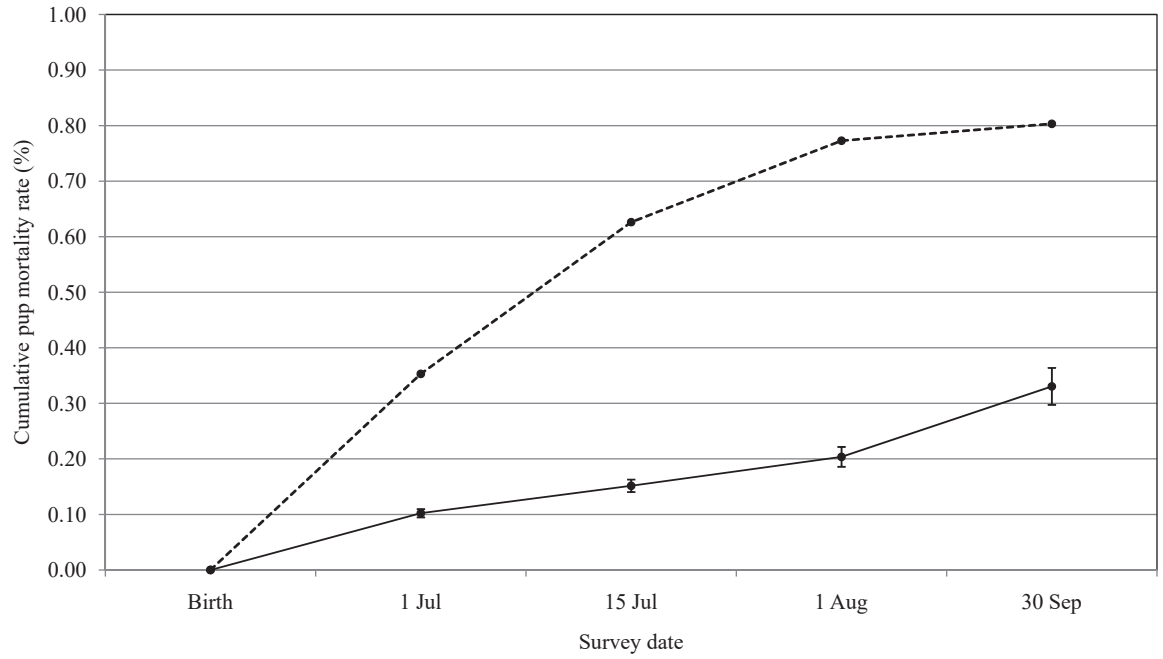

Figure 4. The mean cumulative pup mortality rate for California sea lion pups in the Point Bennett Study Area (PBSA) on San Miguel Island, California, between 1997 and 2008 and for 2009 from birth to 3.5 months of age. Error bars represent one standard error about the mean.

period, most of the strandings occurred in June corresponding to the period of the warmest SSTI and most negative UWI anomalies (figs. 7 and 8).

Diet Composition and Prey Identification We identified 36 fish taxons consumed by California sea lions including two new species not previously reported in the diet (tab. 1). Pacific hake, northern anchovy, Pacific sardine, rockfish, Pacific saury and jack mackerel comprised the primary fish prey. In the early 2000s, hake, anchovy and sardine dominated the fish diet, but in 2009 rockfish was the most frequent fish prey.

Fish and cephalopods comprised the diet of California sea lions during the summer and the frequency of the different components and primary fish prey varied

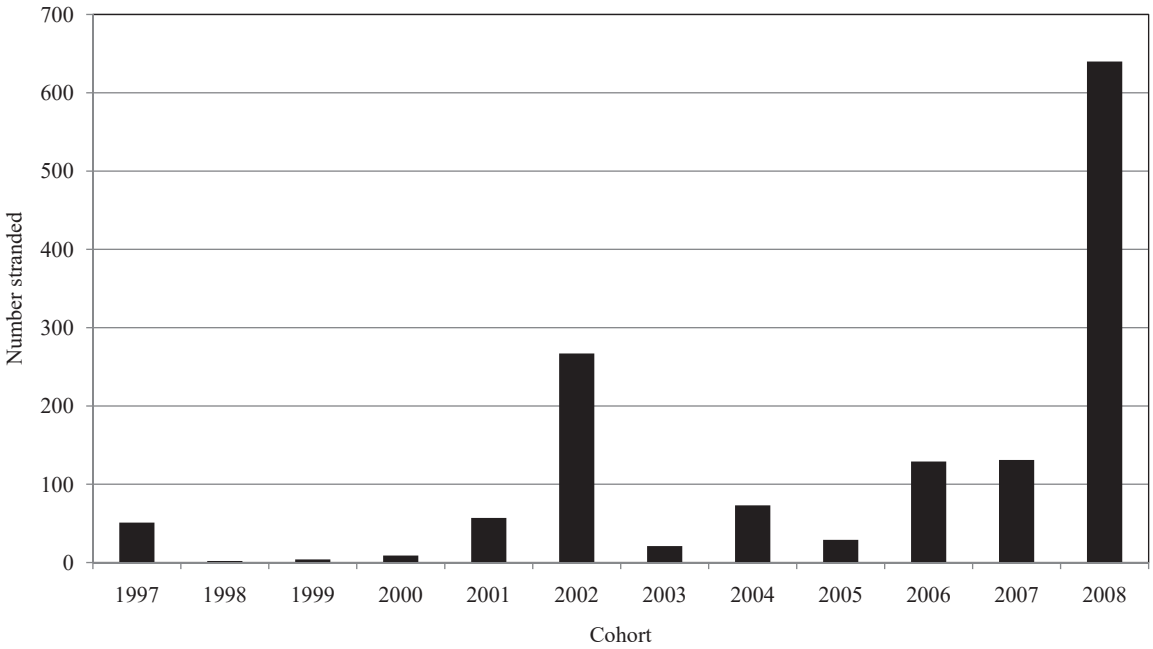

Figure 5. The annual number of weaned California sea lion pups by cohort that stranded due to emaciation between San Luis Obispo and Mendocino counties along the central California coast and that were evaluated by The Marine Mammal Center in Sausalito, California, between 1997 and 2009.

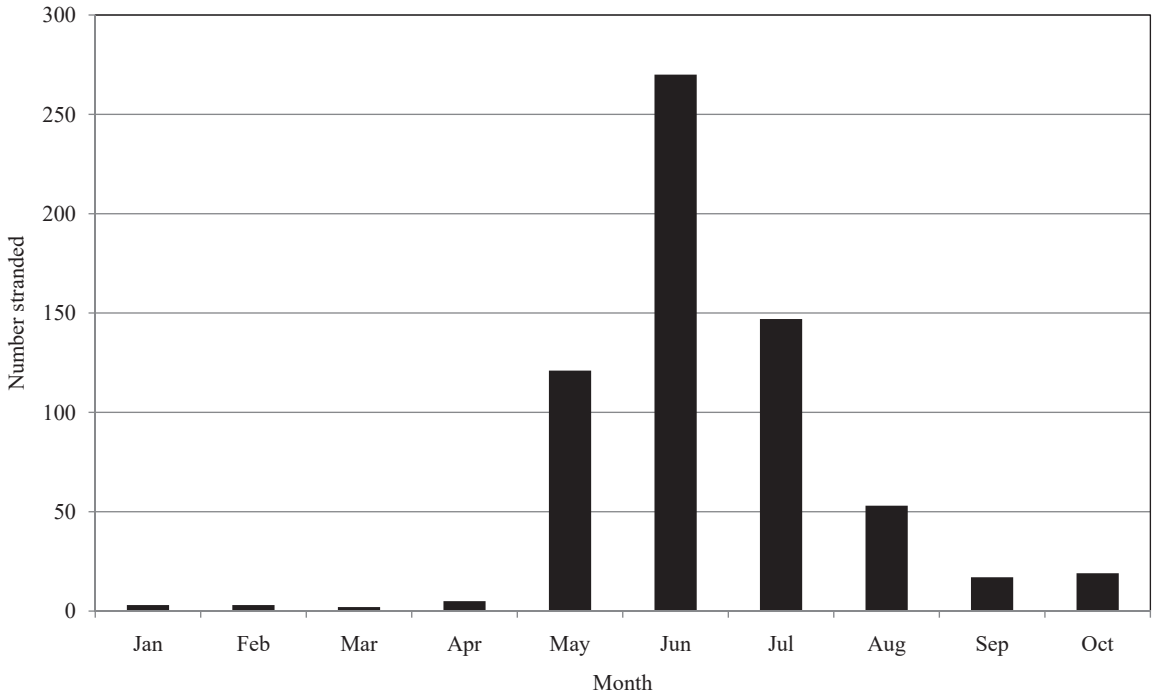

Figure 6. The monthly distribution of weaned California sea lion pups from the 2008 cohort that stranded due to emaciation between San Luis Obispo and Mendocino counties along the central California coast and that were evaluated by The Marine Mammal Center in Sausalito, California, in 2009.

significantly from 2009 for many of the years (tab. 2). In 2009, the diet was comprised of 30.7% fish, 30.8% cephalopod and 38.5% mixed fish and cephalopods (tab. 3). The percentage of cephalopod only in the diet was significantly higher in 2009 (ANOVA, p = 0.034). Rockfish was the only primary prey that was significantly different in 2009, occurring more frequently than in the early 2000s (ANOVA, p = 0.028) (tab. 3). The FO of northern anchovy, Pacific sardine, Pacific hake and Pacific saury were lower in 2009 than in the early 2000s but were not different for the two periods due to substantial annual variability in the frequencies of occurrence among the years (tab. 3).

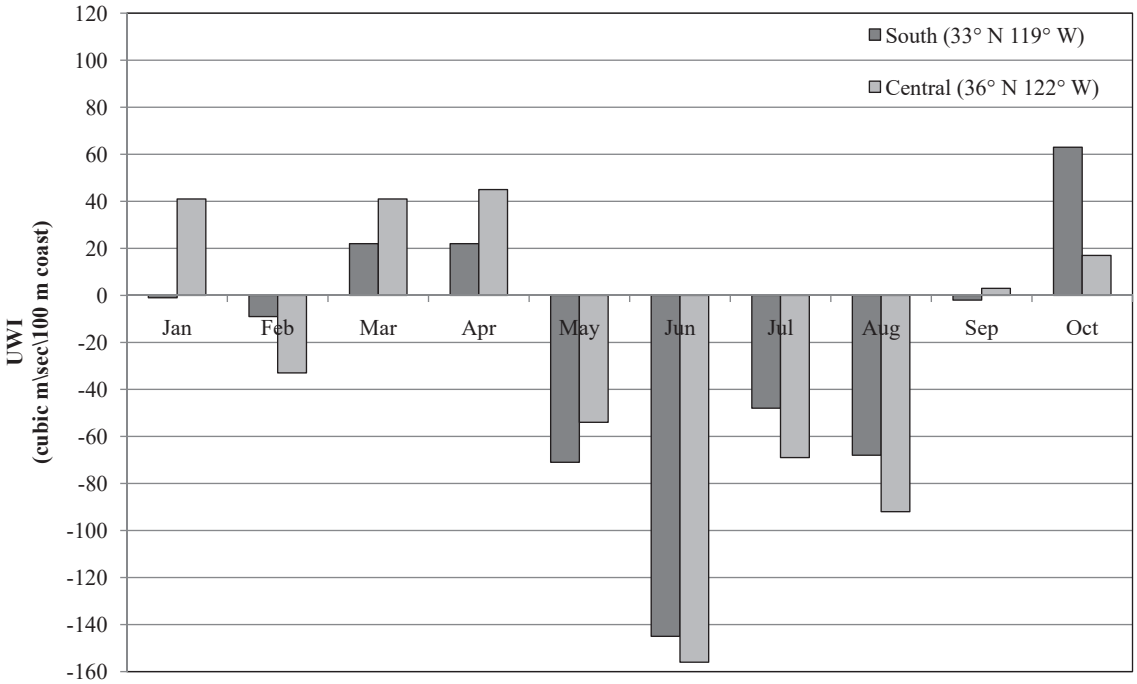

Figure 7. The monthly upwelling index (UWI) anomaly for the central and southern California coast in 2009. The baseline UWI anomaly was calculated for the years 1946 to 1986.

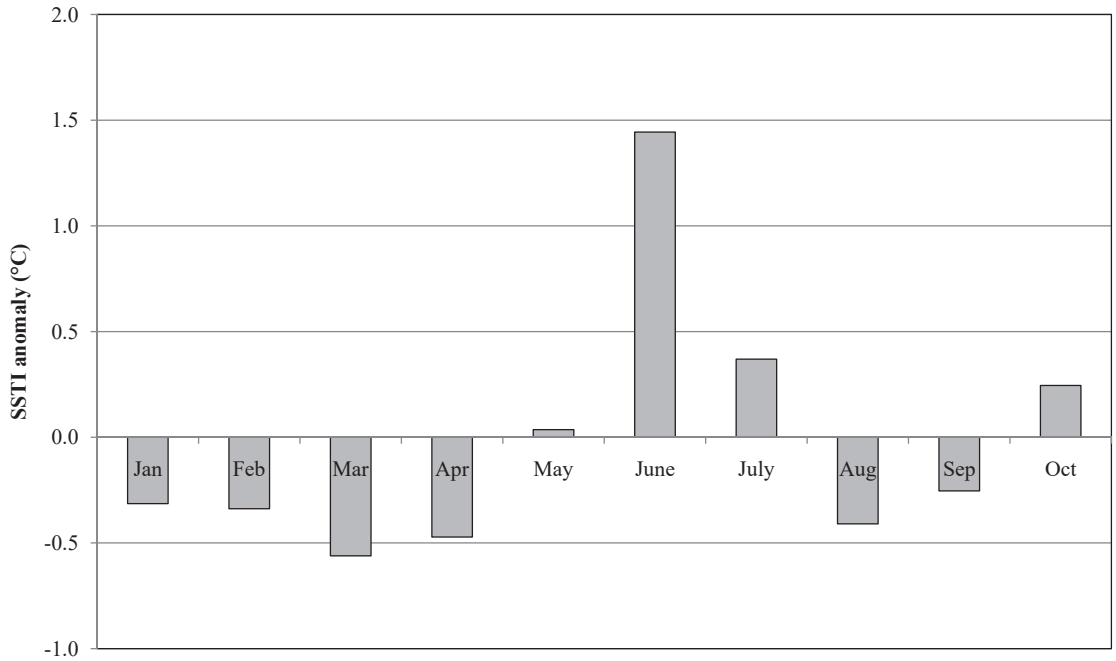

Figure 8. The monthly sea surface temperature index (SSTI) anomaly for seven buoys along the central California coast in 2009. The baseline SSTI anomaly is based on monthly means summarized for 1994–1996 and 1998–2008.

Oceanographic Indices

In 2009, the CCS experienced strong positive upwelling between January and April indicated by positive UWI anomalies (fig. 7). This is the normal pattern in the spring for the CCS. In May the central (36°N 122°W) and south (33°N 119°W) regions transitioned to a negative upwelling pattern indicated by negative UWI anomalies. The most negative UWI anomaly occurred in June. Upwelling anomalies remained negative through August, shifting to a positive upwelling pattern in September and October. SSTI anomalies were mostly negative during the strong positive upwell-

TABLE 1

Prey fish taxa consumed by California sea lions at San Miguel Island, California in July and early August in 2000, 2001, 2002, 2004, 2005 (Early 2000s) and 2009. Prey taxa were identified from hard parts recovered from fecal samples. '*n*' is number of fecal samples. '%FO' is percent Frequency of Occurrence. Primary prey indicated in bold. Shaded taxons are new species identified in the diet of California sea lions in the Channel Islands.

	% FO					
	Early 2000s					
Prey taxon	2000 (*n*=63)	2001 (*n*=61)	2002 (*n*=86)	2004 (*n*=91)	2005 (*n*=86)	2009 (*n*=44)
Rockfish, *Sebastes* spp.	**7.9**	**13.1**	**15.1**	**6.6**	**27.9**	**45.5**
Northern anchovy, *Engraulis mordax*	**68.3**	**23.0**	**10.5**	**67.0**	**39.5**	**25.0**
Pacific sardine, *Sardinops sagax*	**14.3**	**1.6**	**36.0**	**76.9**	**46.5**	**15.9**
Pacific hake, *Merluccius productus*	**55.6**	**80.3**	**40.7**	**28.6**	**55.8**	**13.6**
Pacific saury, *Cololabis saira*	**15.9**	**6.6**	**14.0**	**9.9**	**22.1**	**9.1**
Jack mackerel, *Trachurus symmetricus*	**1.6**	**9.8**	**0.0**	**2.2**	**10.5**	**6.8**
Northern lampfish, *Stenobrachius leucopsarus*	0.0	0.0	0.0	6.6	1.2	9.1
Pacific sanddab, *Citharichthys sordidus*	0.0	0.0	1.2	2.2	0.0	6.8
Spotted cuskeel, *Chilara taylori*	0.0	0.0	2.3	0.0	1.2	4.5
Sculpin, Cottidae	0.0	0.0	0.0	0.0	0.0	4.5
Slender barricudina, *Lestidiops ringens*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.5**
Blackbelly eelpout, *Lycodopis pacifica*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.5**
Dover sole, *Microstomus pacificus*	0.0	0.0	0.0	1.1	1.2	4.5
California laternfish, *Symbolophorus californiensis*	0.0	3.3	1.2	2.2	2.3	4.5
Blue lanternfish, *Tarletonbeania crenularis*	0.0	3.3	1.2	2.2	0.0	4.5
Sablefish, *Anoplopoma fimbria*	0.0	0.0	0.0	0.0	0.0	2.3
Surf perch, Embiotocidae	0.0	0.0	0.0	0.0	0.0	2.3
Rex sole, *Glyptocephalus zachirus*	0.0	0.0	0.0	0.0	0.0	2.3
Goby, Gobidae	0.0	0.0	0.0	1.1	0.0	2.3
English sole, *Parophrys vetalus*	0.0	0.0	0.0	0.0	0.0	2.3
Pacific blacksmelt, *Bathylagus pacificus*	0.0	0.0	0.0	0.0	1.2	0.0
Herring, Clupeidae	0.0	1.6	0.0	0.0	1.2	0.0
Pacific hagfish, *Eptatretus stoutii*	0.0	1.6	0.0	0.0	0.0	0.0
Greenling, Hexagrammidae	0.0	1.6	0.0	0.0	0.0	0.0
California smoothtongue, *Leuroglossus stilbius*	6.3	0.0	2.3	3.3	2.3	0.0
Duckbill barracudina, *Magnisudis atlantica*	1.6	0.0	0.0	0.0	0.0	0.0
Laternfish, Myctophidae	0.0	1.6	0.0	0.0	0.0	0.0
Smelt, Osmeridae	0.0	1.6	0.0	0.0	0.0	0.0
Pacific pompano, *Peprilus simillimus*	0.0	1.6	0.0	0.0	1.2	0.0
Righteye flounder, Pleuronectidae	0.0	0.0	0.0	0.0	1.2	0.0
Plainfin midshipmen, *Porichthys notatus*	0.0	0.0	1.2	0.0	0.0	0.0
Sand sole, *Psettichthys melanostictus*	0.0	1.6	0.0	0.0	0.0	0.0
Pacific mackerel, *Scomber japonicus*	1.6	6.6	0.0	0.0	0.0	0.0
Queenfish, *Seriphus politus*	0.0	1.6	1.2	0.0	0.0	0.0
Spiny dogfish, *Squalus acanthias*	3.2	0.0	0.0	0.0	0.0	0.0
Prickleback, Stichaeidae	0.0	1.6	0.0	0.0	0.0	0.0

TABLE 2

General linear model results comparing FO in 2009 for each diet component and primary fish taxon from California sea lion fecal samples against each year from the Early 2000s samples. Model for each diet component or fish taxon was y = 1+ year where 2009 was the intercept. Results are significant at α =< 0.05 and '-' is less than 2009, '+' is greater than 2009, or '0' is no difference from 2009.

	Early 2000s				
	2000	2001	2002	2004	2005
Diet Composition					
Mixed fish and cephalopod	0	+	0	-	0
Fish only	-	-	0	+	0
Cephalopod only	-	-	-	-	-
Primary Fish Taxa					
Rockfish (*Sebastes* spp.)	-	-	-	-	-
Northern anchovy (*Engraulis mordax*)	+	0	-	+	0
Pacific sardine (*Sardinops sagax*)	0	-	+	+	+
Pacific hake (*Merluccius productus*)	+	+	+	0	+
Pacific saury (*Cololabis saira*)	0	0	0	0	0
Jack mackerel (*Trachurus symmetricus*)	0	0	0	0	0

TABLE 3
Diet composition and primary fish taxa consumed by California sea lions at San Miguel Island, California in July and early August in 2000, 2001, 2002, 2004, 2005 (Early 2000s) and 2009. Prey taxa were identified from hard parts recovered from fecal samples. '%FO' is percent Frequency of Occurrence. Statistics are from Analysis of Variance (ANOVA) tests and compare 2009 to Early 2000s samples.

	% FO				
		Early 2000s			
	2009	Mean	S. E.	*P*	$F_{0.05,5}$
Diet Composition					
Mixed fish and cephalopod	38.5	50.5	8.8	0.606	0.313
Fish only	30.7	40.9	10.3	0.707	0.163
Cephalopod only	30.8	8.6	2.9	0.034	10.112
Fish Taxons					
Rockfish (*Sebastes* spp.)	45.5	14.1	3.8	0.028	11.405
Northern anchovy (*Engraulis mordax*)	25.0	41.6	11.6	0.589	0.345
Pacific sardine (*Sardinops sagax*)	15.9	35.1	13.1	0.582	0.357
Pacific hake (*Merluccius productus*)	13.6	52.2	8.7	0.144	3.290
Pacific saury (*Cololabis saira*)	9.1	13.7	2.7	0.520	0.497
Jack mackerel (*Trachurus symmetricus*)	6.8	4.8	1.7	0.733	0.134

TABLE 4
Top linear models predicting the annual mortality rate of 5-week old California sea lion pups at San Miguel Island, California, with explanatory variables of year, monthly sea surface temperature index (SSTI) anomaly, and monthly upwelling index anomaly at 36°N 122°W (UWI36N) and 33°N 119°W (UWI33N).

Model	Parameters	*F*-statistic	df	*P*	Adjusted R^2	AICc
obsmr ~Year+SSTI.Jun	3	9.197	10	0.005	0.577	-14.971
obsmr ~SSTI.Jun+UWI36N.Jun	3	7.484	10	0.010	0.519	-13.299
obsmr ~SSTI.Jun	2	8.629	11	0.014	0.389	-12.400
obsmr ~Year+SSTI.Jun+UWI36N.Jun	4	6.013	9	0.016	0.556	-11.371
obsmr~Year+SSTI.JunJul	3	5.590	10	0.024	0.433	-11.160
obsmr ~Year+SSTI.Jun+UWI33N.Jun	4	5.564	9	0.020	0.533	-10.707
obsmr ~SSTI.Jun+UWI33N.Jun	3	5.027	10	0.031	0.402	-10.450
obsmr ~Year+SSTI.MayJun	3	3.407	10	0.074	0.286	-8.1599
obsmr ~Year+SSTI.MayJul	3	3.330	10	0.078	0.280	-8.0390

ing between January and April. The negative upwelling between May and July resulted in warmer than average SSTI in June and July, with the greatest positive SSTI anomaly occurring in June. Negative SSTI anomalies returned in August and September as upwelling increased along the coast and SSTs cooled (fig. 8).

Model of Early Pup Mortality and Oceanographic Indices

The model that best explained the annual variability in pup mortality rates at 5 weeks of age between 1997 and 2009 included year and June SSTI as explanatory variables (tab. 4). The 10 best models included June SSTI. Pup mortality increased with increasing positive June SSTI anomalies (fig. 9). The highest positive June SSTI anomalies (> 1.4°C) in the ENSO year of 1998 and the unusually warm year of 2009 were associated with the highest mortality rates (fig. 9). Other suitable models included June SSTI only and June UWI at 36°N 122°W and June SSTI as explanatory variables for annual pup mortality.

DISCUSSION

The unprecedented mortality of California sea lion pups born at San Miguel Island, California and the record number of emaciated weaned pups that stranded along the central California coast in 2009 were associated with anomalous oceanographic conditions along the central California coast between May and August 2009. The conditions only persisted for 4 months but the timing and magnitude of the event relative to weaning and birthing of California sea lion pups resulted in 80% mortality of the 2009 cohort by 3.5 months of age at San Miguel Island. Although strandings of weaned pups occur regularly along the California coast during the spring and summer, in 2009, strandings were high throughout California. Along southern California coasts, more than 400 strandings occurred (J. Cordaro, NOAA, NMFS, personal communication) and we documented 640 strandings for central and northern California, almost 11 times the average between 1997 and 2008.

The positive upwelling and cooler SSTs along the central coast between January and April 2009 were

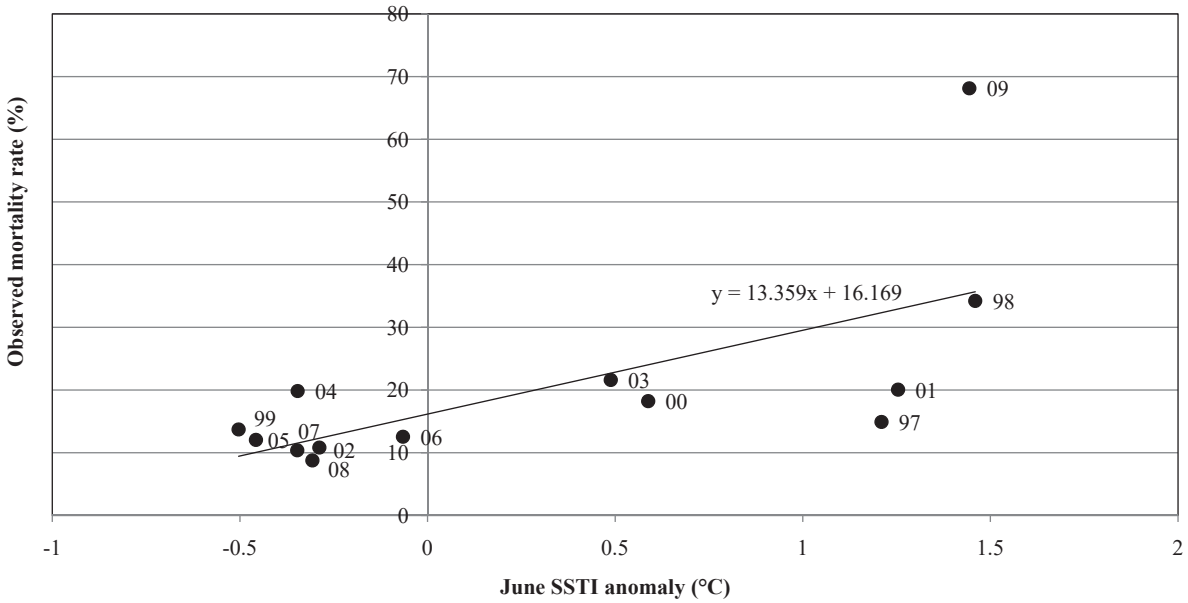

Figure 9. The relationship between observed California sea lion pup mortality at 5 weeks of age at San Miguel Island, California, and the June SSTI anomaly for the central and southern California Current System (CCS) between 1997 and 2009.

within the normal pattern for the CCS (Bograd et al. 2009). This likely lead to adequate prey availability for pregnant California sea lion females and resulted in normal patterns in the timing of births and pup production. We would have expected a later median birth date, a protracted birthing season, and lower pup production in addition to pup mortality if pregnant females had had difficulty finding enough food to support gestation and late lactation. When the oceanographic conditions transitioned to negative upwelling patterns and warmer SSTs in the summer, mothers responded with long foraging trips averaging 7 days, up to 4 days longer than trips in the 1980s (Feldkamp et al. 1989; Antonelis et al. 1990), that approached the maximum duration for which pups survive without nursing (9 days, Heath 1989). Although the methods of measuring trip duration were different among the studies (telemetry in the earlier studies vs. visual observation in this study), the magnitude of the difference was too great to be attributed to sampling method alone. Behavioral observations have been shown to underestimate trip duration by up to 7% in Antarctic fur seals (*Arctocephalus gazella*) (Boyd et al. 1991) and overestimate duration by 3.4% in Australian sea lions (*Neophoca cinerea*) (Higgins and Cass 1993) relative to telemetry derived durations. Biases of these magnitudes would not result in trip durations significantly different from those we observed. The longer foraging trips indicate that lactating females had difficulty finding sufficient prey or prey of adequate energetic value within their normal foraging range to energetically maintain themselves and sustain lactation. Because pups fast while their mother is away on foraging trips, repeated foraging trips lasting up to 7 days likely resulted in a nutritional deficit for the pups such that they succumbed to starvation within the first months of life. The duration of visits ashore was not different from other studies at San Miguel Island (Antonelis et al. 1990). Thus, longer absences by females were not compensated by longer periods ashore for nursing.

The primary prey of California sea lion females in the summers of our study were similar to previous studies with fish and cephalopods comprising the diet and Pacific sardine, northern anchovy, Pacific hake and rockfish representing the primary fish taxons (Antonelis et al. 1984, Lowry et al. 1990, Lowry 1991, Melin et al. 2008). The increased FO of cephalopods in the diet in 2009 (30.8%) compared to the early 2000s (8.6%) indicates that cephalopods were more available to California sea lions than usual during the summer of 2009. The FO of the fish taxons in the diet also changed in 2009. Most notably, rockfish became the dominant fish taxon and the importance of Pacific hake, Pacific sardine and northern anchovy was considerably less than in the early 2000s. The increase in rockfish in 2009 could be due to increased abundance of rockfish due to strong year classes of rockfish in 2003 and 2006 (Field et al. 2007), or it could reflect reduced availability of sardine, anchovy and hake due to the anomalous ocean conditions in the summer. The preferred summer diet with high FO of sardine, anchovy and hake likely provides an energy rich diet that allows females to support lactation. The high pup mortality in 2009 suggests that the combination of longer foraging trips and a diet principally of rockfish and cephalopods did

not provide adequate energy for lactating females to support their pups.

The results of our model of pup mortality in which the SSTI in June predicted higher pup mortality, suggest that the response of prey to SST changes and the response of sea lions to a change in prey availability, are relatively immediate. For California sea lions, reduced prey availability or a diet of energetically inferior prey in June is likely to have a significant impact on pup survival because it may result in longer foraging trips for their mothers and possibly less energy transfer between mothers and pups at a time when the pups are solely dependent on their mothers for nutrition and have limited fasting capabilities.

The record number of emaciated weaned pups from the 2008 cohort that stranded along the central California coast in 2009 indicates that weaned pups had difficulty finding food in the summer shortly after they achieved independence from their mothers. Although weaning is a gradual process in California sea lions, dependent pups do not accompany their mothers to foraging areas (Melin et al. 2000). When pups are weaned, they are naïve to the location of foraging areas away from the colony and must learn to find them and to capture prey on their own. Weaned pups have limited physiological capabilities for diving and traveling (Fowler et al. 2006; Richmond et al. 2006) and thus, if they encounter poor foraging conditions before becoming proficient hunters, they may die from starvation.

Coastal upwelling processes are important determinants of local and regional SSTs which in turn affects the distribution and reproduction of marine species by influencing the distribution of their prey (Ainley et al. 1995; Ainley et al. 2005; Lluch-Belda et al. 2005; Wells et al. 2008). In 2009, the decreased upwelling along the central California coast produced warm, low nutrient water along the coast between May and August but the highest number of starving weaned pups and the highest pup mortality occurred during the period of the warmest SSTI and the most negative UWI anomalies in June 2009. This suggests that the response of California sea lions to the anomalous oceanographic conditions in 2009 was mediated through warmer SSTs that likely resulted in reduced availability of their prey. The association of changes in SSTs with prey availability and production or survival of predators has been documented for seabirds (Abraham and Sydeman 2004; Ainley et al. 2005; Sydeman et al. 2006; Mills et al. 2007; Wells et al. 2008) and marine mammals (Melin 2002; Beauplet et al. 2005; Weise et al. 2006). Though we did not conduct prey distribution studies in 2009, we observed that northern fur seals (*Callorhinus ursinus*) that breed at San Miguel Island at the same time as California sea lions and feed on similar prey (Antonelis et al. 1990) did not experience massive mortality of their pups in 2009. Northern fur seals feed offshore in the pelagic zone during the summer (Antonelis et al. 1990) unlike California sea lions that feed in coastal waters (Antonelis et al. 1990; Melin and DeLong 2000). This observation leads us to hypothesize that the primary prey moved offshore or northward in 2009 and was less available to lactating sea lion females due to the anomalous oceanographic patterns between May and August 2009. Future analyses will combine fishery landings data and fish larvae abundance surveys from the CalCOFI cruises in July 2009 within the foraging range of California sea lions to test this hypothesis.

ACKNOWLEDGMENTS

We express our thanks to Greg Orr, Ian Williams, Sarah Gutzwiller, Andrea Gemmer Pecharich, and Erin Seik for their help in the field and lab and to all the volunteers and staff at The Marine Mammal Center. Joe Cordaro, NOAA, NMFS Southwest Region, provided preliminary stranding data for southern California. The Channel Islands National Park provided logistic support at San Miguel Island. Patrick Gearin, Lowell Fritz and Gary Duker at the Alaska Fisheries Science Center and two anonymous reviewers provided reviews of this manuscript. The research at San Miguel Island was conducted under Marine Mammal Permit Number 782-1613-02.

LITERATURE CITED

Abraham, C. L., and W. J. Sydeman. 2004. Ocean climate, euphausiids and auklet nesting: Interannual trends and variation in phenology, diet and growth of a planktivorous seabird, *Ptychorampus aleuticus.* Mar. Ecol. Prog. Ser. 274:235–250.

Ainley, D. G., R. L. Veit, S. G. Allen, L. B. Spear, and P. Pyle. 1995. Variations in marine bird communities of the California Current, 1986–1994. Calif. Coop. Oceanic. Fish. Invest. Rep. 36:72–77.

Ainley, D. G., L. B. Spear, C. T. Tynan, J. A. Barth, S. D. Pierce, R. G. Ford, and T. J. Cowles. 2005. Physical and biological variables affecting seabird distributions during the upwelling season of the northern California Current. Deep-Sea Res. Part II Top. Stud. Oceanogr. 52:123–143.

Antonelis, G. A., C. H. Fiscus, and R. L. DeLong. 1984. Spring and summer prey of California sea lions, *Zalophus californianus*, at San Miguel Island, California, 1978–79. Fish. Bull. (Seattle) 82:67–76.

Antonelis, G. A., B. S. Stewart, and W. F. Perryman. 1990. Foraging characteristics of female northern fur seals (*Callorhinus ursinus*) and California sea lions (*Zalophus californianus*). Can. J. Zool. 68:150–158.

Barber, R. T., and F. P. Chavez. 1983. Biological consequences of El Niño. Science 222:1203–1210.

Beauplet, G., C. Barbraud, M. Chambellant, and C. Guinet. 2005. Interannual variation in the post-weaning and juvenile survival of subantarctic fur seals: influence of pup sex, growth rate, and oceanographic conditions. J. Anim. Ecol. 74:1160–1172.

Bograd, S. J., I. Schroeder, N. Sarkar, X. Qui, W. J. Sydeman, and F. B. Schwing. 2009. Phenology of coastal upwelling in the California Current. Geophys. Res. Lett. 36:2008GL035933.

Boyd, I. L., N. J. Lunn, and T. Barton. 1991. Time budgets and foraging characteristics of lactating Antarctic fur seals. J. Anim. Ecol. 60:577–592.

Brodeur, R. D., S. Ralston, R. L. Emmett, M. Trudel, T. D. Auth, and A. J. Phillips. 2006. Anomalous pelagic nekton abundance, distribution and apparent recruitment in the northern California Current in 2004 and 2005. Geophys. Res. Lett. 33: 2006GL026614.

Burnham, K. P., and D. R. Anderson. 2002. Model selection and multimodel inference: A practical information-theoretic approach. New York: Springer. 488 pp.

Caretta, J.V., K. A. Forney, M. S. Lowry, J. Barlow, J. Baker, B. Hanson, and M. M. Muto. 2007. California sea lion (*Zalophus californianus*): U.S. Stock. U.S. Pacific Marine Mammal Stock Assessments: 2007. U. S. Dept. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-SWFSC-414. 321 pp.

Chavez, F. P., J. T. Pennington, C. G. Castro, J. P. Ryan, R. P. Michisaki, B. Schlining, P. Walz, K. R. Buck, A. McFadyen, and C. A. Collins. 2002. Biological and chemical consequences of the 1997–1998 El Niño in central California waters. Prog. Oceanogr. 54:205–232.

DeLong, R. L., and S. R. Melin. 2000. Thirty years of pinniped research. Proceedings of the Fifth Channel Islands Symposium. Santa Barbara: Santa Barbara Museum of Natural History, pp. 401–406.

DeLong, R. L., G. A. Antonelis, C. W. Oliver, B. S. Stewart, M. S. Lowry, and P. K. Yochem. 1991. Effects of the 1982–83 El Niño on several population parameters and diet of California sea lions on the California Channel Islands. *In* Pinnipeds and El Niño: Reponses to environmental stress, F. Trillmich and K.A. Ono, ed., Berlin: Springer-Verlag, pp. 166–172.

Feldkamp, S. D., R. L. DeLong, and G. A. Antonelis. 1989. Diving patterns of California sea lions, *Zalophus californianus*. Can. J. Zool. 67:872–883.

Field, J. C., E. J. Dick, and A. D. MacCall. 2007. Stock assessment model for the shortbelly rockfish, *Sebastes jordani*, in the California Current. U. S. Dept. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-SWFSC-405, 108 pp.

Fowler, S. L., D. P. Costa, J. P.Y. Arnould, N. J. Gales, and C. E. Kuhn. 2006. Ontogeny of diving behavior in the Australian sea lion: trails of adolescence in a late bloomer. J. Anim. Ecol. 75:358–367.

Fowler, S. L., D. P. Costa, and J. P. Y. Arnould. 2007. Ontogeny of movements and foraging ranges in the Australian sea lion. Mar. Mamm. Sci. 23:598–614.

Heath, C. B. 1989. The behavioral ecology of the California sea lion, *Zalophus californianus*. PhD Dissertation, Santa Cruz: University of California, Santa Cruz, 255 pp.

Higgins, L.V., and L. Cass. 1993. Birth to weaning: parturition, duration of lactation, and attendance cycles of Australian sea lions (*Neophoca cinerea*). Can. J. Zool. 71:2047–2055.

Joy, R., D. J. Tollit, J. L. Laake, and A. W. Trites. 2006. Using simulations to evaluate reconstructions of sea lion diet from scat. *In* Sea lions of the world, A. W. Trites, S. K. Atkinson, D. P. DeMaster, L. W. Fritz, T. S. Gelatt, L. D. Rea, and K. M. Wynne, eds., Fairbanks: Alaska Sea Grant College Program, pp. 205–221.

Laake, J. L., P. Browne, R. L. DeLong, and H. R. Huber. 2002. Pinniped diet composition: a comparison of estimation models. Fish. Bull. (Seattle) 100:434–447.

Lluch-Belda, D., D. B. Lluch-Cota, and S. E. Lluch-Cota. 2005. Changes in marine faunal distributions and ENSO events in the California Current. Fish. Oceanogr. 14:458–467.

Lowry, M. S., C. W. Oliver, C. Macky, and J. B. Wexler. 1990. Food habits of California sea lions *Zalophus californianus* at San Clemente Island, California, 1981–1986. Fish. Bull. (Seattle) 88:509–521.

Lowry, M. S. 1991. Seasonal and annual variability in the diet of California sea lions *Zalophus californianus* at San Nicolas Island, California, 1981–86. Fish. Bull. (Seattle) 89:339–346.

Lynn, R. J., and J. J. Simpson. 1987. The California Current System: The seasonal variability of its physical characteristics. J. Geophys. Res. 92:12947–12966.

Mackas, D. L., W. T. Peterson, B. M. Hickey, R. K. Sherman, and S. D. Price. 2006. Zooplankton anomalies in the California Current before and during the warm conditions of 2005. Geophys. Res. Lett. 33:2006GL027930.

Melin, S. R., R. L. DeLong, J. R. Thomason, and G. R. VanBlaricom. 2000. Attendance patterns of California sea lion (*Zalophus californianus*) females and pups during the non-breeding season at San Miguel Island. Mar. Mamm. Sci. 16:169–185.

Melin, S. R., and R. L. DeLong. 2000. At-sea distribution and diving behavior of California sea lion females from San Miguel Island, California. Proceedings of the Fifth California Islands Symposium. Santa Barbara: Santa Barbara Museum of Natural History, pp. 407–412.

Melin, S. R. 2002. The foraging ecology and reproduction of the California sea lion (*Zalophus californianus*). PhD Dissertation. St. Paul: University of Minnesota, 150 pp.

Melin, S. R., R. L. DeLong, and D. B. Siniff. 2008. The effects of El Niño on the foraging behavior of lactating California sea lions (*Zalophus californianus*) during the nonbreeding season. Can. J. Zool. 86:192–206.

Mills, K. L., T. Laidig, S. Ralston, and W. J. Sydeman. 2007. Diets of top predators indicate pelagic juvenile rockfish (*Sebastes* spp.) abundance in the California Current System. Fish. Oceanogr. 16:273–283.

Norton, J., D. McLain, R. Brainard, and D. Husby. 1985. The 1982–83 El Niño event off Baja and Alta California and its ocean climate context. *In* El Niño North: Niño effects in the Eastern Subarctic and Pacific Ocean, W. S. Wooster and D. L. Fluharty, eds., Seattle: Washington Sea Grant. pp. 44–72.

Orr, A. J., J. L. Laake, M. I. Dhruv, A. S. Banks, R. L. DeLong, and H. R. Huber. 2003. Comparison of processing pinniped scat samples using a washing machine and nested sieves. Wildl. Soc. Bull. 31:253–257.

Peterson, R. S., and G. A. Bartholomew. 1967. The natural history and behavior of the California sea lion. Spec. Publ. No. 1 Am. Soc. Mammal. 79 pp.

R Core Development Team. 2009. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org.

Richmond, J. P., J. M. Burns, and L. D. Rea. 2006. Ontogeny of total body oxygen stores and aerobic dive potential in Steller sea lions (*Eumetopias jubatus*). J. Comp. Physiol. B Biochem. Syst. Environ. Physiol. 176:535–545.

Schwing, F. B., N. A. Bond, S. J. Bograd, T. Mitchell, M. A. Alexander, and N. Mantua. 2006. Delayed coastal upwelling along the U.S. West Coast in 2005: A historical perspective. Geophys. Res. Lett. 33:2006GL026911.

Sydeman, W. J., R. W. Bradely, P. Warzybok, C. L. Abraham, J. Jahncke, K. D. Hyrenbach, V. Kousky, J. M. Hipfner, and M. D. Ohman. 2006. Planktivorous auklet (*Ptychoramphus aleuticus*) responses to the anomaly of 2005 in the California Current. Geophys. Res. Lett. 33:2006GL026736.

Thomas, A. C., and P. Brickley. 2006. Satellite measurements of chlorophyll distribution during spring 2005 in the California Current. Geophys. Res. Lett. 33:2006GL026588.

Weise, M. J., D. P. Costa, and R. M. Kudela. 2006. Movement and diving behavior of male California sea lions (*Zalophus californianus*) during anomalous oceanographic conditions of 2005 compared to those of 2004. Geophys. Res. Lett. 33:2006GL027113.

Wells, B. K., J. C. Field, J. A. Thayer, C. B. Grimes, S. J. Bograd, W. J. Sydeman, F. B. Schwing, and R. Hewitt. 2008. Untangling the relationships among climate, prey and top predators in an ocean ecosystem. Mar. Ecol. Prog. Ser. 364:15–29.