

# Recommendations to Mitigate Identified Threats to Coastal Wildlife

Coastal Wildlife Protection Advisory Committee

City of Pacific Grove

June 8<sup>th</sup>, 2021

Dedicated to the memory of John Pearse, Professor Emeritus,  
UC Santa Cruz, colleague, and friend.

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# Introduction

The Coastal Wildlife Protection Advisory Committee (CWPAC) was formed as a City Manager advisory committee and recognized by the City Council in December 2018. The formation of CWPAC was motivated by new coastal wildlife protection policies in the City's 2020 Local Coastal Program. The committee was tasked to advise on collaboration with local agencies and organizations on enforcement, educational outreach, and development guidelines to protect coastal wildlife against significant future disruption of habitat.

CWPAC met 12 times from 2019 - 2021 including a town hall at the Community Center in Pacific Grove in September 2019. Committee members included local scientists and community wildlife advocates who gave generously of their time and efforts. The original members are:

- Thom Akeman, Bay Net volunteer for Monterey Bay National Marine Sanctuary
- Erika Delemarre, California State Parks' Marine Protected Area Outreach & Education
- Mark Denny, Stanford University/Hopkins Marine Station
- Scott Kathey, formerly Monterey Bay National Marine Sanctuary
- Blake Matheson, Monterey Audubon Society
- John Pearse, Professor Emeritus, UC Santa Cruz
- Vicki Pearse, Stanford University/Hopkins Marine Station
- Amanda Preece, Monterey Audubon Society
- Bill Standley, Bureau of Land Management
- Kyle S. Van Houtan, Monterey Bay Aquarium

The challenges before us to protect coastal wildlife are large and complex. This document provides guidance and recommendations for the City of Pacific Grove and is a resource for others working to protect our incredibly important local coastal wildlife.

It has been my pleasure to know and work with these talented and dedicated individuals.

Bill Peake, Pacific Grove Mayor

# Summary of key recommendations

Not listed in order of priority.

1. Decrease human disturbance by reducing access to rocky outcrops and sensitive wildlife breeding areas, both year-round or seasonally, especially in the 6 identified Areas of Special Interest;
2. Remove problematic non-native plants in coastal areas (Appendix C) and replace with native plants, essentially extending the restored Asilomar State Beach dunes and rocky shore habitat north and north-east along the rest of the Pacific Grove shoreline;
3. For coastal development, use soft engineering alternatives (e.g., beach nourishment, dune restoration, etc.) described in the 2012 Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay instead of hard engineering approaches (e.g., seawalls and riprap) where practicable;
4. Replace lost coastal wildlife habitat through habitat restoration with the goal of no net loss of habitat;
5. Move major infrastructure (e.g., roads, sewer lines, utilities) farther inland from City shorelines in a managed retreat from sea-level rise;
6. Support existing coastal interpretive programs and community science programs (Appendix D) and/or implement additional stewardship and docent programs that foster public understanding and commitment for conservation measures that preserve the City's native coastal wildlife;
7. Establish and fund a Conservation Officer, as a permanent City position, and/or a dedicated wildlife commission for planning, promoting, executing, and monitoring progress of City strategies for preserving and optimizing the unique coastal wildlife and associated habitats that characterize the City's shoreline.

# Ongoing disturbance of wildlife

Residents and visitors alike are drawn to the City of Pacific Grove's rocky shorelines and sandy beaches for recreation, relaxation, research, and more. Famous for its beauty and biodiversity, the City's coastline is unique in that it is entirely surrounded by a series of four state marine protected areas (MPAs) and the federal Monterey Bay National Marine Sanctuary (see maps in Appendices E and F). Together, these areas offer critical protection to the various habitats and abundant residential and migratory species found along the City's shoreline and in coastal waters. Though the City's shoreline is afforded varying levels of federal and state protection, the City of Pacific Grove can enhance these protections in many ways.

Living in the dynamic interface of urban and natural habitats, Pacific Grove's coastal wildlife are under continual stress and pressure caused by a variety of human impacts. Many adverse impacts to wildlife can be mitigated by changes to policy and human behavior. Disturbance of wildlife interrupts their feeding, breeding, resting, nesting, nursing, and migratory patterns and broadly diminishes the resilience of individual animals. The following is a list of ongoing threats and opportunities for mitigation.

## 1. Feeding wildlife (see Appendix A)

1. Increase enforcement of City ordinance 10.10.010, which prohibits the feeding of wildlife.
2. Increase awareness of the negative consequences of leaving dog or cat food outside, and the negative impact on wildlife from improperly sealed trash containers. As carnivorous and omnivorous urban wildlife species increase with supplemental feeding from humans, they prey on other wildlife that do not benefit from human refuse or supplemental feeding, creating an imbalance of predators to prey.
3. Allocate funds for enforcement specific to reducing the feeding of wildlife.
4. Specialized training of Pacific Grove Police Department (PGPD) to increase understanding and enforcement of local and state ordinances that impact wildlife
5. Increase volunteer docent presence - through City of Pacific Grove, Monterey Audubon Society, Pacific Grove Museum of Natural History, Bay Net, Team Ocean, and other groups.
6. Interpretive panels and signage explaining the harm resulting from feeding wildlife - not just enforcement signs.

## 2. Drones/Aircraft

1. Enforce City ordinance restricting launch of drones within the coastal zone without a City permit. Train City staff and volunteers how to document and report low overflight violations by drones or aircraft and what specific information to record regarding observed wildlife disturbance by such flights.
2. Require permit holders to coordinate with City staff to contact local wildlife monitoring groups prior to flying a drone along the coast, areas including harbor seals, sea otters, sea lions, and black oystercatchers.

3. Contact developers of apps that are used by drone operators (B4UFly, others) to get Pacific Grove onto their no-fly maps.
4. Conduct outreach to private drone operators and researchers that use drones regarding impacts to wildlife (Vas et al. 2015, Rebolo-Ifrán et al. 2019)

### 3. Domestic pets

1. Dogs
  - a. Require all dog owners applying for a dog license to review wildlife impacts and local leash laws.
  - b. City police and California State Parks rangers to increase enforcement of leash laws along the entire coastline.
  - c. Outreach through SPCA for Monterey County, Animal Friends Rescue Project (AFRP), Peace of Mind Dog Rescue, Coastal Canine digital and paper newsletters, and online websites and apps that incorrectly promote Pacific Grove beaches as off-leash. Explain harm done to wildlife by constant disturbance.
2. Cats
  - a. Free-ranging cats are a major contributor to wildlife mortality.
  - b. Cats transmit Toxoplasmosis, which can be a cause of mortality in Southern sea otters (*Enhydra lutris nereis*).
  - c. Outreach through SPCA, AFRP, Peace of Mind, and digital and paper newsletters. Explain harm done to wildlife by free-ranging cats and include the dangers outdoor cats face, including being struck by cars, preyed upon by coyotes, contracting diseases, etc.
  - d. Cats should be managed like dogs: licensed and only allowed outdoors under supervision, on a harness, or in an enclosure.

### 4. Beachgoers

1. Fishing
  - a. Fishing along the entire Pacific Grove coastline is regulated by state and federal law through multiple Marine Protected Areas (MPAs). (See California Code of Regulations, Title 14 and map of local MPAs in Appendix E.)
  - b. Development of PGPD protocols for addressing fishing activities (lawful or unlawful) that result in wildlife disturbance (i.e. interpretive enforcement protocols that lead to corrective actions to preclude future disturbance).
2. Walking
  - a. Support for outdoor docent programs such as Bay Net to educate shoreline users about observing wildlife non-intrusively. Signage at strategic overlook points addressing the same messages about responsible wildlife viewing.

### 3. Tidepooling

- a. Support for outdoor docent programs to educate shoreline users about observing non-intrusively within tidepool areas and about City and California Department of Fish and Wildlife (CDFW) MPA regulations against take of tidepool organisms. Install signage at strategic overlook points addressing the same messages about tidepooling.

### 4. Photography/selfies

- a. Collaboration with kayak and paddle craft vendors to promote responsible wildlife viewing techniques that discourage close approach to wildlife for selfies.
- b. Support for outdoor docent programs to educate shoreline users about non-intrusive wildlife observation and photography techniques. Install signage at strategic overlook points addressing the same messages about responsible wildlife viewing and photography techniques.

## 5. Kayaks, stand-up paddleboards, etc.

1. City ordinance requiring kayak and paddle craft vendors seeking a PG business license to place visible markings on rented craft that uniquely identify each craft so that any craft engaged in disturbing wildlife can be identified for follow-up.

## 6. Noise

### 1. Fireworks

- a. For Feast of Lanterns and other firework events, consider using City permit or contracting authority to omit all "salute" rounds from future shows and restrict all shows to the usual and accustomed display site at Lovers Cove. Consider limiting the duration of shows and size of ordnance used in the shows.
- b. Gauge public support for alternative celebratory events that don't include fireworks. If possible, celebrate in other ways.

### 2. Construction

- a. City ordinance or permit condition limiting operation of construction activity near certain sensitive wildlife areas, with consideration of seasonal variations in wildlife use patterns.

### 3. Yard maintenance (chippers)

- a. Control wood chipping operations near Hopkins harbor seal beach, with consideration of seasonal variations in wildlife use patterns.



## 7. Poaching/unlawful resource extraction

1. Fishing in Marine Protected Areas (MPAs)
  - a. Training for police officers and public works staff regarding CDFW regulation of consumptive activities in the various MPAs along the Pacific Grove shoreline. Development of standard protocols at PGPD to respond to illegal fishing within adjacent MPAs. (See California Code of Regulations, Title 14 and map of local MPAs in Appendix E.)
2. Collection and removal of biota
  - a. Enhanced enforcement of City ordinance and marine protected area (MPA) regulations against take of tidepool organisms through specific training for police officers and California State Parks rangers, and establishment of standard protocols for addressing observed illegal take. Continued support for signage program at strategic points addressing responsible tidepooling. (See Regulations Protecting Wildlife.)
  - b. Clarify differences between federal, state, and City regulations related to collecting biota. City ordinance (M.C. 14.04.030) limiting personal collection to “one handful” of dead animals or parts (i.e. shells, bones, etc.), detached plants and algae, pebbles, flotsam and jetsam needs to be changed to be in line with state MPA regulations.

## Pollution

Byproducts of human activity cause many direct and indirect threats to wildlife. Pollution can be in the form of contaminated water, litter, microplastics, etc. Pollution can be both organic and inorganic in nature. Impacts can be acute or chronic.

### 1. Litter

#### 1. Food waste

- a. Install wildlife-proof trash receptacles throughout downtown Pacific Grove, along the coastal trail, near Lovers Point, and along Asilomar walking path. Maintain sufficient staff to regularly empty receptacles before they reach capacity and overflow, with special attention to weekends and public holidays.

#### 2. Cigarettes

- a. Promote healthy, smoke-free beaches and the coastal recreation trail.
- b. Install devices for disposing of cigarette butts throughout downtown Pacific Grove, along the coastal trail, near Lovers Point, and along Asilomar walking path.

### 3. Plastic pollution

- a. Eliminate all single-use plastics in local businesses to become 100 percent free of plastic bags, plastic straws, plastic cutlery, plastic cups, styrofoam to-go containers, etc.
- b. Ban the sale and release of any balloons.
- c. If “bio-plastic” or compostable plastic alternatives are implemented in local businesses, the City must provide widespread collection of composting from both commercial and residential properties.
- d. Install wildlife-proof recycling receptacles next to all trash cans throughout downtown Pacific Grove, along the coastal trail, near Lovers Point, and along Asilomar walking path.
- e. Work with the California State Division of Boating and Waterways to install bins for collecting and recycling monofilament fishing line (PVC pipe receptacles) in popular shoreline fishing areas such as Otter Point.

### 4. Dog waste

- a. Install additional dog-waste bag dispensers next to trash cans throughout downtown Pacific Grove, along the coastal trail, near Lovers Point, and next to entrances to Asilomar walking path and beach.

### 5. Water quality

#### 1. Crespi Pond

- a. Water quality is monitored quarterly through Monterey Bay National Marine Sanctuary Citizen Watershed Monitoring Network, using baseline data collected in 2017.
- b. The City dredges the pond when necessary (at writing, the last time this occurred was ~2015) to maintain the 70% open water to 30% vegetation cover recommended in a 2001 biological assessment and dunes habitat restoration plan. The 2020 Local Coastal Plan will allow dredging and suitable restoration to enhance natural habitats.
- c. City should reach out to California State University Monterey Bay graduate level watershed classes to study the site for guidance and updates, and potential restoration options.
- d. City should also consider reconstituting a Crespi Pond Advisory Committee as existed in the past.

#### 2. Majella Creek

- a. Begin water quality monitoring, either in conjunction with the National Marine Sanctuary Citizen Watershed Monitoring Network or following their protocols to generate baseline data. Partner with California State Parks to determine if they have historic data or would be willing to spearhead research.

3. Storm drain runoff
  - a. Expand stormwater diversion program.
  - b. Continue drain and catchment basin cleaning during and after the first major rain.
  - c. Build green infrastructure to help filter and clean stormwater runoff before it enters creeks, rivers, and the ocean.
    1. Utilize native plants in these affected areas to also create habitat for wildlife.
  - d. Reduce impervious surfaces throughout the City and coastal zone through the implementation of porous pavements and asphalts and the removal of unnecessary pavement.
4. Sewer collection system failures
  - a. Continue to improve sewer system
  - b. Manage a “planned retreat” and move sewer lines inland.
5. Future of sewer pipes along Sunset Drive & Ocean View Boulevard
  - a. Redundant systems and improved wireless monitoring systems to alert system managers of failures in real time. Seek grant funds for equipment enhancements.

## Coastal bluff erosion

Coastal bluffs comprise most terrestrial coastal wildlife habitat within Pacific Grove. Loss of this habitat would significantly threaten local wildlife populations. Multiple factors will continue to accelerate bluff erosion.

### 1. Sea-level rise (SLR)

- a. Recommend managed retreat: Allow for the natural realignment of the shoreline due to SLR.
  1. Begin long-term plan to move City infrastructure (i.e. purposeful, coordinated movement of buildings, sewage lines, roads, etc.) inland in preparation for rising sea levels. Be proactive, not reactive.
  2. Investigate grant and funding options from state (e.g. Ocean Protection Council) to fund retreat operations.
- b. Review all infrastructure improvements and building permit applications in the light of increasing sea levels and the effects on wildlife and coastal habitats.
- c. Remove the human-made debris and infrastructure before the underlying sediment is lost due to SLR. Do not leave infrastructure debris in what will need to transform into new healthy, functioning sandy or rocky beach habitat for coastal wildlife.
- d. Actively restore or enhance the coastline to promote wildlife preservation as part of the retreat process.

## 2. Sea wall maintenance/construction

- a. Armoring to protect City infrastructure (sewer line, roads, etc.)
  1. Preferred: Build no new sea walls and place no new riprap
  2. Alternative one: For coastal development, use soft engineering alternatives (e.g. beach nourishment, dune restoration, etc.) described in the 2012 Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay instead of hard engineering approaches (e.g. seawalls and riprap).
  3. Alternative two: For the few circumstances in which construction of a seawall is practicable and unavoidable, utilize the latest advances designed to enhance the development of intertidal organisms.

## 3. Unapproved trails

- a. Unapproved trails descending steep coastal bluffs increase erosion in addition to disturbing wildlife. Prompt management is required. Fencing (split rail, cable fencing, or otherwise) blocking the path, signage, and re-planting of native plants in the unapproved trail is required.
- b. A more managed and maintained trail system, similar to the trails installed at Asilomar State Beach, eliminates the incentive to create unapproved trails and allows for any native plant restoration to be more successful.

# Problematic species

The composition of the Pacific Grove coastline plant community has been fundamentally altered over time. In large sections, non-native invasive plant species have replaced native species and provide little benefit to the local ecology. Certain populations of native wildlife have become unnaturally abundant because of human activities on the coastline. These species include American Crows, California ground squirrels, raccoons, and others. These species can have severe negative effects on the broader native wildlife community, resulting in a significant loss of local biodiversity.

## 1. Plants

- a. Non-native plants, especially succulents such as iceplant (*Carpobrotus edulis*) and the red aloe (*Aloe arborescens*), contribute to erosion and are a “dead end” ecologically for most coastal wildlife. Removal of non-native plants and replacement with native plants would improve the habitat for the native wildlife.
  1. Iceplant removal may be done mechanically or chemically, depending on the location, but should be done in a way that does not increase erosion and does not disturb archeological sites.
  2. Removal of the red aloe should be done in a manner that doesn't harm the coastal banana slug that seems to prefer to live in those plants.

- b. Any City coastal landscaping projects should be required to use native plants exclusively and the same is recommended for private homeowners.
- c. Existing patches of native plants and especially trees (Monterey Cypress, Monterey Pine, and Coast Live Oak) should be nurtured, not overly pruned, damaged, or removed except for hazardous trees.

## 2. Wildlife

- a. See sections related to feeding wildlife and trash.

## Species of Concern needing protection

There are several listed plant species that occur on or near the Pacific Grove coastline. These include:

- Tidestrom's Lupine *Lupinus tidestromii*
- Menzies' Wallflower *Erysimum menziesii*
- Beach Layia *Layia carnosa*
- Sand (Monterey) Gillia *Gilia tenuiflora* ssp. *arenaria*
- Monterey Spineflower *Chorizanthe pungens* var. *Pungens*



These plants are found in coastal dune and coastal scrub plant communities and have all been documented at Asilomar State Beach. They likely occur in other areas around the coast, both on City property and private property. They are predominantly threatened by development, trampling by foot traffic, competition from non-native plants, and herbivory. Clearly marked and well-maintained trails along the coast would help these sensitive plants. Re-introduction to areas where the species have been extirpated should be pursued.



Black Oystercatcher  
Blake Matheson

Two animal species sensitive to disturbance and needing protection, especially during breeding season, are Black Oystercatchers and Harbor Seals.

Black Oystercatchers are a designated Federal and State Species of Concern but there are no specific regulations protecting them. These vocal, charismatic shorebirds are year-round residents on our rocky shores. Pairs bond for life, and each pair maintains a territory,

which male and female together defend vigorously, for foraging throughout the year and breeding primarily from May to August. If parents are driven away from the nest by any disturbance, such as a drone, the eggs or chicks are left vulnerable to gulls and other predators. The young require 4-5 years to reach full maturity and begin nesting. The local population of some 15 pairs is not fledging young in sustainable numbers. They need awareness by people enjoying the shore. Ropes with signage placed around some highly trafficked nesting areas are meant to alert people.

Harbor Seals are protected by Federal, State, and City regulations (see Regulations Protecting Wildlife). The seals haul out on beaches or rocks along local shores. Beaches at Hopkins Marine Station (see Areas of Special Interest) and at 5th Street have become important sites of pupping, where females give birth and nurse the pups for about a month. Expectant and mother seals are especially sensitive to disturbance in late stages of pregnancy and when they have and nurse their pups, about February through June. People walking or in kayaks approaching the beaches invariably flush seals from the beach, causing the death of pups separated from their mothers. Hopkins Marine Station's fence and the City's seasonal wood-lattice fencing along the Recreation Trail near 5th St. are protective. The wood-lattice fencing near 5<sup>th</sup> St. should remain up at least through June.



Harbor seal and pup  
©Kim M Akeman, 2021

# Climate change

Climate change will have overwhelming permanent impacts on local wildlife populations, their habitats, and the City's shoreline. Increasing temperatures and acidity in the ocean will affect wildlife and their food base. The City should do everything in its power to facilitate the adaptation of local wildlife to climate change while simultaneously working to reduce the human contribution to the climate crisis. Many actions that support our carbon reduction goals can in turn benefit wildlife.

Supporting native habitats and biodiversity will ensure our local wildlife populations are robust and can adapt to the upcoming changes. Thoughtful planning and development for the built areas of Pacific Grove, such as increased urban greenspaces, will simultaneously reduce emissions, sequester carbon, and benefit wildlife.

A multitude of documents have been developed specifically addressing the effects of climate change in California. See References and Resources.

## 1. Efforts towards Mitigation

1. Citywide effort to reduce carbon emissions
  - a. Assess public transportation for residents and visitors
  - b. Promote monthly walk- and bike-to-work programs in local businesses and schools
  - c. Promote City as "walkable/bikeable"
    1. Support Fort Ord Regional Trail And Greenway (FORTAG) project and Sustainable Pacific Grove
2. Citywide effort to increase local carbon sequestration
  - a. Native tree and vegetation planting and maintenance on City property to help with wildlife habitat creation and carbon sequestration.
  - b. Annual program to encourage local property owners to plant native trees and vegetation on their property.

## 2. Efforts towards Adaptation

1. State of California Sea-level Rise Guidance
  - a. This updated document, the "State of California Sea-Level Rise Guidance" (Guidance), provides a bold, science-based methodology for state and local governments to analyze and assess the risks associated with sea-level rise, and to incorporate sea-level rise into their planning, permitting, and investment decisions. This Guidance provides: 1. A



synthesis of the best available science on sea-level rise projections and rates for California; 2. A step-by-step approach for state agencies and local governments to evaluate those projections and related hazard information in decision making; and 3. Preferred coastal adaptation approaches.

[https://www.opc.ca.gov/webmaster/ftp/pdf/agenda\\_items/20180314/Item3\\_Exhibit-A OPC SLR Guidance-rd3.pdf](https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A OPC SLR Guidance-rd3.pdf)

## 2. California Coastal Commission Sea-Level Rise Adopted Policy Guidance

- a. “The original Sea-Level Rise Policy Guidance document was unanimously adopted for use by the Coastal Commission on Wednesday, August 12, 2015. It provides an overview of the best available science on sea-level rise for California and recommended methodology for addressing sea-level rise in Coastal Commission planning and regulatory actions. It is intended to serve as a multi-purpose resource for a variety of audiences and includes a high level of detail on many subjects. Since the document is not specific to a particular geographic location or development intensity, readers should view the content as a menu of options to use only if relevant, rather than a checklist of required actions. On Wednesday, November 7, 2018, the Coastal Commission unanimously adopted a Science Update to the Sea-Level Rise Policy Guidance. The science-focused changes reflect recent scientific studies and statewide guidance that update our understanding of best available science on sea-level rise projections relevant to California. Other sections of the Guidance remain unchanged.”

<https://www.coastal.ca.gov/climate/slrguidance.html>

- b. Recommendation: The City of Pacific Grove should consider this a valuable resource.

## 3. Ocean & Climate Platform: Sea’ties initiative

- a. “The goal of the Sea’ties initiative is to facilitate the development of public policies and the implementation of adaptation solutions for coastal cities threatened by rising sea levels. Developed by the Ocean & Climate Platform, the initiative is aimed at elected representatives, administrators and stakeholders involved in this transition as a forum for sharing experiences of sustainable solutions. Sea’ties is an international initiative to mobilize cities which feature a diversity of climatic, geographic, social, economic and political contexts. Many solutions have already been implemented across the world and can be inspirational for other regions. By making connections between concrete experiences and characterizing



them through illuminating scientific works, we can promote the most suitable practices and support the choices of political decision makers and regional administrators.”

<https://ocean-climate.org/en/home-2/?lang=en>

- b. The State of California is a member as is the City of Santa Cruz.  
Recommendation: The City of Pacific Grove should join; members gain access to resources for adapting to sea-level rise.

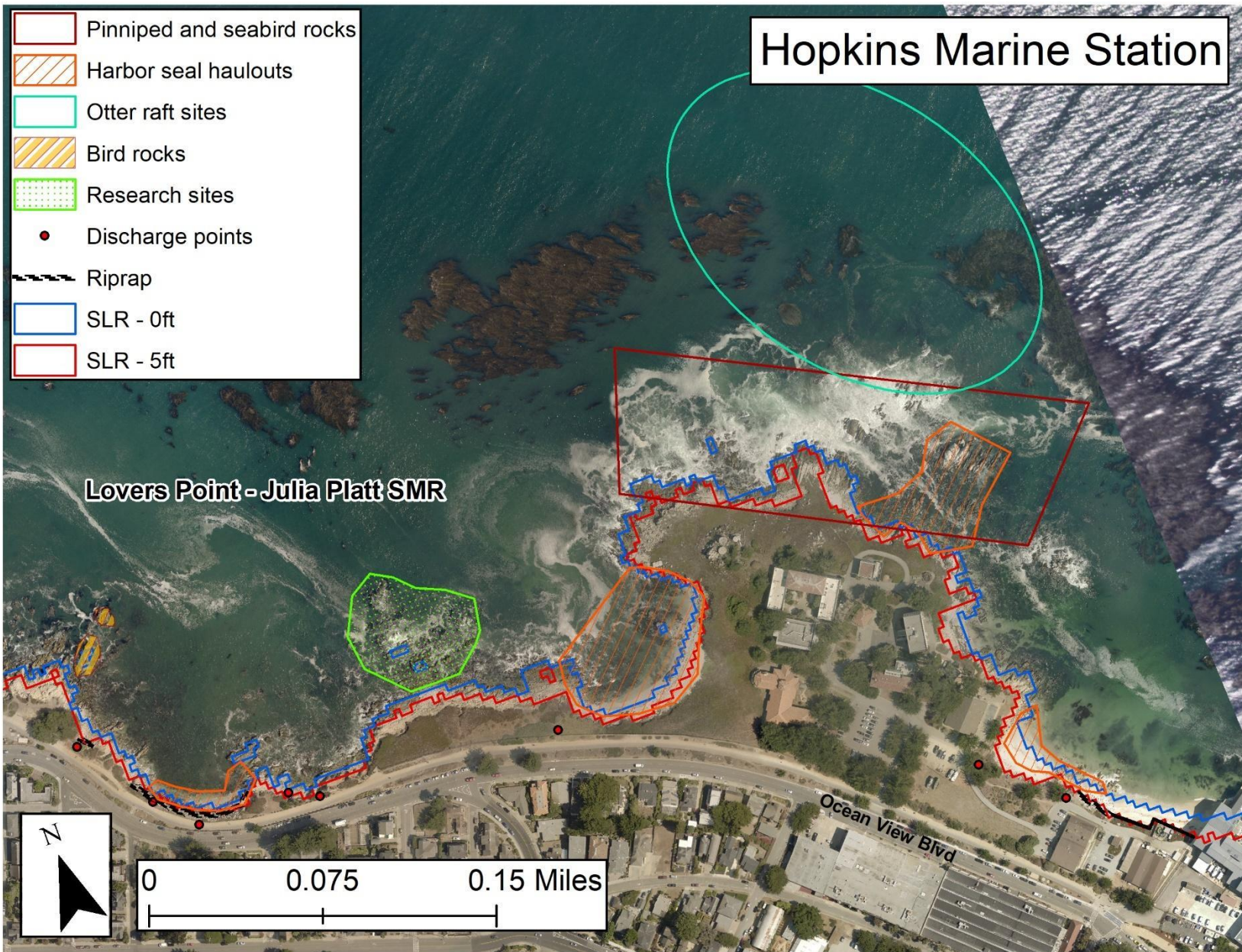
# Areas of Special Interest

Six Areas of Special Interest were identified by combining research from local organizations monitoring coastal wildlife. Locations along the coast in which wildlife species are observed or especially high species diversity has been recorded were manually outlined on a map using the program ArcGIS 10.7.1 (ESRI, Redlands, CA) to better understand how these areas related spatially. The Areas of Special Interest coalesced organically since the spaces used by coastal wildlife frequently are similar for many of the species. The identified Areas of Special Interest include (from north to south):

Hopkins Marine Station  
Lover's Point  
Point Pinos  
The Great Tidepool  
Asilomar North  
Asilomar South

Maps that depict the features of each Area of Special Interest are included below, along with summaries of main problems threatening these locations. Protection and mitigation of threats at these specific locations may help multiple coastal wildlife species, although the entirety of the coastline is important habitat for these species. Protection of the entire Pacific Grove coastline is ideal.

The maps include the high-tide line at both 0-foot SLR and 5-foot SLR. 0-foot SLR is the current average high tide line. 5-foot SLR is where the average high tide will be located with an additional 5-foot increase in SLR. These data are from NOAA: <https://coast.noaa.gov/slrdata/>



# Hopkins Marine Station Area

## Description (from Pacific Grove Shoreline Management Plan)

Hopkins Marine Station—the oldest marine laboratory on the west coast and a venerable local institution—sits on Point Cabrillo and occupies most of the shoreline frontage along this segment. (Whereas most of Pacific Grove’s shoreline is owned by the City, most of this segment is owned by Stanford University.) The facility is fenced to prevent public access to its beaches and other surrounding ecological habitat, which are home to two sensitive animal species: black oystercatchers and harbor seals. This section of the shoreline is surrounded by the Lovers Point-Julia Platt State Marine Reserve.

## Important Features

- Marine mammal and bird hotspot area
- Biodiverse intertidal area
- Long-term scientific monitoring and research sites
- Three Harbor Seal haul-out areas
- Three Harbor Seal pupping areas
- Coastal armoring

## Threats

1. Invasive plant species: extensive iceplant cover
  - Recommend coastal bluff restoration – remove iceplant as feasible taking into account the archeological sensitivity of the site, and in consultation with Stanford’s archeologist.
2. Trespassers at seal rookeries
3. Loud, unusual noises, including aircraft
4. Kayakers and paddle boarders approaching wildlife too closely and/or landing on beaches and rocks, flushing out birds and harbor seals
5. Drones
6. Sea-level rise. Amount and quality of new habitat exposed after coastal shift unknown.



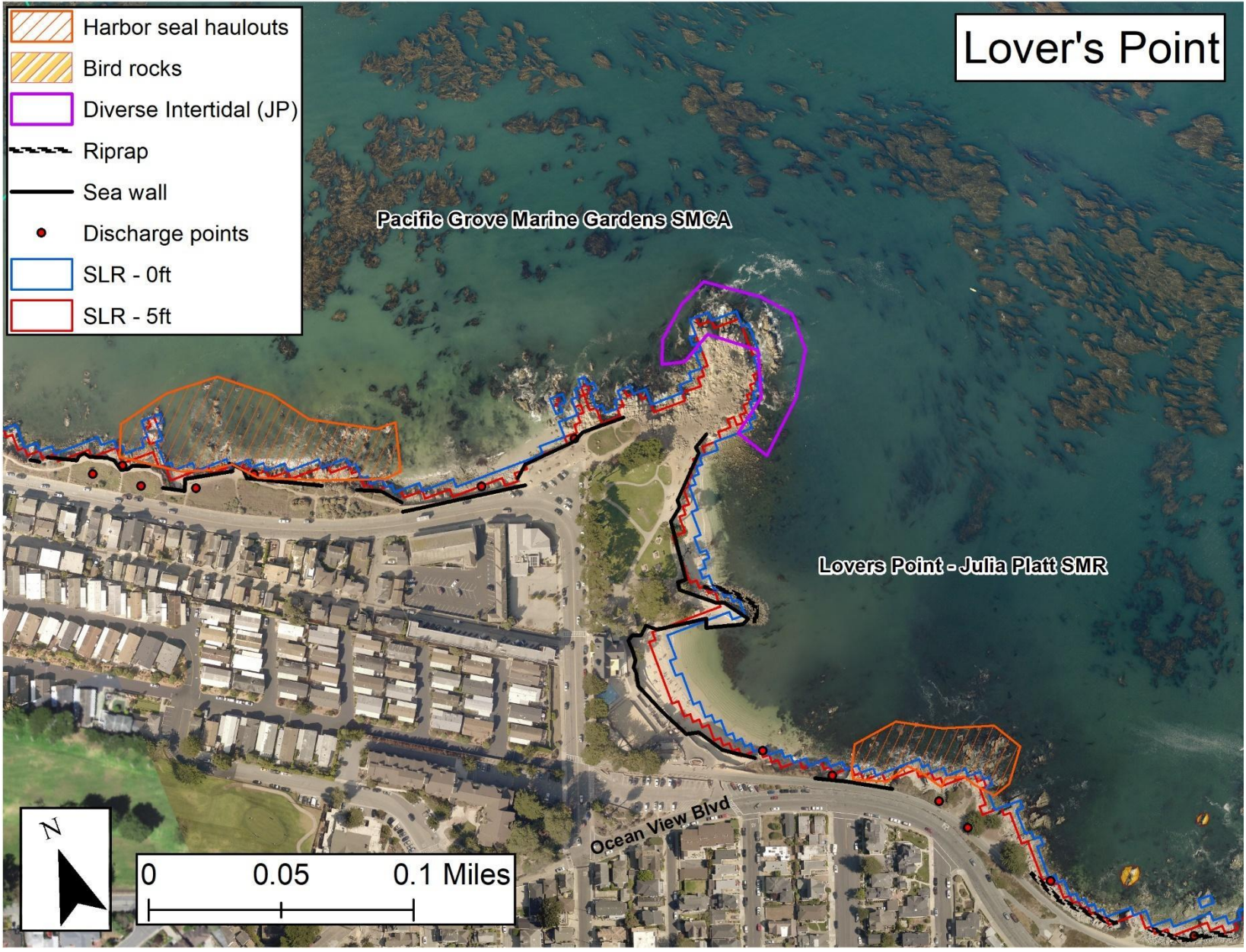
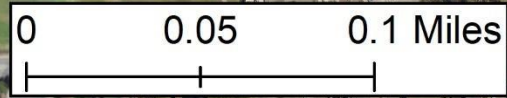
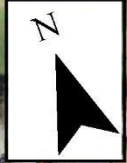
# Lover's Point

- Harbor seal haulouts
- Bird rocks
- Diverse Intertidal (JP)
- Riprap
- Sea wall
- Discharge points
- SLR - 0ft
- SLR - 5ft

Pacific Grove Marine Gardens SMCA

Lovers Point - Julia Platt SMR

Ocean View Blvd



## Lovers Point Area

### Description (from Pacific Grove Shoreline Management Plan)

Lovers Point Park and Beach, are perhaps the most popular spots along Pacific Grove's shoreline. The park and beaches are ringed by old yet stable stone walls, and there is riprap to protect a section of wall in the beach cove. Seawalls continue beyond Lovers Point Park to between Clyde and Moss Streets. Just east of Naiad Street, a 30-foot-long, 5-foot-tall section of wall that failed in January 2017 has been repaired. Past the seawalls to Sea Palm Avenue, the shoreline is marked by soil slumping, shallow landslides and channel erosion. This section of the shoreline is surrounded by the Lovers Point-Julia Platt State Marine Reserve and the Pacific Grove Marine Gardens State Marine Conservation Area.

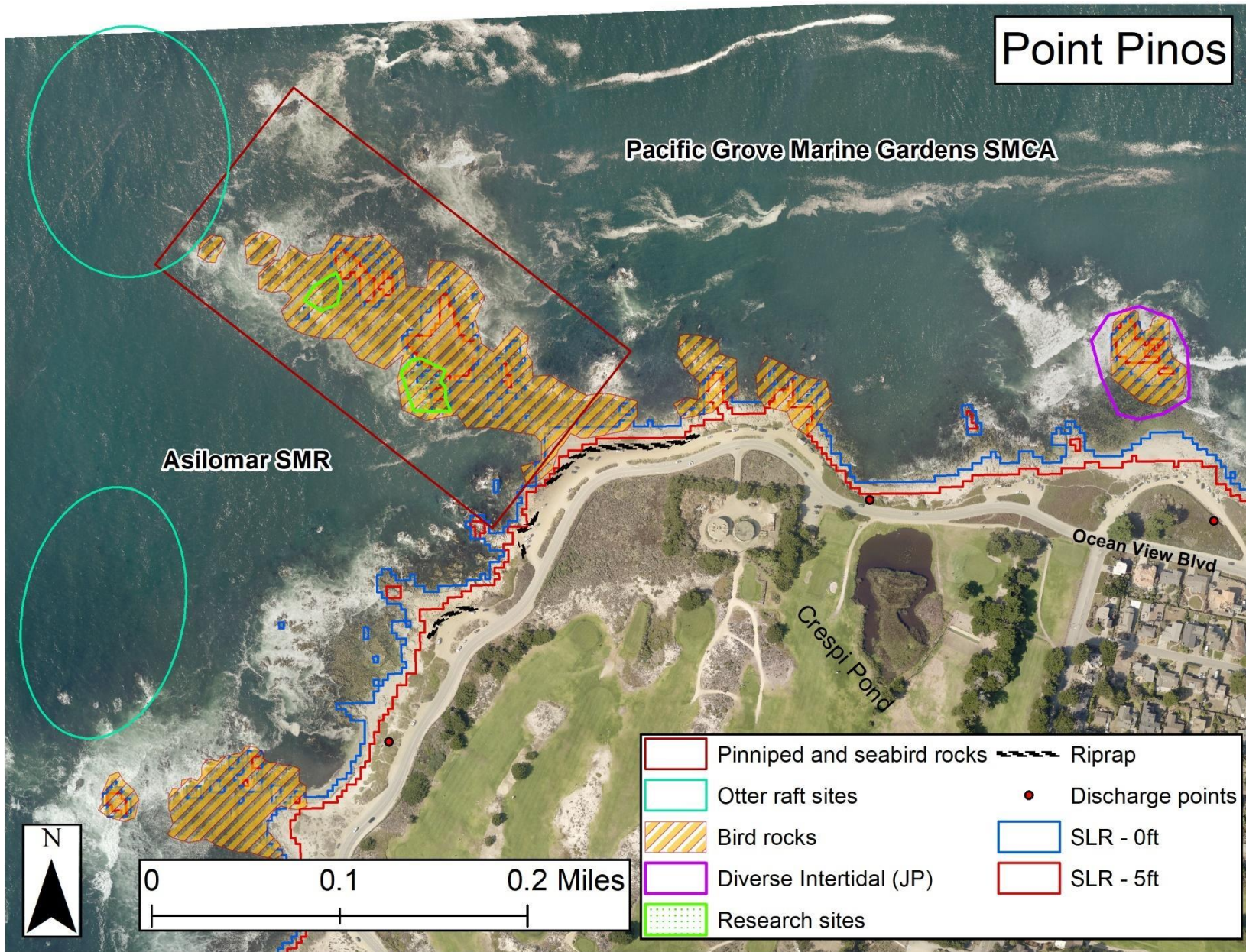
### Important Features

- Biodiverse intertidal area
- Two Harbor Seal haul-out areas
- Coastal armoring

### Threats

1. Kayaks/paddle boards
2. High incidence of ground squirrels due to human food sources
3. Drones
4. High volume of foot traffic
5. High quantity of urban stormwater run-off
6. Substantial pre-existing armament
7. Sea-level rise. Amount and quality of new habitat exposed after coastal shift unknown.





# Point Pinos Area

## Description

This area of coastline extends roughly from Asilomar Ave and John Denver Rock West and then South up to (but not including) the Great Tidepool. The Great Tidepool has its own Area of Interest. The rocky intertidal area that fronts the site is extensive, extending several hundred feet from sandy dune areas to the ocean edge of the rocky shelf. There is a network of unimproved trails with some segments encroaching into sensitive dune habitat. This area also includes Crespi Pond, which is a unique wetland area on the Pacific Grove coastline. This section of the shoreline is surrounded by the Pacific Grove Marine Gardens State Marine Conservation Area and Asilomar State Marine Reserve.

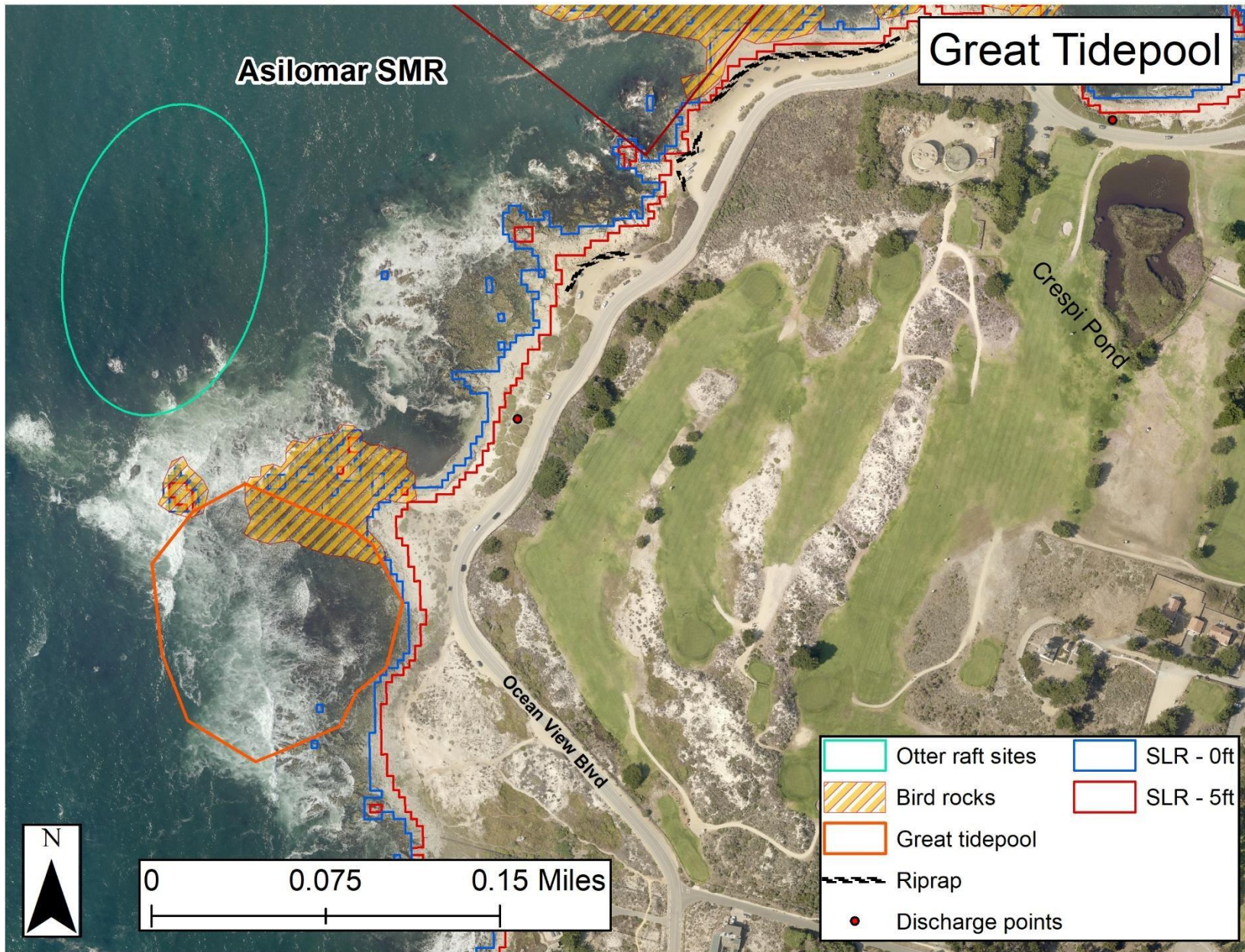
## Important Features

- Marine mammal and bird hotspot area
- Critical migratory seabird roosting habitat
- Biodiverse intertidal area
- Long-term scientific monitoring site
- Crespi Pond (important bird habitat)
- Coastal armoring

## Threats

1. Trampling (threat severity unknown)
2. Harassment disturbance of roosting species by rock climbers
3. Collecting/removal of biota
4. High incidence of ground squirrels due to human food sources
5. Degradation of water quality and habitat at Crespi Pond. In particular removal of native wetland grasses and habitats and replacement with biologically homogenous golf course grasses has reduced volume and diversity of bird species.
6. Drones
7. Sea-level rise. Amount and quality of new habitat exposed after coastal shift unknown.





# Great Tidepool Area

## Description

This Area of Interest includes the small cove south of Point Pinos, the Great Tidepool, and south to Lighthouse Ave. It includes multiple rocky headlands with complex intertidal habitat. Parking lot area is heavily armored. This section of the shoreline is surrounded by the Asilomar State Marine Reserve.

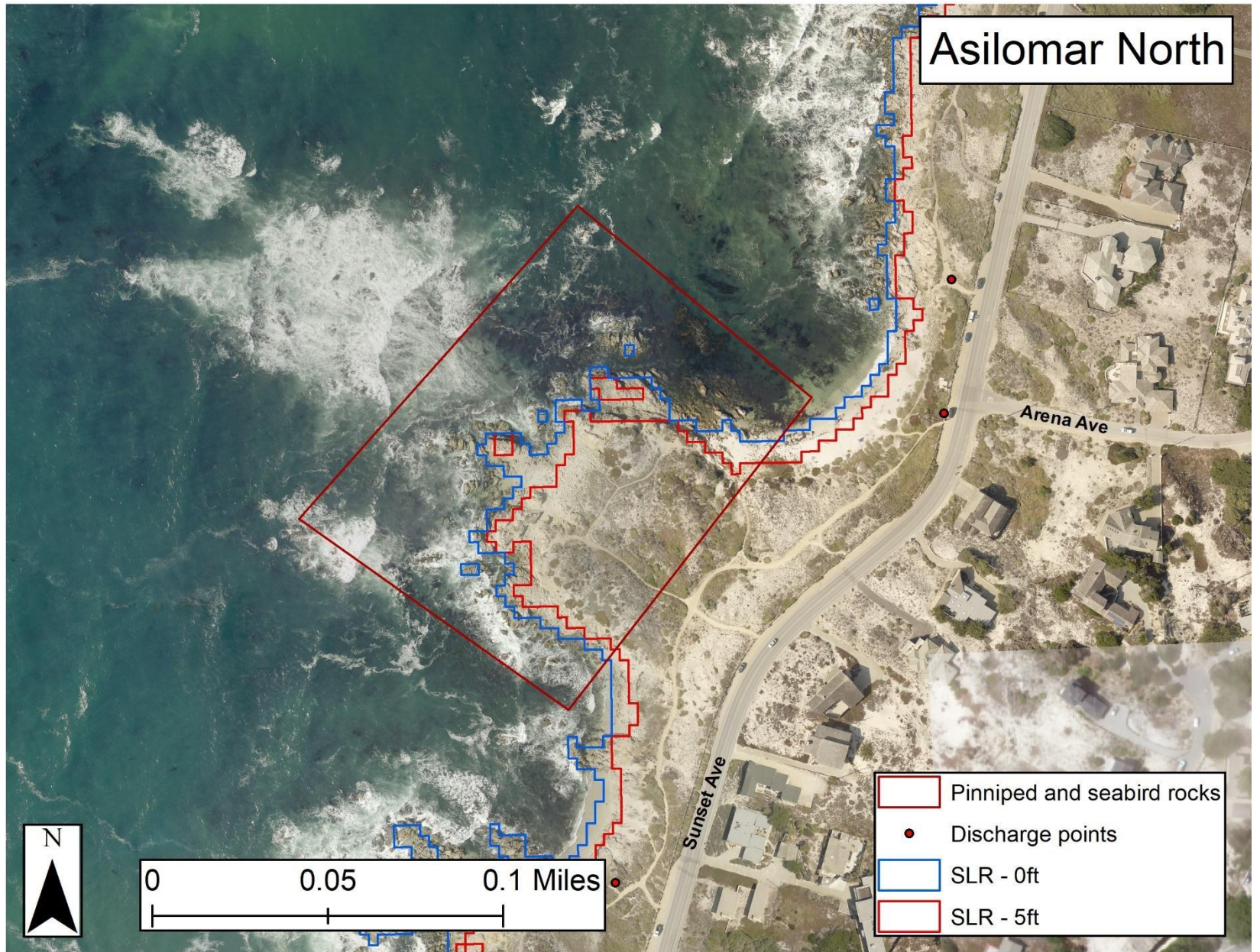
## Important Features

- Multiple small rocky headlands
- Great Tidepool (located in southern 1/3 of the hotspot) site of Ed Ricketts' research and collecting, of cultural/historical significance
- Critical migratory seabird roosting habitat
- Biodiverse intertidal area
- Historical intertidal monitoring site
- Coastal armoring

## Threats

1. Collecting/removal of biota (threat severity unknown)
2. Flushing, disturbance by beachgoers and tidepoolers
3. Illegal shore fishing
4. Drones
5. Sea-level rise. Amount and quality of new habitat exposed after coastal shift unknown.





# Asilomar North

## Description

The Asilomar North section includes a large rocky headland where many birds like to roost in the winter and Black Oystercatchers nest in the summer. Fresh-water seeps and outflow from the City streets adds some unique plant species to this section of coastline. The area extends roughly from the Arena Ave cove south to Pico Ave. This section of the shoreline is surrounded by the Asilomar State Marine Reserve.

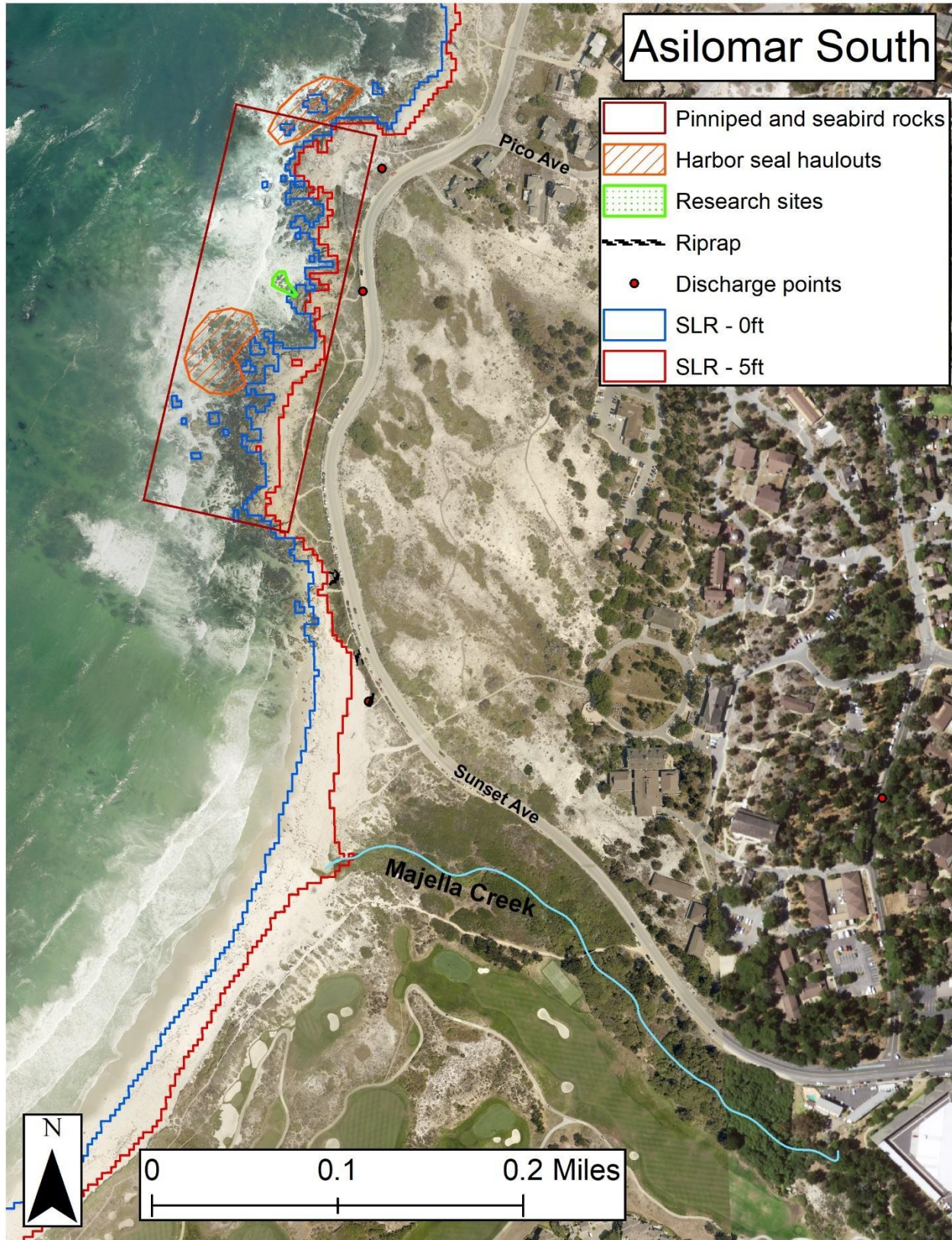
## Important Features

- Marine mammal and seabird hotspot area
- Nudibranch hotspot
- Long-term scientific monitoring site (nudibranchs)
- Freshwater outflow supporting native plants

## Threats

1. Trampling (threat severity unknown)
2. Harassment/disturbance by pedestrians and off-leash dogs
3. Drones
  - No official rule/code for No Drones at the park, but rangers do enforce a No Drones policy. Signage and information on the park website and trails is needed.
4. Future of recreation trail
  - State Parks is working on moving eroding section of coast trail farther inland (between trailheads 18 and 19), going around the pump station and into the parking area.
  - Northern section of trail between trailheads 19 and 20 is already rerouted farther inland (satellite imagery does not show this work, which was completed winter 2019).
5. Future of pump station
  - Cliff around pump station rapidly eroding, future high tides will certainly threaten roadway as well.
6. Sea-level rise. Bluffs rapidly eroding.





# Asilomar South

## Description

The Asilomar South section includes multiple rocky headlands where many birds like to roost in the winter and harbor seals and sea otters haul out at low tides. Fresh-water seeps and outflow from the City streets adds some unique plant species to this section of coastline. The area extends roughly from Pico Ave to the main large Asilomar sandy beach. Area includes Majella Creek and willow patch. Many shorebird and seabird species forage on the shoreline and rocks plus many unique species use Majella Creek and willow patch. Long sandy beach is very popular, but confusion persists regarding rules at State Parks versus Pebble Beach areas.

## Important Features

- Two Harbor Seal haul-out areas
- Marine mammal and seabird hotspot area
- Long-term scientific monitoring site (UCSC's MARINE and LiMPETS)
- Invertebrates, fishes, algae and sea grasses

## Threats

1. Trampling (threat severity unknown)
2. Pollution especially into freshwater seeps (knowledge gap)
3. Collecting/removal of biota
4. Future of recreation trail
  - State Parks moved threatened section of coast trail farther inland (between trailheads 10 and 11) but missed opportunity to re-direct people away from this important rocky outcropping by not continuing a section of fence line.
5. Drones
  - No official rule/code for No Drones at the park, but rangers do enforce a No Drones policy. Signage and information on the park website and trails is needed.
6. Sea-level rise
  - Parking along Sunset Ave near the main sandy beach is rapidly eroding. Discussions between City staff and state parks need to be initiated.
7. Pedestrians, including off-leash dogs, in rocks off trail
  - Sensitive pinnipeds and shorebirds rest in these rocks, frequent disturbance
  - Seasonal closure of the identified seabird and pinniped rocks would be extremely beneficial to wildlife

# Regulations Protecting Wildlife

## California Code of Regulations, Title 14

### 14 CCR §251.1. Harassment of Animals.

Except as otherwise authorized in these regulations or in the Fish and Game Code, no person shall harass, herd or drive any game or nongame bird or mammal or furbearing mammal. For the purposes of this section, harass is defined as an intentional act which disrupts an animal's normal behavior patterns, including, but not limited to, breeding, feeding, or sheltering. This section does not apply to a landowner or tenant who drives or herds birds or mammals for the purpose of preventing damage to private or public property, including aquaculture and agriculture crops.

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

#### (a) General Rules and Regulations:

The areas specified in this section have been declared by the commission to be marine protected areas, marine managed areas, or special closures. Public use of marine protected areas, marine managed areas, or special closures shall be compatible with the primary purposes of such areas. MPAs, MMAs, and special closures are subject to the following general rules and regulations in addition to existing Fish and Game Code statutes and regulations of the commission, except as otherwise provided for in subsection 632(b), areas and special regulations for use. Nothing in this section expressly or implicitly precludes, restricts or requires modification of current or future uses of the waters identified as marine protected areas, special closures, or the lands or waters adjacent to these designated areas by the Department of Defense, its allies or agents.

#### (1) Protection of Resources in MPAs and MMAs, as defined in Public Resources Code Section 36710:

(A) State Marine Reserves: In a state marine reserve, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource, except under a scientific collecting permit issued by the department pursuant to Section 650 or specific authorization from the commission for research, restoration, or monitoring purposes.

(C) State Marine Conservation Areas: In a state marine conservation area, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes except as specified in subsection 632(b), areas and special regulations for use. The department may issue scientific collecting permits pursuant to Section 650. The commission may authorize

research, education, and recreational activities, and certain commercial and recreational harvest of marine resources, provided that these uses do not compromise protection of the species of interest, natural community, habitat, or geological features.

## Pacific Grove Municipal Code

### 10.10.010 Prohibited – Where – Exceptions.

(a) It is unlawful for any person to feed or offer food to any animal, or to scatter food, seed or other forms of matter attractive to animals on any public way, street, park or public property, or within 100 feet of any body of water or coastline, in the city, or on any property in such city of which such person is not lawfully possessed.

### 14.04.020 Unlawful acts.

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

### 14.04.080 Unlawful acts during the Harbor Seal Pupping Season

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

### 14.08.010 Unlawful acts within limits of park, golf course or beach.

(f) To throw, deposit, place or leave in or upon any place within said parks or upon said beaches or golf course any waste papers, cans, bottles, trash, refuse or rubbish of any kind, except in a receptacle provided for such purpose by the city;

## Monterey County

### Chapter 8.42 - WILDLIFE PROTECTION

#### 8.42.010 - Harbor seal molestation.

It is unlawful to harass, worry, bother, pester, interfere with, molest, harry, frighten, or tease harbor seals or shoot, throw, or otherwise project an object at harbor seals, or enter designated restricted areas set up to protect harbor seals.



(Ord. 3629, 1992)

8.42.012 - Feeding of wildlife prohibited.

- i. No person shall feed or in any manner intentionally provide food as sustenance or to encourage domesticity in a non-domesticated animal with the exception of a bird feeder in the yard. A person may feed or provide food to wildlife under the following circumstances:
- ii. When the wildlife is maintained, treated or fed pursuant to a valid certificate or permit issued by the State of California or an agency of the U.S. Government;
- iii. When the wildlife is maintained, treated or fed between the time Animal Control or Humane Society is notified and the time the wildlife is picked up by such agency.

(Ord. 3629, 1992)

8.42.014 - Wildlife protection.

- iv. No person shall take or harass any wildlife or enter an entrance designated as a restricted area set up to protect wildlife.

# Appendix A. Feeding wildlife

## Dangers of feeding wildlife

Feeding wildlife, either directly or indirectly, is a harmful practice that subsidizes and supports certain urban-adaptive species (urban adapters) in our community, while excluding and harming other more specialized species (urban avoiders). The complexity lies in the fact that while feeding gulls or squirrels at the shoreline doesn't immediately harm nesting birds or intertidal invertebrates, the increased population and heightened presence of species benefiting from human food ultimately causes harm in the long-term to the specialist species through ecosystem level interactions. For example, feeding American Crows may ultimately harm nesting Black Oystercatchers, since the crow population increases locally and they are in turn potential predators on oystercatcher eggs and chicks.

**Table 1. Examples of avian urban adapters and avoiders. Urban adapters are usually more opportunistic and omnivorous, while urban avoiders are usually specialists, species that eat specific food items or have strict nesting requirements that are not readily available in urban areas.**

<b>Avian urban adapters</b>	<b>Avian urban avoiders</b>
American Crow	Black Oystercatcher
Western Gull	Western Snowy Plover
Brewer's Blackbird	Varied Thrush
House Sparrow	Red Crossbill
European Starling	Oak Titmouse
Eurasian Collared-Dove	California Thrasher

This issue overlaps with the general misapprehension the general public feels about larger urban-adaptive mammal species, such as raccoons and opossums, thriving within the City. Once again, the additional food resources available to urban adapters in the City allow their populations to increase above numbers seen in more natural areas. More food resources allow for smaller territories and a higher density of individual animals. People are sometimes afraid of these mid-sized urban mammals and express concern when these animals begin living under a shed or interacting with their pets. These are legitimate concerns, since some human-wildlife interactions can become dangerous for all creatures involved.

## Mitigation options

Some ways to reduce the harm to native, specialist species within the City is to ensure that food waste is inaccessible to the urban adapters. The trash cans along the coast trail and at restaurants on the coast should be wildlife resistant, such as those seen at most national and state parks (Figure 1). These large, metal trash and recycling receptacles may be more expensive, but they will help reduce the consumption of human food by urban wildlife and reduce the amount of trash and plastic entering the ocean. A program in which local organizations could “adopt” a trash can would be a positive action. A local non-profit or family could purchase the trash receptacle and decorate it, similar to the artwork on the utility boxes along streets in Monterey and Santa Cruz. Educational signage describing the natural history of the coastal wildlife these trash cans are protecting could be displayed.



**Figure 1. BearSaver BE Series 140 Gal. Animal Resistant Double Waste Receptacle from [globalindustrial.com](http://globalindustrial.com)**

Public outreach explaining the negative consequences of leaving dog or cat food outside would also be beneficial. Members of the public frequently complain about raccoons in their backyard, while simultaneously leaving food out for their cat on the patio. The presence of raccoons is directly connected to the cat food. The raccoons will not loiter in the backyard if there is nothing to attract them. Educated residents could ideally make the connection and act appropriately. Also, more information about the negative impact to wildlife from improperly sealed trash containers at private homes would be beneficial.

Rules are already in place to attempt and reduce the feeding of wildlife. City ordinance 10.10.010 prohibits the feeding of wildlife and needs stricter enforcement, especially along the coastline. A specific allocation of funds for addressing wildlife related issues, including the reduction of feeding wildlife along the coastal trail, is critical. Foot or bicycle patrols by local police officials between Berwick Park and Perkins Park along the coastal recreation trail during high visitation times (Memorial Day to Labor Day weekends and other holidays) may help decrease the incidence of wildlife being fed and reduce the number of bites sustained by people from the local squirrels. Doctors on Duty on Lighthouse Ave in Monterey receives many cases of squirrel bites from Lovers Point during the tourist season.

California ground squirrels (*Otospermophilus beecheyi*) are well adapted to the coastal recreation trail in Pacific Grove. People directly feeding the squirrels is likely the greatest contributor to their high density at Point Pinos and Lovers Point compared to other spots along the coast. Another food source for them is the leaf and fruit of the non-native iceplant (*Carpobrotus edulis*) which blankets the coastline along the recreation trail. This succulent is

essentially an ecological dead-end for most local wildlife, providing no structure to nest in or food to consume. In addition, the riprap that has been installed in areas of erosion provides safe burrows for the ground squirrels. Removal of the ice plant and replanting with plant species native to coastal dunes and bluffs would likely reduce the population of ground squirrels. Removal of the riprap may also help reduce their numbers.



**Figure 2. Person feeding California ground squirrel at Lover's Point.**

## Appendix B. Recommended protocols for Black Oystercatcher protection

### **City of Pacific Grove Black Oystercatcher Protection Protocol**

#### **Purpose**

The purpose of this protocol is to help protect the Black Oystercatcher, a bird of conservation concern and a year-around resident along the coastline of the City of Pacific Grove (hereafter referred to as the “City”), and to provide an orderly approach to the annual installation and removal of physical protective measures intended to help with the conservation of the species. This is a protocol developed by the City and the California Central Coast Black Oystercatcher Project (CCCBOP). Note that the Coastal Act explicitly grants protection of fragile natural resources priority over public access (see Appendix A). Any conflicts between protection and access are to be resolved “*in a manner which on balance is the most protective of significant coastal resources*”. Appendix B offers background information on the Black Oystercatcher monitoring project and Appendix C on the Black Oystercatcher.

### **Black Oystercatcher Protection Protocol**

#### **Protection Approach**

The City, along with the CCCBOP, in collaboration with the Monterey Peninsula Audubon Society, will use an approach that allows for the implementation of proven protective measures for the best short-term outcome while learning what works and what does not work, to determine the best practices for the long term.

In the short-term, the City will focus on the proven physical protective measures using current City resources (e.g., temporary fencing materials) and personnel with assistance from the CCCBOP (e.g., laminated signs) and Monterey Peninsula Audubon Society (e.g., limited funding for emergency purchase of addition fencing material). This will be supplemented by outreach and public education efforts (e.g., on-site docents and citizen science volunteers) coordinated by the CCCBOP in conjunction with Monterey Peninsula Audubon Society, Pacific Grove Museum of Natural History, California Coastal National Monument, and the Monterey Bay National Marine Sanctuary.

## Physical Protective measures

The physical protective measures to be considered are temporary and range from signage to protective fencing:

**Signs.** Signage provides important information about what is being protected and why it is being protected. Of a variety of signage options, only a few types of signs are in current use:

- **Laminated Signs.** The primary option will be laminated signs: “Help Save Our Coastal Birds”. The wording on these signs has been approved by the local staff of the California Coastal Commission. These signs are what we now use on City property along the coastline. These signs can be posted on existing fences, attached to A-frames or temporary poles or stakes, and affixed to ropes or lattice fencing as needed.
- **Aluminum Enamel Signs.** The City has worked with the Bureau of Land Management’s California Coastal National Monument (CCNM) on placing “Respect Wildlife” aluminum enamel signs at Point Pinos. The CCNM developed and had the signs made, but in order to maintain a consistent look, the City provided and placed the base for each sign (wooden 4” x 4” base with a wooden 45° angle platform to which the sign is attached) for each sign.
- **Other Signs.** In addition to the previously mentioned signage, other appropriate signs may be developed and approved.

**Traffic A-Frames.** Traffic A-frames, used throughout the City for a variety of purposes, offer a quick option where other measures may not be feasible. They can be put up rapidly and easily and a paper or laminated sign can be attached to them. As needed, caution tape can be strung between them until a more appropriate protective measure can be put in place.

**Ropes.** Ropes, especially twisted manila or sisal natural fiber ropes, provide a flexible option where other protective measures may not be feasible. Laminated signs can be attached to ropes, and ropes can be easily installed and taken down. They can be tied or attached to rocks or even strung at ground level so that they are visible only when someone is in the immediate area.

**Rods & Cable.** Metal rods with eyelets and cable, as used along City coastal trails, provide a more effective, aesthetic protective measure than traffic A-frames or ropes. With rods & cable, fewer signs may be needed.

**Plastic Mesh Safety Fencing.** Plastic mesh safety fencing can be used where human safety as well as protection for nesting birds or roving chicks may be needed. This material is less aesthetic than other fencing, but it is a flexible method that can be quickly rolled out. It conveys temporary safety concerns and makes it clear that one is not to cross over or around it without potentially dangerous or injurious consequences.



## **Representatives' Roles & Responsibilities.**

### **City of Pacific Grove Contact Representative:**

- Serves as the City's representative when dealing with protecting Black Oystercatchers along the City's coastline.
- Communicates and coordinates the needed Black Oystercatcher protective measures with the City's Public Works Department and Police Department, as well as with the City's Planning Commission, the Beautification and Natural Resources Commission, and other City entities as appropriate.
- Communicates and coordinates with the Project representative on all issues concerning the needs and implementation of Black Oystercatcher protective measures along the City's coastline, including if, where, and when protective measures are needed.
- Develops, in collaboration with the Project representative, an annual pre-season plan for implementing needed Black Oystercatcher protective measures.
- Keeps the City Manager, and the Mayor and City Council as appropriate, informed regarding the implementation of the protective measures and other issues related to the program.
- Communicates and coordinates, as appropriate, with the local staff of the California Coastal Commission.
- Responds in an appropriate timeframe to actions needed to protect Black Oystercatchers.

### **Black Oystercatcher Monitoring Project Representative:**

- Serves as the Black Oystercatcher Monitoring Project's representative for dealing with the protection of Black Oystercatchers along the City's coastline.
- Communicates and coordinates, as appropriate, with Monterey Peninsula Audubon, Audubon California, California Coastal National Monument, Pacific Grove Museum of Natural History, and other entities involved in the protection, monitoring, and/or outreach related to Black Oystercatchers along the City's coastline.



- Communicates and coordinates with the City representative on all issues concerning the needs and implementation of Black Oystercatcher protective measures along the City's coastline, including if, where, and when protective measures are needed.
- Collaborates with the City representative on the development of an annual pre-season plan for implementing needed Black Oystercatcher protective measures.
- Keeps the citizen-science monitors of the local Black Oystercatcher monitoring project informed regarding the City's actions to implement the protection of Black Oystercatchers along the City's coastline.
- Monitors the Black Oystercatcher nesting activities along the City's coastline, identifies where protective measures are needed, and brings those needs and the recommended actions to address them to the attention of the City representative.
- Responds in an appropriate timeframe to City requests related to actions needed to protect Black Oystercatchers.
- Assigns a Black Oystercatcher monitor, when appropriate, to be present to help ensure that when a specific protective measure is being installed or removed, it does not have a negative impact on Black Oystercatchers.

**General Procedure.** The following general procedure will be followed, unless the two parties agree that an exception should be made:

### **Pre-Breeding Season**

1. Before April 1, the City representative and the Project representative will meet to discuss what, when, and where protective measures may be anticipated for the upcoming Black Oystercatcher breeding season along the City's coastline.
2. The City representative and the Project representative will determine what protective measures (e.g., annual signing and lattice fencing) are needed to be put in place at specific known nesting sites prior to nesting and what precautionary measures are needed to ensure that the nesting pairs are not impacted by the installation of the specific protective measures.

3. Once the City representative and the Project representative agree on what protective measures will be implemented, and no later than April 15, they will briefly outline and sign-off on an annual pre-season plan (This can be accomplished via email).
4. All reasonable steps, including having a Black Oystercatcher monitor, when appropriate, on-site, will be taken to assure that the installation and removal of agreed upon pre-breeding season measures do not impact the Black Oystercatchers.
5. In the event that the City representative and the Project representative cannot reach an agreement as to the appropriate protective measures to be taken, the two representatives will meet with the City Manager and Monterey Audubon Society President, or designee, for possible resolution.

### **Breeding Season**

1. After April 15, if it is determined by the Project representative that a specific Black Oystercatcher nesting area, or a roosting or foraging area for chicks, is in need of protection, he will contact the City representative to discuss:
  - a. The need and urgency of the situation,
  - b. What protective measures should be taken, and
  - c. How soon protective measures are needed.
2. If the City representative and the Project Coordinator agree on what specific protective measures should be implemented for a specific site, they will briefly outline and sign-off on the agreed upon implementation (This can be accomplished via email).
3. In the event that the City representative and the Project Coordinator cannot reach an agreement as to the appropriate protective measures to be taken, the two representatives will meet as soon as possible with the City Manager and Monterey Audubon Society President, or designee, for possible resolution.
4. If a specific location is no longer in need of protective measures (e.g., nest failure or no indication of re-nesting is observed), the Project representative will inform the City representative and the protective measures for that specific location can be removed.

## **End of Breeding Season**

1. In September, the Project representative will inform the City representative when the breeding season has ended and all remaining protective measures can be removed.
2. After the Project representative has informed the City representative that the breeding season has ended, the two representatives will meet in order to debrief on what protective measures worked and which ones either did not work or could be improved upon, as well as identifying other protective actions, physical or administrative, needed to enhance the program. Information from these meetings will be used for improving and developing future measures.

## **APPENDIX 1**

### **Coastal Act Provisions for Protecting Significant Coastal Resources**

The following Coastal Act section is used by Coastal Commission Staff to support a finding to protect natural resources instead of public access that could trample them:

#### **COASTAL ACT SECTION 30007.5**

*The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources.*

Also, the Coastal Act provides:

*Section 30214(a) of the Coastal Act states, in part:*

*(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*

- (1) Topographic and geologic site characteristics.*
- (2) The capacity of the site to sustain use and at what level of intensity.*
- (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.*

## APPENDIX 2

### California Central Coast Black Oystercatcher Project

**Project Partners.** The California Central Coast Black Oystercatcher Project (CCCBOP) is part of a California coast-wide, multi-year effort coordinated by Audubon California in conjunction with the U.S. Fish and Wildlife Service (USFWS), US Bureau of Land Management's (BLM) California Coastal National Monument (CCNM), California State Parks (Mendocino Coast, Monterey, and Morro Coast Districts), and five Audubon chapters (Mendocino Coast, Madrone, Marin, Monterey Peninsula, and Morro Bay).

The CCCBOP is conducted as a citizen science effort overseen by Audubon California and coordinated by the CCNM in partnership with the Pacific Grove Museum of Natural History (a CCNM Collaborative Partner) and California State Parks (a CCNM Core-Managing Partner). Additional collaborators include Point Lobos Docents, the Monterey Peninsula Audubon Society, and the Bay Net Volunteer Naturalist Program of the Monterey Bay National Marine Sanctuary (a CCNM Collaborative Partner).

The CCCBOP includes Pacific Grove, covering the area from the south side of Point Lobos State Natural Reserve on the southern coast of the Monterey Bay region to the north side of Pescadero State Beach on the northern coast of the Monterey Bay region.

**Project Goals.** The statewide California Black Oystercatcher Project is a large-scale, standardized, citizen-science based effort directed toward the following goals:

1. Gather demographic data on this little studied top predator of the California intertidal ecosystem, necessary to establish a solid demographic number from which to measure population stability or decline;
2. Monitor reproductive success for at least five to ten years in order to obtain a sample robust enough to document any trends in reproductive success of this species of conservation concern. Compare these data with data on other rocky intertidal marine species within the same areas in order to assess the long-term health of the rocky ecosystems affected by such factors as sea-level rise, ocean acidification, climate change, and rapidly expanding human populations.
3. Assess continued management and outreach actions that directly protect and improve nesting sites and habitat;
4. Determine what causes loss of eggs and chicks in some areas and high success rates in other areas;

5. Develop partnerships to share key information among agencies and scientists seeking to address questions about climate change impacts to coastal assemblages; and
6. Identify conservation activities that can be implemented to reduce disturbance to breeding birds, including both physical measures and outreach efforts, and assist with preservation of the species.

### APPENDIX 3

#### **Black Oystercatcher: Importance & Life-History Parameters**

**Importance & Listing.** The Black Oystercatcher *Haematopus bachmani* is a keystone species along the North Pacific shoreline and is considered a particularly sensitive indicator of the overall health of the rocky intertidal community. This marine shorebird, with its unique appearance, distinctive calls, visibility as an obligate inhabitant of the rocky intertidal zone, and year-round residency in Pacific Grove, is a rich contributor to the City's world-renowned coastal resource values that are key to the City's quality of life and robust tourism economy.

The Black Oystercatcher was identified as a USFWS focal species for priority conservation action because multiple factors make it vulnerable to decline: small global population size, low reproductive success, and complete dependence on rocky intertidal shorelines that are impacted by human use and rising sea levels.

In addition, the Black Oystercatcher is listed as a "species of high concern" within the United States, Canadian, Alaskan, and Northern and Southern Pacific shorebird conservation plans. The USFWS has also listed it as a "Bird of Conservation Concern." The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973."

**Range & Population Size.** The California coast is a critical part of the Black Oystercatcher range, which extends from the Aleutian Islands to Baja California. The total population is estimated to be about 12,000, while the population along the 1100-mile California coast is estimated to be about 4,000 (inventory in 2011).

**Pre-Breeding Activities.** Pre-breeding season activities begin as early as February when copulation attempts may begin. During March and April, pairs can be observed doing rock tossing and nest scraping around their known nesting sites and in other locations within their respective territories.

**Breeding Season.** Black Oystercatcher breeding season is from April through September. For the California Central Coast, egg laying usually begins in late April and runs through late June.

**Nests & Eggs.** Black Oystercatchers nest above the high tide line on offshore rocks, rocky shores, and sand/gravel beaches. The typical nest is a bed of rock flakes, pebbles, and shell fragments, pulled into a low bowl. Black Oystercatchers lay 1 to 3 eggs, but usually raise 1 to 2 chicks to fledging (i.e., having the ability to fly). Incubation ranges from 26 to 32 days and is shared by both the male and female.

**Chicks.** Chicks are able to walk almost immediately after hatching. Hatchling chicks will be brooded nearly continuously for the first couple of days and intermittently for the following week. When not brooded, chicks are always attended by at least one parent. Chicks are very mobile and move around the area of the nesting site, following the parents down to the wrack (seaweed level) at low tide. Even young chicks may move as far as 30 to 50 meters from the nesting site.

**Fledglings.** Black Oystercatcher chicks fledge (develop the ability to fly) within 38 to 40 days. Fledglings can spend from 3 to as much as 6 months with their parents in order to learn basic foraging and survival skills, before the parents chase them out of their territory in order to prepare for the new breeding season. Fledglings continue to develop foraging skills for at least 12 months; sub-adults may require more than three years to master a complete repertoire of efficient foraging skills comparable to those of adults.

**Food & Feeding.** Black Oystercatchers feed on a variety of intertidal invertebrates including limpets, mussels, chitons, crabs, barnacles, and other small intertidal animals. Black Oystercatcher chicks are fed by their parents until they are close to fledging. At that time, the large chick will start to be capable of foraging to some degree on its own. The parents initially feed tiny young by bringing them pieces of shellfish meat small enough for the chicks to consume. A chick will take the food either directly from the parent's beak or from the ground where the parent intentionally drops it. Older chicks and fledglings that have developed some minimal foraging skills will still take food from their parents' beaks whether or not the food is offered to them.

**Pair Bonds.** It takes 4 to 5 years for a Black Oystercatcher to reach breeding age; after that, strong pair bonds are formed. With an estimated life span of about 10 to 15 years, each adult may then have 5 to 10+ years to replace itself in order for the population to remain stable. Black Oystercatchers usually mate for life, but re-mating can occur.

**Territories.** Black Oystercatchers are highly territorial. Once a pair has formed, they face establishing a territory in an environment where other Black Oystercatcher pairs already occupy most of the prime habitat. Once a territory is established, the pair will vigorously defend it from all other Black Oystercatchers.

**Fledging Success.** In January 2018, National Audubon completed an assessment of Black Oystercatcher literature (primarily from Alaska and British Columbia) and development of an initial population model. Based on their analysis, they hypothesize that annual reproductive success (no. of fledglings/no. of breeding pairs) greater than about 0.70 (70%) is likely a good sign for a local population, while reproductive success of less than about 0.35 (35%) indicates a population at risk. For the past four breeding seasons (2014-2017), the reproductive success rate for the Black Oystercatcher pairs monitored on the southern coast of the Monterey Bay region has ranged from 0.14 to 0.21 (14% to 21%), while the pairs monitored on the northern coast of Monterey Bay region ranged from 0.82 to 1.40 (82% to 140%). Thus, while the north coast is doing very well, the south coast — including Pacific Grove — is faring very poorly. The overall success rate for the entire California coast is about 0.45 (45%).

**CITY OF PACIFIC GROVE  
BLACK OYSTERCATCHER PROTECTION PROTOCOL**

*This document has been prepared by:*

**CALIFORNIA CENTRAL COAST BLACK OYSTERCATCHER PROJECT**

*/s/ Herrick E. Hanks*

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Herrick E. Hanks, Project Coordinator

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Date

*I have reviewed and concur with this document:*

**MONTEREY PENINSULA AUDUBON SOCIETY**

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Blake Matheson, President

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Date

## Appendix C. Known non-native plants

### Non-native Plant Species along Pacific Grove Coastline

This list is not comprehensive, but represents the species that rapidly take over the more beneficial native plant communities. Removal of these species should occur everywhere except Perkins Park, the long, linear shoreline park that extends from Lovers Point to Esplanade Park. The City is in the process of developing a landscape plan for this section and it may include non-native species to maintain the history of the park. Future replacement of some of the Perkins Park non-native plant areas may be broached in the future.

<b>Common Name</b>	<b>Species Name</b>
Aloe	<i>Aloe maculata</i>
Red Aloe	<i>Aloe cameronii</i>
Iceplant	<i>Carpobrotus edulis</i>
Narrow-leaved Iceplant	<i>Conicosia pugioniformis</i>
Magic Carpet	<i>Drosanthemum floribundum</i>
New Zealand Spinach	<i>Tetragonia tetragonioides</i>

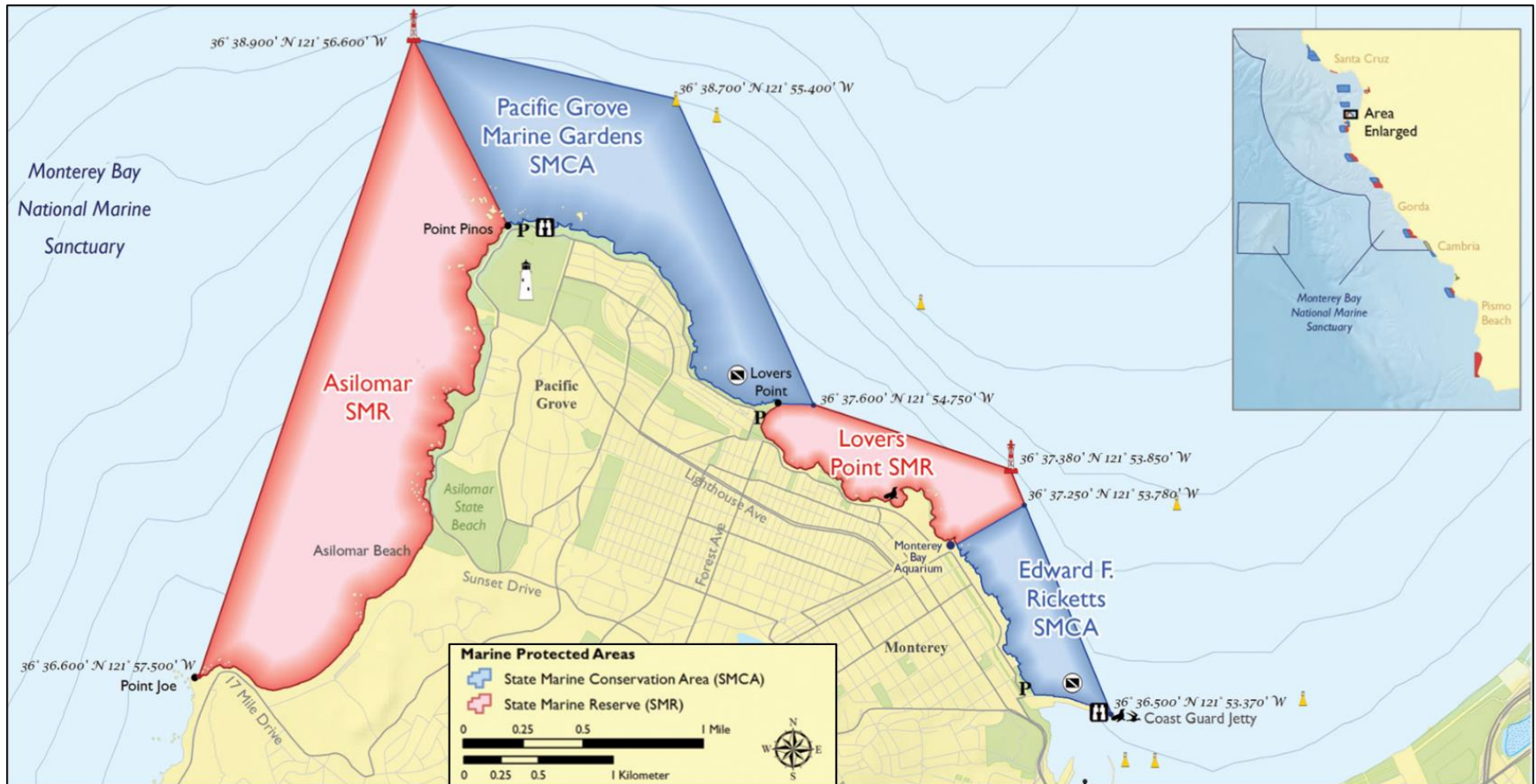
## Appendix D. Local conservation organizations

List of conservation organizations whose efforts complement the CWPAC recommendations and whose work should be supported and promoted:

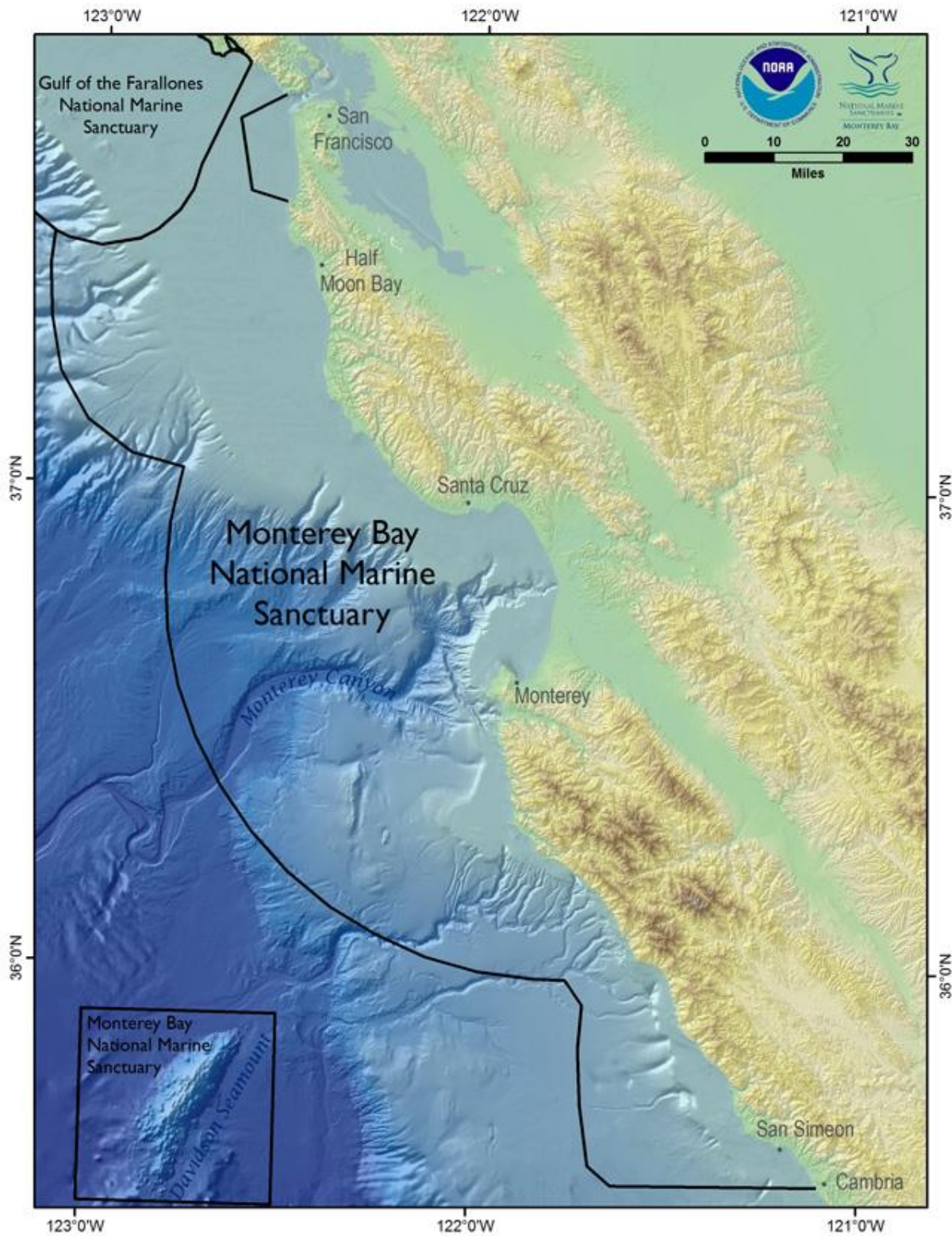
- [Monterey Bay National Marine Sanctuary](#)
  - [Bay Net](#)
  - [TeamOCEAN](#)
  - [First Flush](#)
  - [NOAA NCCOS Phytoplankton Monitoring Network \(PMN\)](#)
  - [Monterey Bay Sanctuary Citizen Watershed Monitoring Network](#)
- [Save Our Shores](#)
  - [California Coastal Cleanup Day](#)
- [Monterey Audubon Society](#)
  - [Black Oystercatcher Monitoring Project](#)
- [Pacific Grove Museum of Natural History](#)
  - [LiMPETS](#)
- [Friends of Hopkins Marine Station](#)
- [MPA Watch](#)
- [Marine Life Studies](#)
- [Sea Otter Savvy](#)
- [Sustainable Pacific Grove](#)
- [Monterey Bay Aquarium](#)



## Appendix E. Map of state Marine Protected Areas (MPAs) surrounding Pacific Grove



# Appendix F. Map of Monterey Bay National Marine Sanctuary



## Appendix G. Coastal species list

As species ranges shift due to the effects of climate change and/or habitat alteration, the wildlife species we currently see and enjoy may no longer inhabit the specific areas we are concerned with. Sources to determine which species live within a region at any time include iNaturalist (<https://www.inaturalist.org>), eBird (<https://ebird.org>), MARINe (<https://marine.ucsc.edu>), and others.

Current list of known wildlife species that live within Pacific Grove coastline area:

### **Terrestrial invertebrates (2 of many)**

<b>Common name</b>	<b>Scientific name</b>
Banana Slug	<i>Ariolimax brachyphallus</i>
Monarch Butterfly	<i>Danaus plexippus</i>

### **Rocky Shore invertebrates (partial list)**

Data collected by the Multi-Agency Rocky Intertidal Network (MARINe): a long-term ecological consortium funded & supported by many groups. See [pacificrockyintertidal.org](http://pacificrockyintertidal.org) for a complete list of MARINe partners. Data management is primarily supported by Bureau of Ocean Energy Management, National Parks Service, The David & Lucile Packard Foundation, & the US Navy.

### **Invertebrates**

<b>Family</b>	<b>Scientific Name</b>
Annelids: polychaete worms	<i>Phragmatopoma/Sabellaria spp</i>
	<i>Pista spp</i>
	<i>Serpula vermicularis</i>
	<i>Spirobranchus spinosus</i>
	<i>Spirorbis spp</i>
Arthropods: barnacles, crabs, etc.	<i>Balanus glandula</i>
	<i>Cancer antennarius</i>
	<i>Chthamalus dalli/fissus</i>
	<i>Cirolana spp</i>
	<i>Hemigrapsus nudus</i>
	<i>Idotea spp</i>
	<i>Ligia spp</i>
	<i>Pachycheles spp</i>
	<i>Pachygrapsus crassipes</i>
	<i>Pagurus caurinus</i>
	<i>Pagurus granosimanus</i>
	<i>Pagurus hirsutiusculus</i>
	<i>Pagurus samuelis</i>

	<i>Pollicipes polymerus</i>
	<i>Pugettia producta</i>
	<i>Pycnogonida</i>
	<i>Semibalanus cariosus</i>
	<i>Tetraclita rubescens</i>
Bryozoans: moss animals	<i>Bugula neritina</i>
	<i>Eurystomella bilabiata</i>
	<i>Membranipora spp</i>
Chordates: sea squirts	<i>Aplidium spp</i>
	<i>Distaplia occidentalis</i>
	<i>Eudistoma psammion</i>
	<i>Ritterella rubra</i>
	<i>Ritterella spp</i>
Cnidarians: sea anemones, hydroids	<i>Abietinaria spp</i>
	<i>Anthopleura elegantissima</i>
	<i>Anthopleura sola</i>
	<i>Anthopleura xanthogrammica</i>
	<i>Epiactis prolifera</i>
	<i>Symplectoscyphus turgidus</i>
Echinoderms: sea stars, sea urchins	<i>Henricia spp</i>
	<i>Leptasterias spp</i>
	<i>Patiria miniata</i>
	<i>Pisaster giganteus</i>
	<i>Pisaster ochraceus</i>
	<i>Pycnopodia helianthoides</i>
	<i>Strongylocentrotus purpuratus</i>
Molluscs: chitons, snails & limpets, mussels	<i>Acanthinucella spp</i>
	<i>Acmaea mitra</i>
	<i>Alia spp</i>
	<i>Amphissa versicolor</i>
	<i>Bittium eschrichtii</i>
	<i>Cadlina luteomarginata</i>
	<i>Calliostoma canaliculatum</i>
	<i>Calliostoma ligatum</i>
	<i>Cryptochiton stelleri</i>
	<i>Cyanoplax hartwegii</i>
	<i>Cyanoplax spp</i>
	<i>Epitonium tinctum</i>
	<i>Fissurella volcano</i>
	<i>Homalopoma spp</i>
	<i>Katharina tunicata</i>

*Lacuna spp*  
*Lepidozona spp*  
*Lirularia/Margarites spp*  
*Littorina spp.*  
*Lottia austrodigitalis/digitalis*  
*Lottia fenestrata*  
*Lottia limatula*  
*Lottia ochracea*  
*Lottia paradigitalis/strigatella*  
*Lottia pelta*  
*Lottia scabra/conus*  
*Lottia scutum*  
*Mopalia spp*  
*Mytilus californianus*  
*Mytilus spp*  
*Nucella canaliculata*  
*Nucella emarginata/ostrina*  
*Nuttallina spp*  
*Ocenebra circumtexta*  
*Ocenebra interfossa*  
*Ocenebrina lurida*  
*Onchidella borealis*  
*Phidiana hiltoni*  
*Pseudomelatoma torosa*  
*Serpulorbis squamigerus*  
*Tegula brunnea*  
*Tegula funebris*  
*Tegula gallina/funebris*  
*Tonicella spp*  
*Aplysina fistularis*  
*Halichondria spp*  
*Haliclona spp*  
*Ophlitaspongia pennata*

Poriferans: sponges

## Herpetofauna

### Common Name

Coast Garter Snake  
 Northern Alligator Lizard  
 Northern Legless Lizard  
 Sierran Tree Frog  
 Western Fence Lizard

### Scientific Name

*Thamnophis elegans terrestris*  
*Elgaria coerulea*  
*Anniella pulchra*  
*Pseudacris sierra*  
*Sceloporus occidentalis*



## Birds

<b>Common Name</b>	<b>Scientific Name</b>
American Kestrel	<i>Falco sparverius</i>
Belted Kingfisher	<i>Megaceryle alcyon</i>
Black Oystercatcher	<i>Haematopus bachmani</i>
Black Turnstone	<i>Arenaria melanocephala</i>
Black Phoebe	<i>Sayornis nigricans</i>
Black-bellied Plover	<i>Pluvialis squatarola</i>
Bonaparte's Gull	<i>Chroicocephalus philadelphia</i>
Brandt's Cormorant	<i>Phalacrocorax penicillatus</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brown Pelican	<i>Pelecanus occidentalis</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
California Gull	<i>Larus californicus</i>
California Scrub-Jay	<i>Aphelocoma californica</i>
California Thrasher	<i>Toxostoma redivivum</i>
Caspian Tern	<i>Hydroprogne caspia</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Dunlin	<i>Calidris alpina</i>
Elegant Tern	<i>Thalasseus elegans</i>
Glaucous-winged Gull	<i>Larus glaucescens</i>
Great Egret	<i>Ardea alba</i>
Heermann's Gull	<i>Larus heermanni</i>
Herring Gull	<i>Larus argentatus</i>
Iceland Gull	<i>Larus glaucoides</i>
Killdeer	<i>Charadrius vociferus</i>
Lincoln's Sparrow	<i>Melospiza lincolnii</i>
Marbled Godwit	<i>Limosa fedoa</i>
Marsh Wren	<i>Cistothorus palustris</i>
Merlin	<i>Falco columbarius</i>
Mew Gull	<i>Larus canus</i>
Northern Harrier	<i>Circus hudsonius</i>
Osprey	<i>Pandion haliaetus</i>
Pacific Golden-Plover	<i>Pluvialis fulva</i>
Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>
Red Phalarope	<i>Phalaropus fulicarius</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ruddy Turnstone	<i>Arenaria interpres</i>
Sanderling	<i>Calidris alba</i>
Say's Phoebe	<i>Sayornis saya</i>
Semipalmated Plover	<i>Charadrius semipalmatus</i>
Snowy Plover	<i>Charadrius nivosus</i>
Snowy Egret	<i>Egretta thula</i>
Song Sparrow	<i>Melospiza melodia</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Steller's Jay	<i>Cyanocitta stelleri</i>

Surfbird  
Turkey Vulture  
Wandering Tattler  
Western Gull  
Western Meadowlark  
Whimbrel  
White-crowned Sparrow  
White-tailed Kite  
Yellow-rumped Warbler

*Calidris virgata*  
*Cathartes aura*  
*Tringa incana*  
*Larus occidentalis*  
*Sturnella neglecta*  
*Numenius phaeopus*  
*Zonotrichia leucophrys*  
*Elanus leucurus*  
*Setophaga coronata*

## **Mammals**

### **Common Name**

Botta's Pocket Gopher  
Brush Rabbit  
California Ground Squirrel  
California Sea Lion  
California Vole  
Columbian Black-tailed Deer  
Pacific Harbor Seal  
Southern Sea Otter

### **Scientific Name**

*Thomomys bottae*  
*Sylvilagus bachmani*  
*Otospermophilus beecheyi*  
*Zalophus californianus*  
*Microtus californicus*  
*Odocoileus hemionus ssp. columbianus*  
*Phoca vitulina*  
*Enhydra lutris nereis*

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