CITY OF CARMEL-BY-THE-SEA
FOREST AND BEACH COMMISSION

SPECIAL MEETING AGENDA
Thursday September 1, 2016
2:30 p.m. - Tour of Inspection
3:30 p.m. - Special Meeting

City Hall, Council Chambers
East side of Monte Verde Street between Ocean & Seventh Avenues
Carmel, California

I. CALL TO ORDER AND ROLL CALL FOR TOUR OF INSPECTION

COMMISSION MEMBERS: KAREN FERLITO - Chair
JEFF BARON
MAGGIE EATON
DAVID REFUERZO
STPHANIE LOCKE

II. TOUR OF INSPECTION

At 2:30 p.m., the Commission will meet on-site for a Tour of Inspection of the location listed on this agenda. The public is welcome to follow the Commission on its tour of the site. The Commission will return to the City Hall Council Chambers at 3:30 p.m. or as soon thereafter as possible.

1. North Dune Habitat Restoration Area – Carmel Beach, convene at the NW corner of San Antonio Avenue and Ocean Avenue

III. ROLL CALL

IV. PLEDGE OF ALLEGIANCE

V. ORDERS OF BUSINESS

1. Review and Discuss the Work Scope for the North Dunes Habitat Restoration Coastal Development Permit (CDP)

VI. ADJOURN

Any writings or documents provided to a majority of the Forest and Beach Commission regarding any item on this agenda will be made available for public inspection in the Public Works Department located at on the east side of Junipero Avenue between Fourth and Fifth Avenues, during normal business hours.

If there is not a special meeting, the next regular meeting of the Forest and Beach Commission will be:

Thursday, September 8, 2016
Tour of Inspection – as required
3:30 p.m. – Regular Agenda

The City of Carmel-by-the-Sea does not discriminate against persons with disabilities. The City of Carmel-by-the-Sea Telecommunication's Device for the Deaf /Speech Impaired (TDD) number is 1-800-735-2929.

AFFIDAVIT OF POSTING

I, Mike Branson, City Forester, for the City of Carmel-by-the-Sea, DO HEREBY CERTIFY, under penalty of perjury under the laws of the State of California, that the foregoing notice was posted at the Carmel-by-the-Sea City Hall bulletin board, at the Harrison Memorial Library on Ocean and Lincoln Avenues, the Carmel Post Office, and distributed to members of the media on August 29, 2016.

Dated this 29th, day of August, 2016 at the hour of 3:00 p.m.

Mike Branson
City Forester

CITY OF CARMEL-BY-THE-SEA

Forest and Beach Commission Report

September 1, 2016

To: Chair Ferlito and Forest & Beach Commissioners

From: Mike Branson, City Forester

Subject: Review and Discuss the Work Scope for the North Dunes Habitat Restoration Coastal Development Permit

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Background and Project Description:

In 1995, the City of Carmel designated North and Del Mar Dunes as an Environmentally Sensitive Habitat Area (ESHA) following a report by Jones and Stokes, "Final Results of the Environmentally Sensitive Habitat Area Study Conducted for the City of Carmel." ESHAs are defined in the City's Local Coastal Program/ Land Use Plan (CDP/LUP) and in the California Coastal Act of 1976 as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and developments." In a more natural setting, ESHAs would be self-sustaining and would not need active management. However, the North Dunes area is an isolated remnant of a larger environmentally-sensitive area, and is surrounded by urban development. Active management is essential, if resource values of this habitat are to be protected and preserved.

Management policies were further defined in the City's Shoreline Management Plan, created and adopted by the City Council in 2003 after review and input by the Forest and Beach Commission and Planning Commission.

In 2008, work on the North Dunes and Del Mar Dunes Habitat Restoration Plan (Attachment A) was initiated by botanist Jean Ferreira. The restoration plan was adopted by the City Council on June 2, 2009, and subsequently certified by the California Coastal Commission. The restoration plan describes in detail the biological resources of the last remaining dune areas within the City limits. The habitat plan also sets forth restoration goals, protocol, and monitoring measures for the degraded dune areas. The mission of the habitat restoration and management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes. Implementation of the restoration plan will provide updated biological assessments and achieve long range goals for

preservation and use of the North Dunes and Del Mar Dunes. Specific goals and objectives in the plan define the scope of work for one or more Coastal Development Permits (CDPs) needed to implement the restoration plan and identify the various restoration, maintenance, monitoring and management activities the City would be doing to keep the area in an attractive natural state. This CDP application is only for activities in the North Dunes area and does not include the Del Mar Dunes area.

From 2012-2014, the Carmel-by-the-Sea Garden Club, under a separate CDP, successfully revegetated 10,000 square feet with native dune species near the northwest corner of San Antonio and Ocean Avenues as part of the Garden Club's National Centennial. An amendment to their CDP and additional funding enlarged the work area and allowed the installation of more protective rod and cable fencing and weed eradication work during the same time frame. The Garden Club installed some interpretive signage and members continue to voluntarily maintain their restored corner in a weed-free condition. Over the past few years, students and other volunteers have pulled hundreds of cubic yards of non-native ice-plant, and City staff have assisted with the removal and disposal of the pulled material. While the CDP for the Garden Club's project is presumed to have expired, future volunteer opportunities remain for augmenting the City's restoration efforts, but require planning and careful management in the ESHA areas. The area covered by CDP 16-315 includes the areas that were part of the Carmel-by-the-Sea Garden Club dune restoration project, so that on-going maintenance efforts in this area can continue.

There have been some claims that the Ferreira report was altered in an inappropriate manner in regards to the management of trees in the North Dunes. The City investigated these concerns, and a report was received by the City Council for the Council's November 2, 2015 meeting. The staff report summarized research that had been done to investigate claims of improper revisions to the habitat restoration plan and concluded that no such improprieties occurred. The final report was properly reviewed and adopted in an open meeting setting with substantive revisions that were made prior to finalization discussed in associated staff reports. The Council staff report and a supporting chronology are included as Attachment D and Attachment E, respectfully.

An editorial by Greg D'Ambrosio regarding the North Dunes restoration from a Carmel Residents Association newsletter is attached as Attachment F.

Staff Analysis:

A CDP is required under Chapter 17.52 (Permit Procedures) of the City's Municipal Code. The CDP will provide authorization for the City to perform regular maintenance activities such as boardwalk and fence repair and hazardous tree removal. Likewise, authorization under the CDP will allow preservation and restoration activities to enhance degraded areas of the North Dunes including: fencing, invasive species removal, planting, monitoring, and endangered species

management and expansion. Staff is requesting a five year, renewable permit due to the fact that many of the activities are multi-year endeavors to gain control of the invasive species and ensure successful native establishment of the native species. A five-year plan will also facilitate adaptive management throughout the area, due to the variable habitat zones within the north dunes.

Individual projects that are outside of the scope this CDP, such as planted tree removals and larger interpretive signage will require separate CDPs. Additional permits will also be required from the California Department of Fish and Wildlife for any seed collection or propagation of Tidestrom's lupine within the permit area.

In the fall of 2014, the City retained contract biologist Joey Canepa for a 5-year program of habitat restoration in the North Dunes. Ms. Canepa has prepared the North Dunes Restoration Plan Summary (Attachment B) to support the CDP. The summary provides updated recommendations for restoration of the North Dunes, updates the biological assessments made in 2008, summarizes and refines the restoration techniques and monitoring protocol, and updates the success criteria proposed in the 2009 plan. The summary also provides a work plan matrix (Attachment C) that includes goals, specific tasks, potential impacts, success criteria and a schedule, as well as an updated list of the native species in the North Dunes. Implementation elements of the summary report are included as part of the CDP application.

Scope of Work:

The objectives of the North Dunes habitat restoration are to eliminate all aggressive non-native species, restore the native dune scrub, expand the population of Tidestrom's lupine, and the quantity and quality of available habitat for Black Legless lizards, establish a trail system to provide safe visitor access without compromising the health of the dune habitat, and provide interpretation of the North Dunes habitat to enhance the visitors experience and knowledge of the Carmel dunes.

The North Dunes project area boundaries are Ocean Avenue to the south, San Antonio Avenue to the east, the top of the beach bluffs to the west, and the western and southern property lines of private properties to the north of the City beach property.

The City's General Plan contains many goals, objectives, and policies regarding management of the North Dunes ESHA:

- **G4-1 Provide for maximum public access to, and recreational use of, the shoreline consistent with private property rights and environmental protection. (LUP)**

- **P4-24** Retain the informal atmosphere of the volleyball courts. (LUP)

- **P4-48** Discourage any further incursion of recreational activities into the North Dunes habitat. Sensitive resources in the North Dunes

habitat area shall be protected. (LUP)

- **P5-28** Restore dune areas to improve habitat for Tidestrom's lupine and other native dune plants. (LUP)

- **P5-30** Improve habitat values for the preservation of the California black legless lizard. (LUP)

- **O5-7** Protect the fragile dunes and sensitive plants in the Del Mar Dunes and North Dunes against any significant disruption of habitat values. (LUP)

- **O5-36** Monitor, study and develop effective management programs for the City's parks and ESHAs. Endeavor to reduce conflicts between environmental protection and use of public and private property within ESHAs. (LUP)

- **P5-157** Support public ownership of sensitive habitats and encourage public-private partnerships for the long-term management of habitats. (LUP)

- **P5-159** Maintain and enhance the resource value of environmentally sensitive habitat areas in consultation with a qualified biologist and in coordination with the California Department of Fish and Game. Remove any non-native, invasive vegetation from sensitive habitats. (LUP)

- **O5-37** Reduce the introduction and spread of invasive horticultural species into and within identified ESHAs. Encourage a volunteer program of citizens and property owners to participate in maintenance and enhancement of sensitive habitats Develop a Stewardship Program based on the premise that resource management is a cooperative effort between the City and its citizens. (LUP)

- **O5-40** Ensure that long-term management activities maintain the natural dune ecology of Carmel Beach in a manner consistent with public safety. Protect areas of the beach from the loss of habitat, where special status plant species are growing. (LUP)

- **P5-173** Retain a qualified botanist to monitor the population of Tidestrom's lupine and other special status species on the North Dunes of Carmel Beach. The population should be assessed annually (or

based upon a schedule agreed upon by the Department of Fish and Game, Coastal Commission and U.S. Fish and Wildlife Service) to determine if the population is stable and if measures to protect the population should be instituted. If the population appears heavily affected by public use, the City should consider fencing or placing barriers around the lupine habitat on the beach. (LUP)

- **P5-174** Prevent further planting and spread of invasive horticultural species within the dunes at Carmel Beach. (LUP)

- **P5-175** Remove any non-native invasive vegetation from special status habitat to eliminate competition and implement a dune restoration plan. (LUP)

- **P5-176** Implement a Dune Restoration Plan. (LUP)

Specific goals identified in the North Dunes Habitat Restoration Plan that achieve the goals, objectives and policies of the General Plan are outlined below and described further in the restoration plan.

1. Providing protection for existing populations of the special status species during the implementation of this plan and for management of the populations in perpetuity.

2. Elimination of all aggressive exotic species on the dunes. The two species with the greatest cover and opportunity for restoration are iceplant and Sydney golden wattle. The weedy components of the dune scrub adjacent to the roads and restroom will also be addressed.

3. Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping including the one landmark-sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave.

4. Stabilize drifting sand in areas to be planted with straw or jute.

5. Plant and seed native dune plants in areas of bare sand or where exotics were removed.

6. Use only local plant sources for the revegetation. Seeds and plants shall be propagated from plant material collections within two miles of the site.

7. Establish thriving new stands of Tidestrom's lupine in the dunes to add stability and long-term survival to the population.

8. Improve the quality of habitat for the black legless lizard by establishing large stands of native dune scrub, and creating a habitat corridor between North Dunes and Del Mar Dunes.

9. Establish short (5-year) and long range (on-going) monitoring program for the special status species and dune scrub.

10. Establish a maintenance program to follow-up on the exotic plant control, sand stabilization and respond to all needed actions noted during monitoring.

11. Provide safe pedestrian access to the dunes, minimizing impact to the dune habitat. Consider constructing an ADA compliant boardwalk in North and Del Mar Dunes.

12. Through information panels, interpret the natural and cultural history of the dunes and Carmel Bay.

13. Consult with the California Department of Fish and Wildlife (DFW) for plan review and approval. Obtain a permit from DFW for collection, propagation and planting of a State Listed plant species. Submit special status species information to DFW on Tidestrom's lupine population surveys and any sightings of Black Legless lizards.

Success criteria for the first five year period will be met when invasive, non-native species are reduced to no more than 10% cover in the project area over five years. The number of native dune species shall be restored to a minimum of 30 species and 50% native cover within five years. All restoration and maintenance efforts shall be designed and implemented to create a high-quality dune habitat that is self-sustaining in perpetuity. A 2016 estimated cover survey in the North Dunes project area found the following:

North Dunes Project Area (2016 Estimated Cover)

15% bare sand (including volleyball courts)
25% tree canopy & structures (cypress, pines, native oaks, boardwalk, restrooms)
35% non-native plant species (acacia, iceplant, annual weeds)
25% native plant species (with some scattered annual weeds).
100%

Ms. Canepa is working on a map for the restoration areas and activities. This map was not ready sufficiently in advance of this special meeting to be included as an attachment. However, Ms. Canepa has committed to providing the map to staff by the end of the day on August 29, 2016, and as such, this will be transmitted separately at or prior to the meeting.

ATTACHMENTS:

- Attachment A – North Dunes and Del Mar Dunes Habitat Restoration Plan
- Attachment B – Canepa North Dunes Restoration Plan Summary
- Attachment C – Carmel North Dunes Work Plan Matrix
- Attachment D – Council Agenda Item AB 1037 – North Dunes Review
- Attachment E – North Dunes Chronology
- Attachment F – D'Ambrosio CRA editorial

Appendix "A"

Botanical Consulting Services

North Dunes & Del Mar Dunes Habitat Restoration Plan

City of Carmel-by-the-Sea

Written for:
Mr. Sean Conroy
Senior Planner

Written By:
Jean Ferreira
Botanist

April 1, 2009

Note: This appendix contains findings and recommendations from a professional Botanist contracted by the City. The information in this appendix is meant to provide background and assist in the dune restoration efforts. Not all recommendations from this appendix have been incorporated into the final Del Mar Master Plan.

Botanical Consulting Services

pobox 5506, carmel, ca 93921 • p & f: 831

pobox 5506, carmel, ca 93921 • p & f: 831-626-3814

Background

The North Dunes and Del Mar Dunes on the City of Carmel's shoreline have been greatly altered from their natural state over the past century by various human activities. The City of Carmel's 1990 General Plan recognized this situation and established the following policy to address the impacts.

> P-5-42 Restore, maintain and enhance the degraded habitat in the North Dunes area to enhance environmental resources and aesthetics. Protect sensitive habitat and special-status species through development and implementation of the Del Mar and North Dunes Master Plan.

The General Plan also outlines ten additional policies specifically calling for long-term maintenance and management of the sensitive species, native plants and the dune habitat in general.

In 1995, a study was commissioned by the City of Carmel to study five undeveloped sites within the city, including Carmel Beach, to identify any sensitive resources and environmentally sensitive habitat areas (ESHA). ESHA as defined by the California Coastal Act (PRC 30107.5) are:

> "areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activities and developments. In addition, some of these sensitive habitats require further protection from disturbance, and this subset of sensitive habitats is called environmentally sensitive habitat areas."

The 1995 study, conducted by Jones and Stokes, identified Carmel Beach as ESHA. The City of Carmel designated both the North Dunes and the Del Mar Dunes as ESHA.

In 2003, the City of Carmel created and adopted a comprehensive Shoreline Management Plan, consolidating three previous plans: the Beach Master Plan (2000), the Shoreline Emergency Plan (1989), and the Beach Bluff Pathway Landscape Plan (1985-88). The creation of the Shoreline Management Plan fulfilled a CA Coastal Commission condition to permit repairs on the shoreline damage received during the 1997-8 El Nino storms.

The Shoreline Management Plan also addresses the impacts to the North and Del Mar Dunes. Below are listed a few of the applicable management policies:

O5-40: Ensure that long-term management activities maintain the natural dune ecology of Carmel Beach in a manner consistent with public safety. Protect areas of the beach from loss of habitat where special status plant species are growing.

O5-7: Protect the fragile dune and sensitive plants in the Del Mar Dunes and North Dunes against any significant disruption of habitat values.

G-5-12: Identify, protect and manage Environmentally Sensitive Habitat Areas to ensure their long-term integrity and the biological productivity of these habitats.

O5-36 Monitor, study and develop effective management programs for the City's parks and ESHA. Endeavor to reduce conflicts between environmental protection and use of public and private property within ESHA.

Study Methods

A review of the City of Carmel's Shoreline Management Plan and the Jones and Stokes report "Final Results of the Environmentally Sensitive Habitat Area Study Conducted for the City of Carmel", was completed for this study. Prior to the field survey, information from the California Department of Fish and Game's RareFind data base was compiled to determine the sensitive biota in the Carmel shoreline area. Historical and current aerial photographs of the Carmel Beach area were obtained from the UC Santa Cruz Science and Engineering Library. Aerial photographs, USGS topographic map and City parcel boundary maps were used for the mapping portion of the survey results. The City of Carmel's Harrison Memorial Library provided historical photographs from their collection documenting early vegetation patterns on the dunes and beach in Carmel.

The dunes were surveyed numerous times between April 15, 2008 and July 15, 2008. The field work included identifying all plant species present, surveying for the presence of any sensitive plant or animal species, mapping non-native species coverage, noting use patterns, and human impacts to the dunes. Access was easily gained by foot over the entire dune areas except in dense acacia hedges. Due to the high density of the shrubs, the acacia hedges were observed from existing trails wherever possible to gain access.

Findings

The Carmel Beach, owned by the City of Carmel, includes over 22 acres of white sand beach and dunes. More than eight decades ago, residential development claimed most of the ocean front areas of the City, and now only two natural dune areas remain within the city limits.

The North Dunes covers the beach property north of Ocean Ave, west of San Antonio Ave, and east of the high tide line. It is about 4 to 5 acres in size and has the most diverse dune habitat remaining in the City. The North Dunes range in elevation from about 50 to 100 ft. There is a north-south aligned dune hummock, or mound, at the rear of the active beach at the high tide line; this area is typically referred to as the foredune. Just to the east of the foredune, the dunes drop in elevation to a low area protected from the high winds, behind the foredune ridge called the dune swale. Moving east, the dunes gradually rise in elevation back to the developed city edge at N. San Antonio Ave. This area to the east of the swale is the reardune. The majority of the dunes are west facing with the exception of the leeward side of the foredune hummock facing east. The strong coastal winds not only shape the dunes with wind carried sand, but define zones on the dune which are colonized with plants species adapted to the different degrees of wind exposure. Plants growing on the foredune are much better adapted to high winds and salt spray than those found in the dune swales or reardunes.

The Del Mar Dunes are a linear ridge of foredunes, about an acre in size, just east of the high tide line between Ocean and Eighth Avenues.

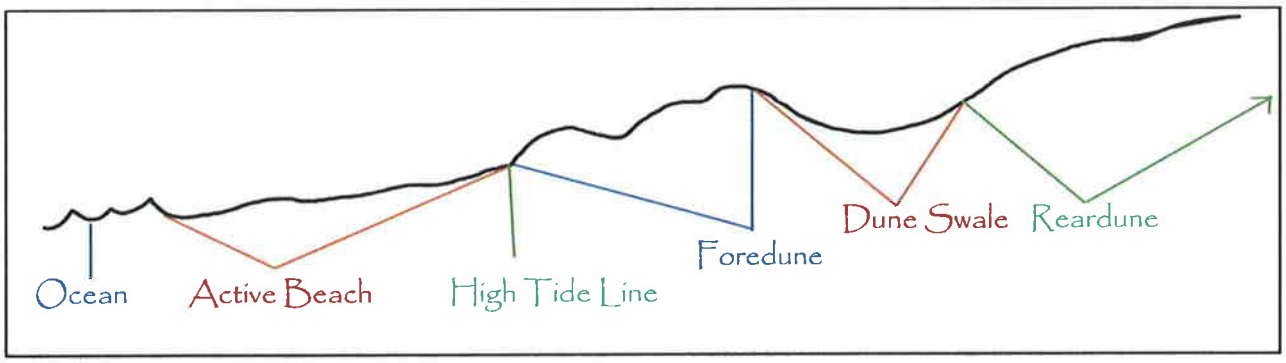

Figure 1. Generalized Carmel beach & dune profile.

Central Dune Scrub

Prior to human disturbance of the Carmel Beach dunes, the sand dunes originally supported a plant community of central dune scrub. The composition of the central dune scrub varies around the Monterey Bay, with some common plant species found at all sites. The original composition of the Carmel dunes may never be completely known, however, remnants of the community still present and use of the historic photographs of the area, allows general descriptions to be drawn. The foredune was probably a mix of *Leymus mollis* (dune grass), *Camissonia cheiranthifolia* (beach primrose), *Ambrosia chamissonis* (beach bur) and *Abronia latifolia* (yellow sand verbena). The dune swale, low areas out of the high winds with typically more moisture available to the plants, supported *Carex pansa* (dune sedge) and *Juncus effusus var. brunneus* (common rush). The rear dune had the most plant diversity, with *Artemesia pynocephala* (dune sagewort), *Ericameria ericoides* (mock heather),

and *Lupinus arboreus* (bush lupine) providing the dominant cover, with occasional stands of *Croton californicus* (croton), *Eriogonum parvifolium* (dune buckwheat), *Erigeron glaucus* (seaside daisy), *Poa douglasii* (dune bluegrass), *Lotus scoparius* (deerweed), *Phacelia ramossima* (branching phacelia), *Abronia umbellata* (pink sand verbena), and beach primrose. In the reardunes, coast live oaks established where conditions were right: stable sand, an established duff layer from long-term plant growth, and shelter from the prevailing winds. Plants associated with the coast live oaks were *Marah fabaceus* (wild cucumber), *Pteridium aquilinum* (bracken fern), and *Rubus ursinus* (CA blackberry).

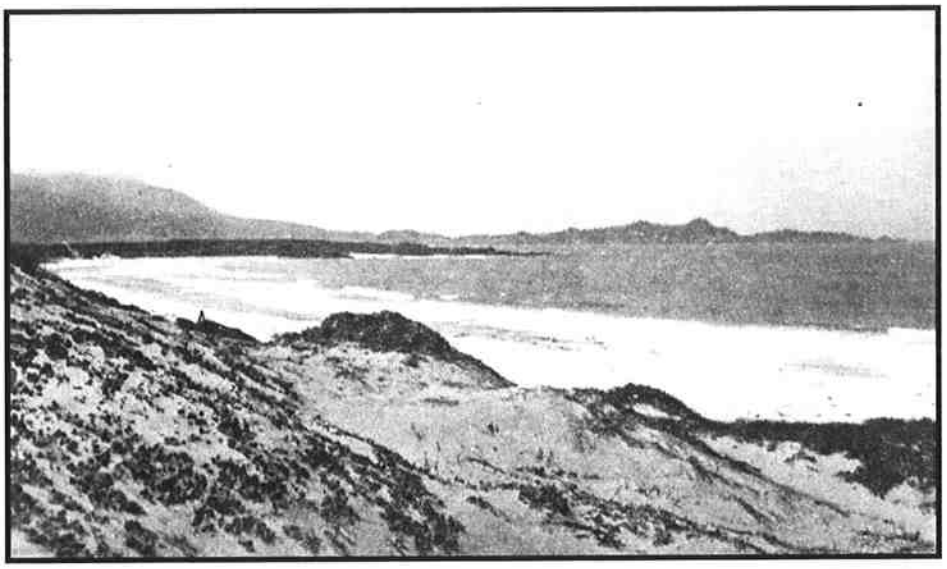

Photo 1. Native foredune vegetation on Carmel's North Dunes. Harrison Memorial Library Collection.

Today, the dune scrub of the Carmel dunes, looks and functions very differently than the original natural habitat. Most of the native dune plants listed above are still present in the dunes, but only in small isolated patches, surrounded by large expanses of iceplant, acacia or bare sand. The two dominant plant species are a South African native, *Carpobrotus edulis* (hottentot fig or iceplant) and an Australian native plant, *Acacia longifolia* (Sydney golden wattle or acacia). Both species spread rapidly on their own, out-competing the native species for light, space, water and nutrients.

A large percentage of the North Dunes is dominated by Monterey Cypress, some planted over 100 years ago, along with younger trees more recently added to replace the original plantings that have died (Shoreline Management Plan). A small grove of Monterey Pines were planted in the North Dunes sometime after 1939; the trees are absent in the 1939 aerial photograph. Some of these original planted pines have died, some have re-seeded, and the City has recently planted five new pine saplings in the same area. Many non-native grasses have also colonized the disturbed areas in the reardune including wild oat, rattlesnake grass, rip-gut brome, veldt grass and foxtail barley. All are invasive and difficult to eradicate. Veldt grass has become the number one weedy grass in the City over the last decade, increasing by leaps and bounds each spring. A large blue gum eucalyptus tree dominates the corner of Ocean & N. San Antonio Ave. According to the Shoreline Management Plan it is the largest eucalyptus in the City. All dune plants have been destroyed under the eucalyptus canopy by shade and eucalyptus leaf litter. There are also many horticultural species found on the North Dunes, primarily near the adjacent residences. Some have 'escaped' cultivation and spread to

the dunes, but most are 'trespass landscaping' from overzealous gardeners not minding the property lines. A complete plant list compiled during the spring field work for this report is found in Table 1.

Table 1. Native & Naturalized Plant Species of North/Del Mar Dunes, Carmel, California. Survey Date: May 13, 2008.

Family	***Species***	***Common Name***
Asteraceae (Sunflower)	*Artemesia pynocephala*	Dune Sagewort
	Baccharis pilularis ssp. consanguinea	Coyote Bush
	Ericameria ericoides	Mock Heather
Aizoaceae (Iceplant)	**Carpotbrotus edulis*	Hottentot Fig
	**Conicosia pugioniformis*	Conicosia
Brassicaceae (Mustard)	**Cakile maritima*	Sea thrift
Cucurbitaceae (Gourd)	*Marah fabaceus*	Wild cucumber
Cyperaceae (Sedge)	*Carex pansa*	Dune sedge
Dennstaedtiaceae (Bracken)	*Pteridium aquilinum*	Bracken fern
Euphorbiaceae (Spurge)	*Croton californicus*	Croton
Fabaceae (Pea)	**Acacia longifolia*	Sydney golden wattle
	Lotus scoparius	Deerweed
	Lupinus arboreus	Bush lupine
	L. chamissonis	Silver beach lupine
	L. tidestromii	Tidestrom's lupine
Fagaceae (Oak)	*Quercus agrifolia*	Coast live oak
Hydrophyllaceae (Waterleaf)	*Phacelia ramosissima*	Branching phacelia
Juncaceae (Rush)	*Juncus effusus var. brunneus*	Common rush
Malvaceae (Mallow)	**Malva parviflora*	Cheeseweed
Nyctaginaceae (Four O'Clock)	*Abronia latifolia*	Yellow Sand Verbena
	A. umbellata	Pink Sand Verbena
	A. latifolia X umbellata (hybrid)	White Sand Verbena
Onagraceae (Evening Primrose)	*Camissonia cheiranthifolia*	Beach Evening Primrose
Oxalidaceae (Oxalis)	**Oxalis pes-caprae*	Bermuda buttercup
Polygonaceae (Knotweed)	*Eriogonum parvifolium*	Dune buckwheat
	**Rumex acetosella*	Sheep sorrel
Poaceae (Grass)	**Avena sp.*	Wild oat
	**Briza major*	Rattlesnake grass
	**Bromus diandrus*	Rig-gut grass
	Distichlis spicata	Salt grass
	**Ehrharta erecta*	Veldt grass
	**Hordeum jubatum*	Foxtail barley
	Leymus mollis	Dune grass
	Poa douglasii	Dune blue grass
Rosaceae (Rose)	*Rubus ursinus*	CA blackberry

*Horticultural species planted on City of Carmel dunes

Monterey Cypress	Bermuda grass	
Fountain Grass	Flowering plum	
Broom	Pride of Madera	
Austrialian Tea Tree	Agave	
Aloe	Rosemary	
Allium	Honeysuckle	
Nastursium	Sydney golden wattle	* = species not native to Carmel dunes

Sensitive Biotic Species & Habitats

The sensitive biotic species and habitats listed in Department of Fish and Game's database (CNDDB) for the Monterey Quadrangle or found on dunes in the Monterey Bay area were considered during the survey of North & Del Mar Dunes. The sensitive species information from the 1995 Jones and Stokes study was also reviewed prior to the field work. The Jones and Stokes report was based on field work during a limited window in the month of April. They acknowledged the limits of the survey and note three additional potential sensitive plant species that might be found in the Carmel Beach dunes. The survey for this Habitat Restoration Plan was more comprehensive, stretching through the full blooming season of the dune plants.

Two sensitive species and one sensitive habitat were found in the Carmel Dunes. They are listed below and their locations are mapped on Map 3.

Table 2. Sensitive Biota Found at North Dunes, Spring 2008.

Scientific Name	*Common Name*	*Listing Status*			
		Federal	*California*	*CNPS*	*CDFG*
	Central Dune Scrub				
Lupinus tidestromii var. tidestromii	Tidestrom's Lupine	Endangered	Endangered	1B.1	
Aniella pulchra nigra	Black Legless Lizard				SC

Federal Listing = U.S. Department of Interior, Fish & Wildlife Service
California Listing = State of California, Department of Fish & Game
CNPS Listing = California Native Plant Society, List 1B.1: Seriously Endangered in California
CDFG: Species of Special Concern: Vertebrates that have declining population levels, limited ranges and/or continuing threats making them vulnerable to extinction.

Central Dune Scrub is the natural community found on the coastal sand dunes on the central coast of California. It is recognized by the State of California and the County of Monterey as a rare community and therefore, a sensitive habitat. The central dune scrub has a naturally limited distribution. However, it has also suffered a loss of distribution area due to residential and agricultural development., and degradation of habitat due to human use and introduction of non-native plant species. Central dune scrub within the City of Carmel historically extended from the high tideline up to Camino Real Street, and from Pescadero Creek, south to Santa Lucia. (J. Rodriguez, pers. comm.) Today, it is limited to the North Dunes and Del Mar Dunes.

Lupinus tidestromii var. tidestromii, the Tidestrom's lupine is a rhizomatous herb in the pea family that grows only in coastal dunes in Monterey County. It is listed as endangered by the Federal (1992) and State (1987) governments and the California Native Plant Society. In 1997 only five occurrences in Monterey County, with less than 400 individuals were consider extant: Pt. Pinos lighthouse, Aislomar, Bird Rock, Carmel North Dunes and Spyglass Hill. An additional population was planted as mitigation on artificial dunes at Spanish Bay. The Tidestrom's lupine populations have been seriously threatened by development, trampling, non-native plants, and hybridization with *Lupinus chamissonis*, the silver beach lupine (CNPS web site). The North Dunes population has been subjected to all of these threats.

The population of Tidestrom's lupine was first discovered on the North Dunes in 1995 during the Jones & Stokes survey. The presence of Tidestrom's lupine was a major factor in recognizing the

North Dunes as ESHA. The Jones & Stokes surveyor noted 280 plants (168 seedlings, and 112 mature) found in four areas in the dunes. The survey for this report (2008) found 340 plants (124 seedlings/216 mature) in only two of the four areas that had plants in 1995. Although it is unknown why only 2 of 4 location in the North dunes support the lupine this season, the two areas without Tidestrom's lupine have been heavily impacted by non-native plants, including shading by non-native trees, and human trampling.

The current location of the Tidestrom's lupine on the North Dunes is shown on Map 3. The plants are growing with *Abronia umbellata*, *Leymus mollis*, *Conacosia pugioniformis, and Poa douglasii, and Lupinus chamissonis.* The location of the Tidestrom's lupine with the silver lupine is adjacent to the western most residence of the Surf and Sea development. There has been some speculation that the silver lupine was planted when the house was built, since it presently does not occur anywhere else in the Carmel dunes. Since the two lupines can hybridize, the presence of the silver lupine could threaten the continued survival of Tidestrom's lupine in the North Dunes.

Past taxonomic treatments of the Tidestrom's lupine separated similar plants found in Sonoma and Marin Counties from the Monterey County populations as *Lupinus tidestromii var. layneae*, and based on this treatment, the State of California listed only the Monterey County populations as Endangered in 1987. More recent taxonomic treatments combine the two variations into one species (Sholars & Riggens in Jepson Manual, 1993). The 1993 Federal listing included both the Monterey County plants (L. tidestromii var. tidestromii) and the Marin and Sonoma plants (L. tidestromii var. layneae). Genetic studies are need to sort out the relationship of the two variations; however, both variations occur on impacted sand dunes and qualify for the Endangered status.

Photo 2 & 3. Tidestrom's lupine (Lupinus tidestromii) plant and flower on North Dunes, 26 April 08.

Aniella pulchra nigra, the Black legless lizard is a species of special concern in the State of California. It inhabits coastal dunes in Monterey County, between the Salinas and Carmel Rivers. The lizard burrows in loose sand under mature plants including *Ericameria ericoides*, *Lupinus arboreus*, and *Eriogonum parvifolium,* where a developed leaf litter layer attracts many insects and their larvae (prey of the lizards) and helps to moderate soil temperature and conserve soil moisture. A 1984 USFWS survey by Bury captured 12 black legless lizards at Carmel Beach. Bury noted the problems of frequent human use of the habitat and the encroachment of non-native

plants. In 1995, the Jones and Stokes surveyors failed to locate any black legless lizards in the North or Del Mar Dunes. On June 20, 2008, a survey for this Habitat Restoration Plan located 2 adult black legless lizards in one hour of search. Both were found in the North Dunes under mature mock heather. North Dunes and Del Mar Dunes are habitat for the lizards, and restoration and management recommendations will be designed to avoid impacting the lizards or their habitat.

Recent taxonomic studies suggest the Black legless lizard is not a sub-species of the California legless lizard, *Aniella pulchra*, but only a color variation. However, to date genetic studies are inconclusive and the taxonomy remains unchanged. The CA Department of Fish and Game recognizes both *A. pulchra* and *A. pulchra nigra* as species of special concern.

Photo 4 & 5. Black Legless Lizard. City of Carmel, North Dunes. 20 Jun 08.

Impacts to the Dunes

Human impact to the Carmel beach and dunes began before the turn of the century. The area has been a popular spot for picnics, camping, and beach recreation for over a hundred years. In 1889, a bath house was constructed at the base of Ocean Avenue in the vicinity of the where the beach parking lot sits today. It was a popular spot for the forty years that it operated. Photographs taken in 1922, show a denuded foredune around the Bath House after over 30 years of concentrated recreational use of the area. The photograph below shows the Bath House in its early days. Note the only visible transportation to the beach are the horses tethered behind the building. Also the boardwalk which ran from Monte Verde Ave. to the beach (C. Buckminster, per. communication) is barely visible to the right of the main building. The figure sitting on a bench on the right side of the photograph is probably resting before their climb up the hill to town.

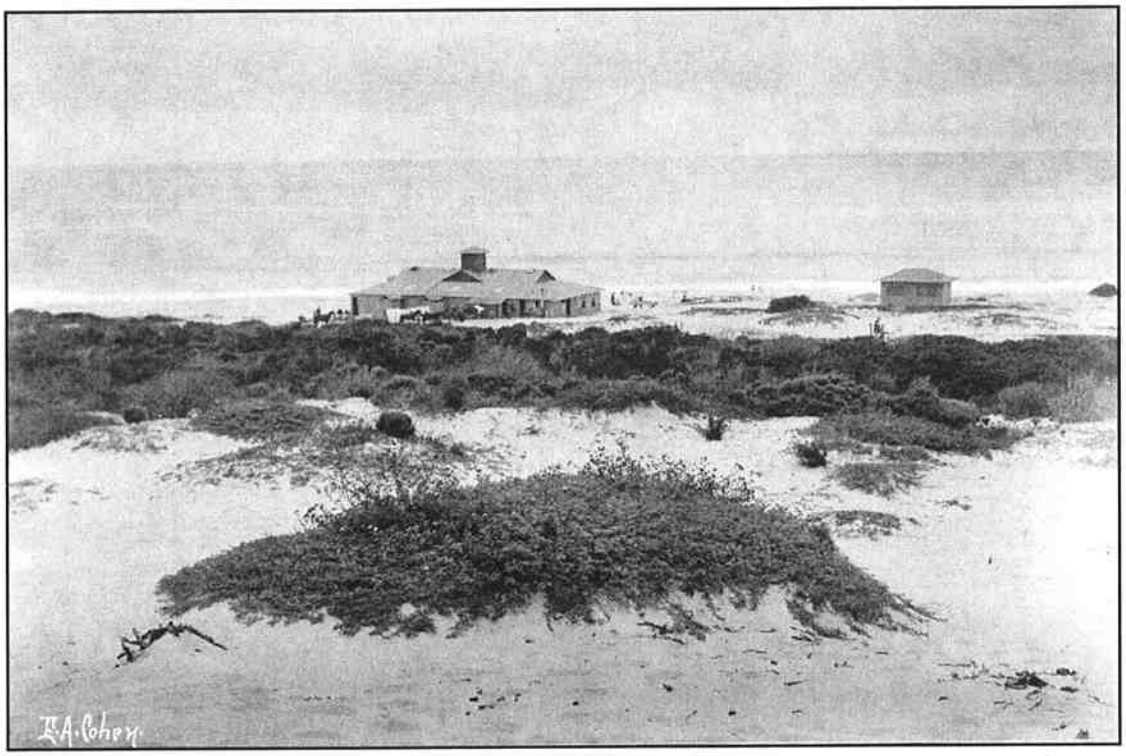

Photo 6. East side of the Bath House at Carmel Beach. Constructed in 1888-9, it operated for 40 years before being torn down in 1929. The reardune plant coverage is still well developed at this point in time. Harrison Memorial Library Collection.

The reardune vegetation, behind the Bath House, appears to have diverse composition and fairly dense cover. In the foreground of the photograph, the dunes have received some sort of disturbance that has resulted in a more open plant community with more bare sand. One of the greatest points of interest in this photograph is the hummock of sand front and center, when magnified, appears to be covered with dune buckwheat (*Eriogonum parvifolium*), beach bur (*Ambrosia chamissonis*), and seaside daisy (*Erigeron glaucus*). Only a few dune buckwheat plants are remaining on North Dunes and both seaside daisy and beach bur no longer grow naturally within the City of Carmel.

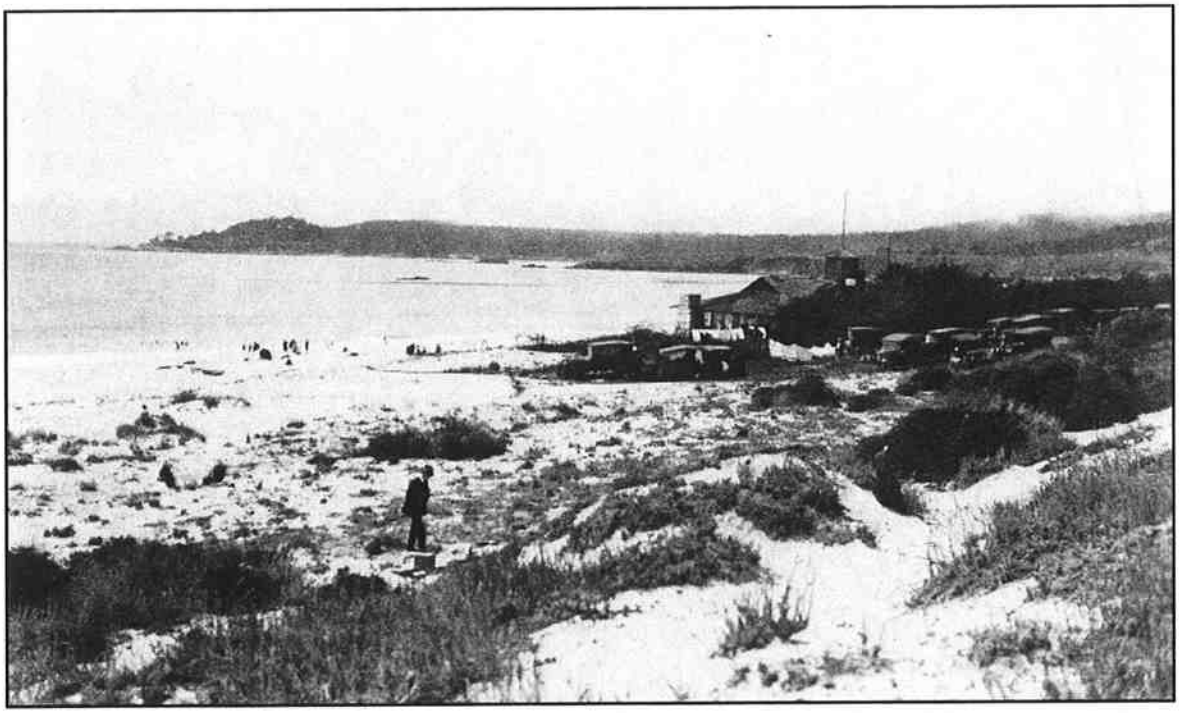

Photo 7. Bath House in later years (cars and electrical lines that were installed ~1916 are present). The foredune vegetation is still fairly intact to the south of the Bath House. The gentle grade of the foredune is the natural formation, as opposed to the steep banks today formed by the non-native acacia. Harrison Memorial Library Collection.

In addition to the early recreational use of the dunes and beach, in 1941-42, a temporary military camp was erected in the North Dunes area, to provide on-site military protection of the coast (C. Buckminster, pers. communication). Although some bare sand is natural in the dynamic dune scrub plant community, the intensity of use of Carmel's beach and dunes was well established by the time the following 1939 aerial photograph was taken.

Over the last fifty years the impacts to the Carmel dunes have continued. Non-native plants have been planted on the dunes or have spread to the dunes by other means. Most of the bare sand that was the result of intense use between 1889 and 1950, has been colonized by non-native plants, especially iceplants, acacia, and non-native grasses. The dune scrub in the vicinity of the planted Monterey cypress, Monterey pine, and eucalyptus has gradually died out from the shading and leaf litter. As the trees have died, the litter from dying leaves branches and trunks add an abnormal amount of organic matter to the dune system. Adjacent to the shared property line with the Surf and Sea development, five of the homes have landscaped on the City's sand dunes adjacent to their homes. This trespass has reduced the native dune scrub, the Tidestrom's lupine distribution, and the black legless lizard habitat. There also appears to be a fairly high amount of gopher activity in North Dunes, in addition to dogs digging and neighborhood cats hunting the wildlife. Cats are also a threat to black legless lizards.

Storm runoff from San Antonio Ave. is concentrated and piped across the southeast corner of the North Dunes. Installation of the 4th Ave. sewer outfall, left a large scar across the very north end of North Dunes. Volleyball courts have also been designated in the North Dunes, and their use intensely

Photo 8. This 1939 aerial of Carmel shows the large amount of bare sand present in the North Dune 70 years ago. Most of the bare area is now filled with non-native plants.

Photo 9. A sunbather relaxes on a patch of iceplant with a few yards of unprotected Tidestrom's lupine plants.

disturbs the courts and sideline areas. The bare sand in the court area is moved by the prevailing winds onto the reardune. Most sand movement in the dunes is carried by the strong spring winds, which pelt or bury the seedlings that have germinated with the winter rains. The more sand movement in the dunes, the less natural plant establishment, resulting in a degradation of the habitat. The dunes are also open to foot-traffic, with dogs frequently accompanying their owners. Trails criss-cross everywhere across the dunes, including through the Tidestrom's lupine stands. Because the dunes offer shelter from the wind and more privacy than the beach, many sun-bathers opt for a quiet spot in North Dunes, unaware of the sensitive biotic resources. Although most visitor and resident use of the Del Mar and North Dunes is as an area to cut through on the way to the beach, the proximity of the dune areas to the parking lot and restroom will continue to draw some curious beach-goers to explore the dunes. Having an environmentally sensitive habitat areas so close to a high use recreational area, requires protective measures to ensure the long-term maintenance of the sensitive biological features of the Del Mar and North Dunes.

Dune Restoration & Management Program

THE MISSION of this restoration & management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes.

THE OBJECTIVES are to eliminate all aggressive non-native species, restore the native dune scrub, expand the population of Tidestrom's lupine, and the quantity and quality of available habitat for Black Legless Lizards, establish a trail system to provide safe visitor access without compromising the health of the dune habitat and provide interpretation of the North Dunes, Del Mar Dunes and Carmel Beach to enhance the visitors experience and knowledge of the Carmel dunes.

THE SPECIFIC GOALS to achieve these objectives are outlined below and described further in the following sections of this plan.

1. Providing protection for existing populations of the special status species during the implementation of this plan and for management of the populations in perpetuity.

2. Elimination of all aggressive exotic species on the dunes. The two species with the greatest cover and opportunity for restoration are iceplant and Sydney golden wattle. The weedy components of the dune scrub adjacent to the roads and restroom will also be addressed.

3. Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping including the one landmark-sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave.

4. Stabilize drifting sand in areas to be planted with straw or jute.

5. Plant and seed native dune plants in areas of bare sand or where exotics were removed.

6. Use only local plant sources for the revegetation. Seeds and plants shall be propagated from plant material collections within two miles of the site.

7. Establish thriving new stands of Tidestrom's lupine in the dunes to add stability and long-term survival to the population.

8. Improve the quality of habitat for the black legless lizard by establishing large stands of native dune scrub, and creating a habitat corridor between North Dunes and Del Mar Dunes.

9. Establish short (5-year) and long range (on-going) monitoring program for the special status species and dune scrub.

10. Establish a maintenance program to follow-up on the exotic plant control, sand stabilization and respond to all needed actions noted during monitoring.

11. Provide safe pedestrian access to the dunes, minimizing impact to the dune habitat. Con-

sider constructing an ADA compliant boardwalk in North and Del Mar Dunes.

12. Through information panels, interpret the natural and cultural history of the dunes and Carmel Bay.

13. Consult with the CA Department of Fish and Game for plan review and approval. Obtain a permit from CA Fish and Game for collection, propagation and planting of a State Listed plant species. Submit special status species information to CA DFG on Tidestrom's lupine population surveys and any sitings of Black legless lizards.

Restoration Implementation Methods

Access

Presently, all foot traffic through the dunes is uncontrolled, and is negatively impacting the native dune scrub and sensitive species. The dunes, designated as ESHA, are subjected to a high concentration of human use due to the proximity of the Del Mar parking lot and the beach. By designating trails, people and their leashed dogs can visit the dunes or pass through on their way to the beach with only a minimal impact, if any.

The size of the North Dunes presents the opportunity to provide a loop trail for viewing the dune habitat, access to the beach from San Antonio Ave. and a vista point of the Carmel Bay and Point Lobos. Providing a ADA compliant boardwalk on some of the North Dunes trails would open the dunes to disabled persons and others not inclined to trudge through the sand. Coastal dune boardwalks have proven to not only provide access to those not able to physically maneuver in the sand but many people who bypass sand dunes for an easier path. Coupling the boardwalk with interpretive panels or programs will increase the general understanding and appreciation of the very special habitat found in the City of Carmel's dunes.

The Del Mar Dunes, although limited in size could provide an exciting addition to the assets of Carmel Beach. An ADA compliant boardwalk leaving the south end of the parking lot, running south into the Del Mar dunes, would provide an avenue for the disabled, seniors and visitors not prepared for deep sand walking to experience views of the ocean, the Carmel Bay, Point Lobos, Pebble Beach and of course the beach strollers and their dogs. Extending this trail with a sand path to the Eighth Ave. stairs would complete the City of Carmel's portion of the California Coastal Trail, a statewide endeavor to provide a public coastal trail from Oregon to Mexico.

The sand trails and the boardwalk should be fenced to delineate the pathway and to keep people on the designated trail. One of the most unobtrusive methods of fencing is the eye rod and cable fence shown in the pictures below. Boardwalks can be constructed of a natural wood such as redwood or a recycled material such as Treks. The width of the trails should be at least 4 ft to allow easy passing. Sand trails can be made wider to provide the City's maintenance staff easy access and to give visitors a spacious feeling. However, the wider the trail, the greater amount of bare sand that will blow with the prevailing winds, especially in the spring. Blowing sand is a major cause of plant seedling mortality in the late spring, which limits reproduction and establishment of the native dune scrub.

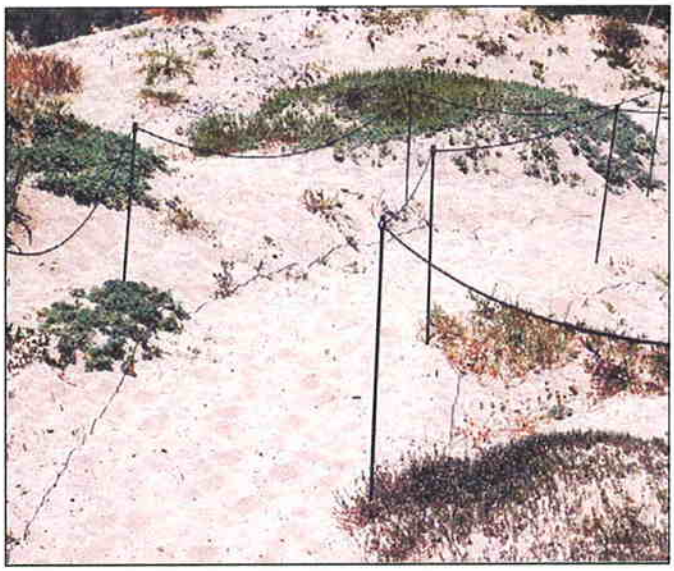

Photo 10. Wooden boardwalk with eye rod & cable fencing. Photo 11. Sand trail with eye rod & cable fencing.

Non-native Plant Control

All aggressive non-native plant species will be removed from the dunes though an initial control followed by a maintenance program. The main focus of the non-native control will be on the iceplants (*Carpobrotus* and *Conocosia* sp.), Sydney golden wattle (*Acacia longifolia*) and the invasive grasses and forbs on the roadside edges of the North Dunes. The control methods will vary with species and more than one method may be needed with a single species. The control program will include removal of solid stands of the non-native plant and individuals within stands of native dune scrub.

When herbicide is used, the handler must strictly adhere to the label, have been trained properly to safely handle pesticides and report the use to the County of Monterey. All herbicide use shall be carefully planned to provide complete control over the treatment site until the spray is dry. Wind is almost a constant on the dunes, very calm mornings offer short windows of opportunity to spray without drift. This is especially important in areas with native plants proximate to non-native plants.

Iceplants • *Carpobrotus* & *Conocosia* sp.

All iceplant mats will be killed with 2% glyphosate during its active growing period, and left in place to desiccate. The mats will be monitored on a monthly basis for need of re-spraying live sprigs. Seedlings and small plants of iceplant will be hand-pulled and disposed of off-site at an appropriate disposal area. Leaving the mats in place while they die will provide sand stability during the period planted native dune plants are becoming established. Iceplant growing within 30 ft of Tidestrom's lupine will be pulled by hand and disposed of off-site.

Sydney Golden Wattle • *Acacia longifolia*

During the active growing period, all leaf and top growth will be cut and disposed of off-site at an appropriate disposal site. Short stumps of the main stems of the wattle will be left. Immediately after cut-

ting the stems, 50 to 100% glyposate shall be applied in an injection or frill method to cuts along the thick stems. Oblique angled cuts should be used to avoid any runoff into the sand. The stumps will be monitored for any re-growth and re-treated along fresh cuts if needed. Once treatment is successful, the aerial portions of the wattle stems can be trimmed to just below the sand surface.

Invasive Grasses & Forbs

The best control method for each site with invasive grasses and forbs will be used. Possible methods include hand-pulling, spraying (especially perennials), mowing, or a combination of shallow tilling and irrigating to reduce the seed bank.

Planted Trees: Monterey Cypress, Monterey Pine, Blue Gum Eucalyptus

All digging in the dunes will be done with caution as to not harm black legless lizards. They are usually found in the top 18 inches of sand under shrubs and trees with a well developed leaf litter. Control of any non-native trees could disturb a legless lizard, so the work must be done slowly, with a watchful eye. Removal of all leaf litter under the tree 48 hours prior to the tree removal will encourage the lizards to move out of the tree root zone. Any lizards observed during non-native plant removal should be reported to the CA Department of Fish & Game's CNDDB.

Planted Monterey cypress trees along Ocean Ave. and the southern boundary of North Dunes have both historical and landscape significance. However, the planted trees are eliminating dune habitat and therefore negatively impacting ESHA. In order to minimize the impact to the dunes, and retain the historical and esthetic value of the cypress in Del Mar and North Dunes, the Monterey cypress trees adjacent to Ocean Ave. and planted at the base of the Ocean Ave. hill, shall be maintained and replaced as necessary as consistent with the Shoreline Management Plan. Those individual trees planted away from Ocean Ave, more in the central portion of the North Dunes and the Monterey Pines planted at the very north end of the dunes should not be replaced if removed due to disease or death and the area restored to the native dune scrub. Mature cypress and pines should be removed after they died or decline to the point they are no longer esthetic or safe. Young trees should be evaluated to determine if they should be removed now, to begin the restoration of native dune scrub. The mature blue gum eucalyptus at the corner of Ocean Ave. and San Antonio, should also be maintained due to its landmark size. Map 2 delineates the corridor in the dunes to be dedicated to Monterey cypress landscaping.

Stabilizing the Sand

All planting areas will be stabilized with straw or jute to allow the seedlings or seed to get established with a minimum of shifting sands. For straw treatments, bundles of straw will be 'planted' 4 inches into the sand at 12 to 15 inches on-center spacing. Each bundle will consist of a generous fistful of straw, and measure approximately 10 inches long. The bundles will be placed into a 4 inch deep hole, perpendicular to the surface of the dunes and backfilled with sand. The straw bales shall be bundled preferably from rice or wheat. Use of straw from grains that can naturalize on the dunes such as oats, rye, bromes, and barley shall not be used. Jute can be placed on dune slopes with typical installation methods. Jute works well on steep sites or narrow corridors.

In addition to the straw bundle planting or jute, segments of 4 ft high snow fencing, typically made of lath and wire or heavy gauge plastic can be added to problem wind areas to literally bounce the wind upward, offering relief to the ten to twenty feet behind the fence. Multiple segments can be useful in wind tunnel areas. Installation of wind fencing prior to planting an area is advisable.

Planting areas covered with dead iceplant should not require any additional stabilization techniques.

Planting

Bare sand created by human disturbance and non-native plant removal will be planted with native dune species. The exception will be the volleyball courts and viewing areas along the court sidelines and the designated trails through the dunes. Native seedlings will be planted according to Table 2.

Table 3. Dune Scrub Planting Mix and spacing by zone in North Dunes and Del Mar Dunes.

Foredune	Dune Swale	Reardune	CLO Associates
Abronia latifolia 5' oc*	***Carex pansa 1' oc***	***Abronia umbellata 4' oc***	***Marah fabaceus 5' oc***
Ambrosia chamissonis 5' oc	***Juncus effusus 3' oc***	***Artemesia pycnocephala 3' oc***	***Pteridium aquilinum 3' oc***
Camissonia cheiranthifolia 2' oc		***Camissonia cheiranthifolia 2' oc***	***Rubus ursinus 3' oc***
Leymus mollis 3' oc		***Croton californica 2' oc***	
		Ericameria ericoides 4' oc	
		Erigeron glaucus 1' oc	
		Eriogonum parvifolium 3' oc	
		Lotus scoparius 3' oc	
		Lupinus arboreus 5' oc	
		Lupinus tidestromii 2' oc	
		Phacelia ramosissima 3' oc	
		Poa douglasii 1' oc	

* The on-center spacing for planting listed in feet.

The planting shall follow the following guidelines:

- Thinning of dead iceplant mats should be considered to open up the sand surface. At a minimum, planting holes shall be chopped through the dead mat, and a planting hole cultivated in the sand below.
- The plants shall be from local genetic source in the Carmel and Pebble Beach areas.
- The planting should be scheduled during the late fall or early winter, as soon as 2-3 inches of rain has been received and more storms are expected. Winter rains can be supplemented with irrigation, however, the timing of the planting should still be in the winter months.
- A temporary above-ground irrigation system could be installed to provide watering to supplement the winter rains. Each seedling should receive a minimum of ¼ gallon per watering. The goal should be to provide only supplemental water to the rains and water deeply the entire root zone of each plant.

- General guidelines for the scheduling of the water system: up to three times per week during winter and spring months, once a week in June and once per month in July, August and September during the first six months the plants are in the ground only. Irrigation should be monitored to insure the application of usable water within the root zone and to avoid runoff.

- Seedling containers should be a supercell 6", 2 inch pot or of equivalent volume.

- The seedlings shall be spaced according to the table above. The general planting plan will be a random mix of the dune scrub species with some stands of single species.

- Planting holes shall be equal depth to the container. Each planting hole will be back filled with native sand and a tablespoon of slow release fertilizer r.e. E.B Stone Organic All Purpose Fertilizer or Osmocote 14-14-14.

Sensitive Species Management

Tidestrom's Lupine: The goal is to establish thriving new pockets of Tidestrom's lupine in the dunes to add stability and long-term survival to the population. Presently, the Tidestrom's lupine grows in relatively open sand areas with *Abronia umbellata*, *Leymus mollis*, *and Poa douglasii,* but primarily with other individuals of Tidestrom's lupine. In 1995, biologists from Jones & Stokes mapped four Tidestrom's lupine locations in North Dunes. In 2008, only two of the four locations had Tidestrom's lupine. To achieve a stable population that can survive minor changes and disturbances to the dunes, both natural and human caused, at least ten locations scattered throughout North Dunes should be established with each location supporting at least 100 plants.

Collection of seed for propagation of the Tidestrom's lupine shall be limited to the population on the North Dunes. Due to the small size of the population, and therefore limited seed available each year, direct sowing into the dune is not an efficient use of the seed or method of propagation. Lupines generally are easily grown from seed that have been collected when ripe, lightly scarified and sown in a well draining planting mix. Propagation in a supercell 6" container will encourage a healthy tap root to form and the plant will be ready to plant out in the dune within 3 to 4 months after sowing. Younger plants have a better chance of establishing in the wild, provided the proper care after planting. Plant-

Photo 12. Seed pods of the Tidestrom's lupine. Seeds are ripe when the pod cracks open easily and the seeds are dark in color.

ing should follow the methods outlined in the previous section.

The locations of Tidestrom's lupine plants on the North Dunes are being negatively impacted by human and pet trampling. Fencing the plant locations may be necessary to protect the endangered species from disturbance, especially near the volleyball courts. However, if the proposed trail system is installed, and hikers are respectful of the dunes and stay on the designated trails, fencing of the lupine may not be needed. As a part of the annual monitoring of the lupine population, the need for fencing will be considered and if deemed necessary will be added. A simple plastic coated cable and steel eye rod style of fence should be sufficient to give visitors the message to avoid the area and only create a minimal visual impact.

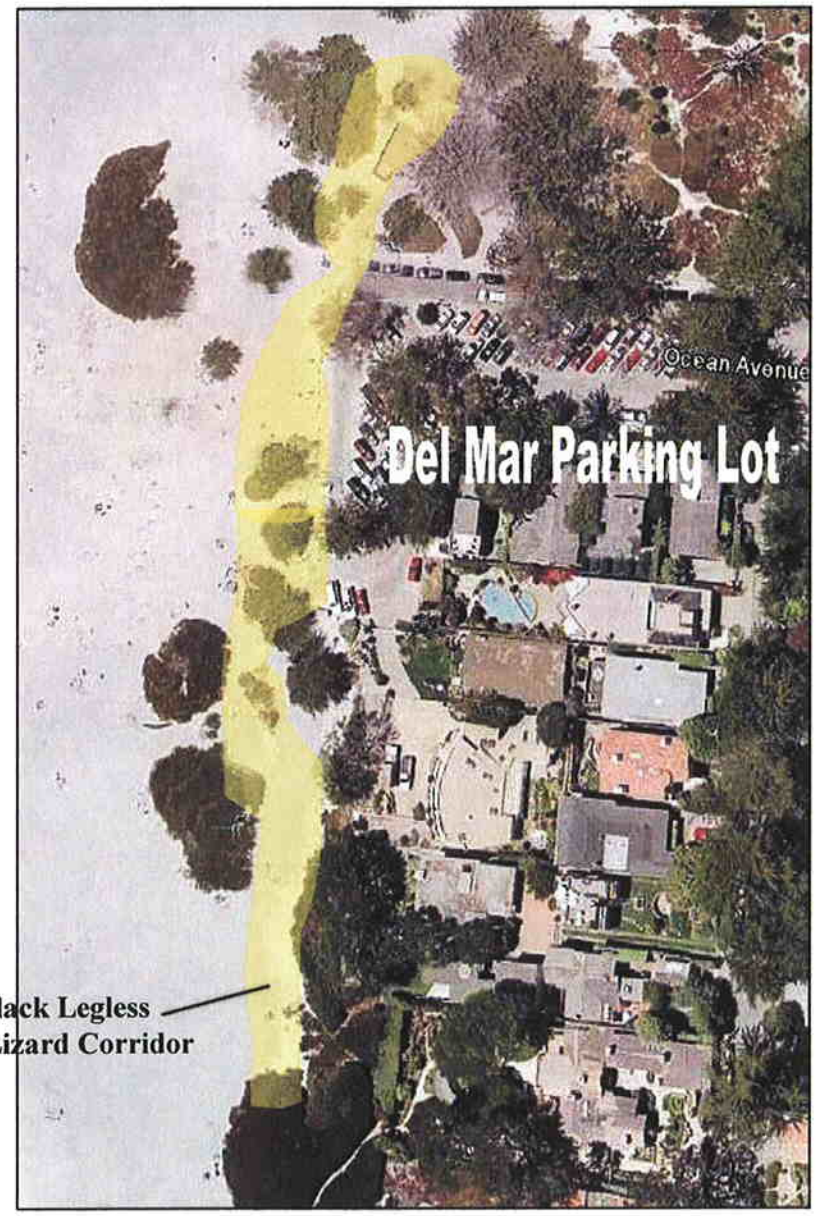

Photo 13: Proposed Black Legless Lizard Corridor.

Black Legless Lizard: The historic photographs of the original dunes behind Carmel Beach (Photo 6) show large expanses of dune scrub that appears to be ideal habitat for the black legless lizards. Today, their habitat is limited to North and possibly Del Mar Dunes. A goal of this restoration program is to improve the quality of habitat for the black legless lizard by establishing large stands of native dune scrub, and creating a habitat corridor between North Dunes and Del Mar Dunes for lizards to be able to move between the two areas.

The restoration methods outlined in the section above will be used restore the dune scrub to the bare sand areas and where non-native plants are removed. In addition, a habitat corridor between North Dunes and Del Mar Dunes shall be established with some specific planting of *Ericameria ericoides, Eriogonum parvifolium, Lotus scoparius, Lupinus arboreus, and Phacelia ramosissima.* These plant species create especially good habitat for the legless lizards due to the size and shading ability of their canopy, and the large amount of annual leaf litter that collects under the shrubs. The litter attracts insects which the legless lizards feed upon. Large bare sand pathways will be necessary to allow visitors to move easily from the Del Mar

parking lot to the beach, but with careful planning and open areas between shrub stands of no more than 75 ft in length, a habitat corridor can co-exist with the primary beach access area. On the aerial photograph in Photo 13, potential corridor planting locations have been highlighted in yellow. Because this planting will need to cross a very high traffic area, protective fencing will be need to ensure the establishment of the plants. Again, plastic coated wire cable with steel eye posts has minimal visual impact while offering protection to the plants.

Interpretation of the Dunes, Beach and Restoration Program

The dunes are a unique area in the City of Carmel, and sharing the natural and cultural history with the residents and visitors through interpretive panels, can enhance their appreciation of the dunes. Appreciation leads to respect and placing value on the resource, and even becoming a steward of the dunes, through volunteering. Interpretive panels could successfully attract the curious reader adjacent to restroom, at the foot of the boardwalk in North Dunes and at the boardwalk bench area on North and Del Mar Dunes.

The following list contains some broad ideas for interpretive subjects. Many additional ideas can be generated from each theme.

- Fragile dune scrub habitat: the flora, fauna, geology, endangered species present
- Human history of Carmel Beach and the dunes: Bath House, military, and century of recreation, famous artist of Carmel at beach gatherings, etc.
- Ocean habitat of Carmel Bay: the fish, mammal, birds, invertebrates, type of seaweeds that maybe seen on the beach
- Ocean tides, currents, and how they form and shape the summer and winter beach
- The Monterey cypress as the 'sentinel' of Carmel Beach. Its natural distribution, planting history in Carmel, world-wide popularity as a landscape tree, life span, grace
- Restoration of the dune scrub habitat of Carmel, how, why, and how you can help
- Geography of the area: all landmarks you can see from the dunes or beach

In addition to interpretive signing, some general signing to encourage the visitors to use the designated trails through the dunes will probably be necessary during the restoration project. It may be necessary to sign the small volunteer trails off San Antonio Ave. guiding hikers to the designated trail. Small signs asking people to stay off of planting areas can also help. "Dune Restoration in progress - Please stay off the young plants" or something similar has helped on many State Park dune restoration projects.

Maintenance Methods

Timely follow-up maintenance of any restoration project is often the key to success, and dune restoration is no exception. At least quarterly inspections of the treatment areas are needed to identify any problems and schedule maintenance. Maintenance activities may include but not be limited to:

- Repair or replace segments of fence or boardwalk as needed.

- Removal of aggressive exotic plants on the project site, including any live sprigs of iceplant.
- Replant vegetation if necessary until the site is stabilized. Planting should be limited to winter and spring months.
- Addition of organic fertilizer around plantings that have not shown typical growth.
- Repair or adjusting the irrigation system and/or schedule. Inspect the irrigation system during a watering cycle to detect any leaks or malfunctions. Evaluate the emitter placement and the adequacy of the sphere of water delivered at each plant.
- If animal browse is heavy, caging Tidestrom's lupine or fencing the site may be considered.
- Replacement of jute netting or their stakes if used.
- Re-apply straw planting in disturbed areas or areas where new sand deposition has occurred.
- Addition of segments of wind fencing to break up strong wind patterns.
- Consider the addition of fencing around any Tidestrom's lupine locations that are being impacted by foot traffic.
- Other actions identified during the monitoring, necessary to meet the success criteria.

Monitoring Methods

To insure the long-term protection and maintenance of the Tidestrom's lupine and Black Legless Lizard within the dunes in the City of Carmel, on-going monitoring of the populations should be implemented.

Tidestrom's lupine should be monitored annually by a qualified biologist. The information collected each year should include:

1. Direct count of individuals, noting number of mature blooming plants, and number of non-blooming seedlings. These numbers should be compared with previous surveys to determine whether the population is stable, increasing, or declining.
2. Note any impact from human use of the dunes. Considered fencing as a protection measure.
3. Note encroachment from non-native plant species and trigger maintenance actions to remove the weeds.
4. Map locations in North Dunes, analyze reasons for any changes from previous years.
5. Submit annual data collected to CA Department of Fish & Game's CA Natural Diversity Data Base.

Black Legless Lizards are difficult to assess both the population size or population stability. As more information is developed for the species, including what constitutes a viable population, and established methods to estimate population size and stability, these endeavors should be undertaken. In the interim, once every 5 years, a survey for presence/absence should be undertaken to confirm the continued presence of the lizards.

Restoration Program Success Criteria

The mission of this restoration & management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes. To accomplish a successful project the following criteria should be met:

- Aggressive non-native species shall have less than 1% of coverage in the project area.
- The dune scrub plant coverage should reach at least 70% coverage in the project area, with the other 30% occupied by bare sand or Monterey cypress within the cypress corridor.
- All planted species must be displaying evidence of reproduction.
- The dune scrub shall be comprised of all 22 native species mentioned in this report.
- Successful establishment of 10 locations of Tidestrom's lupine with at least 100 plants each.
- Successful establishment of the quantity and quality of available habitat for Black Legless Lizards, including the habitat corridor between Del Mar and North Dunes.
- Annual monitoring of the Tidestrom's lupine population is performed and results reported to the CA Department of Fish and Game's Data Base.
- The trail system has been established and is being used exclusively for visiting or tranversing the dunes. No foot traffic impact is occurring within the Del Mar or North Dunes.
- Interpretive panels are increasing the visitors experience and knowledge of the dune habitat.

Implementation

The implementation of this program can take a variety of paths ranging from full funding contracting all components of the program to a phased approach, installed by volunteers. Reality typically falls somewhere between the two options.

If full project funding were available, the entire area could be treated at one time by contractors. The contracts may need to be divided in a few specialities: carpenter for boardwalk and bench construction, pest control contractor for efficient treatment of iceplant and acacia, and a restoration specialist/landscape contractor for plant propagation and installation.

However, there are many other avenues for accomplishing the work. First is a phased approach where the project is divided into six to ten manageable areas for treatment. Even boardwalks and path ways can be installed sections at a time if necessary. A general rule of thumb for dune restoration projects is to begin in the foredunes and end up in the reardunes, due to the possible inland movement of sand when non-native plants are removed. A great advantage to phasing the work is that the methods of restoration are honed during the first phases, allowing the rest of the project to take advantage of the knowledge. It divides the project site into more manageable sizes, avoiding overwhelming the project manager and volunteers and also spreads costs over time.

Some of the lower cost alternatives include recruiting low or no-cost labor or donations from Carmel Middle School, Carmel High School, the CA Conservation Corp, civic groups such as Scouts, Carmel Garden Club, the CA Native Plant Society, or Return of the Natives program at CSUMB. Groups or individuals can be asked to sponsor a bench, or foot of boardwalk, an interpretive panel, etc.

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North Dunes Restoration Plan Summary

Prepared for:

City of Carmel-by-the-Sea

Summary and Revisions by:

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Dune Biologist
Native Solutions

July 28, 2016

Source:

North Dunes & Del Mar Dunes Habitat Restoration Plan
City of Carmel-by-the-Sea

Written By:
Jean Ferreira
Botanist

April 1, 2009

Table of Contents

I. INTRODUCTION

The North Dunes & Del Mar Dunes Habitat Restoration Plan was written by Jean Ferreira, Botanist, and approved by the City of Carmel-by-the-Sea in 2009. The 25 page plan described the biological resources of the last two remaining dune areas within the City limits, initially thought to be about 5-6 acres, now calculated at 8 acres. The habitat plan also described restoration goals, protocol, and monitoring measures for the degraded dune areas. The mission of the restoration and management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes (Ferreira, 2009).

The 2016 North Dunes Restoration Plan Summary by Joey Dorrell-Canepa (dune biologist) contains updated recommendations for restoration of the North Dunes, leaving Del Mar Dune restoration for a later date. This plan summarizes and refines the restoration techniques and monitoring protocol, and updates the success criteria proposed in the 2009 plan. To ensure a successful dune restoration project, tree removal and management are discussed. Attached is a work plan that describes tasks, potential impacts, success criteria and a schedule. Tables 1 and 2 provide updated lists of the native and non-native species found in the North Dunes. Table 3 contains the Proposed Native Plant list for the North Dunes Restoration. Figures 1 and 2 delineate the current location of sensitive species, the phasing of restoration treatment areas, and proposed pathways.

II. DUNE RESTORATION PLAN IMPLEMENTATION

The implementation activities described are intended to achieve specific project goals and success criteria to restore the North Dunes.

The biological objectives are to eliminate all aggressive non-native species, restore the native dune scrub, expand the population of Tidestrom's lupine, and increase quality habitat available for the black legless lizard. The visitor-serving objectives are to establish a trail system to provide safe visitor access to the Carmel Dunes, without compromising the dune habitat and its wildlife, and to provide interpretive signage to enhance visitor experience and knowledge of the dunes.

All restoration and maintenance efforts shall be designed and implemented to create a high quality dune habitat that is self-sustaining in perpetuity. Success criteria will be met when the number of native dune species in the project area is restored to a minimum of 30 species and 50% average native plant cover within 5 years. The average cover of aggressive, non-native species will be reduced to no more than 10% cover within 5 years, with the number of non-native species reduced by at least half, from 30 species to <15 species. The endangered population of Tidestrom's lupine shall total 1000+ individuals, with at least ten locations scattered throughout the North Dunes, each supporting a minimum of 100 plants.

A. Area Boundaries and Existing Conditions

A 2016 estimate based on site surveys and google map analysis suggests the following ratio of plant cover in the North Dunes. These figures are based on a project area of ~ 8 acres, including boardwalks and bathrooms. Project Area boundaries include: North San Antonio Avenue, West Ocean Avenue, the dune bluff (up to, but not including the beach slope) and Pescadero Canyon.

North Dunes Project Area (2016 Estimated Cover)
15% bare sand (including volleyball courts)
25% tree canopy & structures (cypress, pines, native oaks, boardwalk, bathrooms)
35% non-native plant species (acacia, iceplant, annual weeds)
25% native plant plant species (some scattered annual weeds).
100%

B. Fencing Protection - Native Planting Areas and Sensitive Species (Tidestrom's Lupine)

Walkways need to be established and delineated throughout the North Dunes Project Area as non-native species are eradicated and native vegetation increases. Proposed pathways may or may not need to be cabled, depending on dune scrub vegetation establishment and use patterns. Pathways shall be a uniform 5 foot width, delineated with basic post and cable "symbolic" fencing. Smaller tributary or "short-cut" trails shall be closed off and planted with native dune species.

Large planting areas shall be encircled with cabling to protect existing native plants, newly planted seedlings, and seedling germination following successful establishment and seed dispersal in later years. Once native plant species reach 50-60% cover within the project area (Years 4-5), some cabling may be removed in well-established vegetation areas, according to the Project Biologist's discretion.

No trails will be allowed to cut through clusters of Tidestrom's lupine. Until the Tidestrom's lupine population increases to 1000+ plants, all existing and potential Tidestrom's areas will need to be fenced.

C. Non-native Plant Control

All aggressive, non-native plant species shall be removed from the North Dunes through a phased three year program, followed by annual, long-term weed maintenance. Weed control will target the following species in order of priority: *Carpobrotus edulis & C. chilensis* (iceplant), *Conicosia pugioniformis* (narrow leaved iceplant), *Acacia longifolia* (Sydney golden wattle), and all non-native grasses and forbs within the North Dunes. Removal of the iceplant and acacia will allow significant germination from the native seedbank to occur, making restoration efforts more efficient and successful. The Project Biologist shall prioritize weed control areas with the proper timing to avoid native species germination periods, and shall demonstrate proper techniques to avoid negative impacts to soils, insects, and Black legless lizards.

Iceplant (*Carbobrotus spp., Conicosia pugioniformis*)

Carpobrotus spp. will be hand-pulled and dried in windrows or low piles for up to 6 months, allowing efficient removal to an appropriate disposal area when the iceplant is partially desiccated. Iceplant removal shall be followed by site-specific native plantings within one year to avoid the germination of weedy grasses in the decomposing mulch. All iceplant piles from previous years shall be completely removed by the end of Year One. *Conicosia pugioniformis* will be pulled during flowering stage (April-May) and prior to seed development to prevent copious seed dispersal and after-ripening of the. If pulled at early flowering stage, *Conicosia* can be piled to desiccate, but must be monitored for seed ripening and promptly removed by mid-summer.

Thick iceplant mats may be killed with 2% glyphosate during active growing periods, and left in place to desiccate. Leaving the mats in place may provide sand stability while native dune plantings are becoming established in bare areas. Iceplant growing within 30 feet of Tidestrom's lupine shall be pulled by hand and removed from the area for proper disposal to avoid preventing germination of the sensitive species.

Herbicide shall be applied by a certified pesticide applicator, who reports all use to the County of Monterey and strictly adheres to label requirements. To prevent drift, herbicide spraying shall occur on very calm mornings, and the applicator shall provide complete control over the treatment site until the spray is dry. This is especially important in areas where native plants are close to non-native plants.

Sydney Golden Wattle (*Acacia longifolia*)

Acacia longifolia is very invasive due to its nitrogen-fixing ability, rapid growth, and long-lived seeds. Acacia displaces native vegetation and modifies dune ecosystems by preventing gradual sand accretion. During the active growing period, all leaf and top growth shall be cut down to 6 inch stumps, and disposed of promptly at an appropriate disposal site. Immediately after cutting the stems, a 1:1 ratio of glyphosate:water should be painted on the stumps within 1-2 minutes of cutting. The stumps shall be monitored for re-growth and re-treated every 4 weeks until the root system shows no sign of re-growth, at which time the aerial portions of the stems can be trimmed to just below the sand surface.

Invasive Grasses (*Erhardta erecta, Hordeum murinum, Bromus diandrus*)

Possible control methods for these species include hand-pulling prior to seed dispersal, weed-eating of the seeding annual grasses before viability, and possible herbicide use in areas with no other native species (ie. street curbs). Hand-pulling from March to May is most efficient while the ground is soft and the seed is pliable, when the whole plant uproots easily. All weeds shall be bagged and counted, and disposed of off-site.

D. Sand Stabilization

If needed, bare sand areas will be stabilized with clean wheat or rice straw to allow seedlings to establish with a minimum of shifting sands. Hand-sized bunches of straw measuring 8-10 inches long can be "planted" perpendicularly 4 inches deep into the sand on 12-18 inch centers to stabilize the sand, and provide seedlings valuable protection from wind and sand scour.

For bare, steep slopes or narrow corridors, jute may be installed for erosion control using standard methods. In broad, barren areas (blowouts), 4 ft high "drift" fencing of lath and wire can be installed in staggered 25 ft. segments to slow the wind and promote sand accretion, creating dune mounds that can later be straw plugged and planted. Drift fencing should be lifted or removed within 2 years.

Open sandy areas near endangered Tidestrom's lupine population clusters should not be stabilized with straw due to the possibility of dormant plants lying just beneath the sand (August-December). In these sensitive species areas, bare sand can be stabilized by augmenting existing native vegetation clusters with beach sagewort (*Artemisia pcynocephala*) and dune bluegrass (*Poa douglasii*) to create wind-buffering "vegetation islands". These natural wind breaks exist already in the North Dunes and can be expanded to naturally stabilize the barren areas, allowing open spaces for Tidestrom's lupine to colonize.

E. Plant Propagation and Installation

Bare sand created by human disturbance and non-native plant removal will be planted with native dune species to stabilize the sand and create a diverse, sustainable dune scrub habitat that supports wildlife and sensitive species (Tidestrom's lupine and Black legless lizard). Native seedlings will be planted according to Table 3. The volleyball courts and viewing areas along the court sidelines, and the designated trails through the dunes will remain unplanted.

Table 3. Proposed Native Plant List for North Dunes, Carmel (2016)

Scientific name	Common name	Quantity	Location
Abronia latifolia	Yellow sand Verbena	100	open sand
Abronia umbellata	Pink sand Verbena	100	open sand
Abronia subspecies	White sand verbena	50	open sand
Ambrosia chamissonis	Beach bur	100	All areas
Armeria maritima	Sea Thrift	200	open sand

Scientific name	Common name	Quantity	Location
Artemisia pycnocephala	Dune sagewort	600	All areas
Camissonia cheiranthifolia	Beach primrose	300	All areas
*Calystegia soldanella**	Beach morning glory	100	Slopes
Carex pansa	Dune sedge	300	Low moist areas
*Castilleja latifolia**	Seaside painted cup	100	mid-rear dunes
*Corethrogyne filaginifolia**	California beach aster	200	Slopes
Croton californica	Croton	50	open sand
Dudleya caespitosa	Bluff lettuce	100	mid-rear dune
Ericameria ericoides	Mock heather	300	mid-rear dune
Erigeron glaucus	seaside daisy	400	mid-rear dune
Eriogonum parvifolium	Dune buckwheat	500	mid-rear dune
*Eriophyllum staechadifolium**	Lizardtail	400	mid-rear dune
*Eschscholtzia cal. var. maritima**	CA. beach poppy	200	mid-rear dune
Leymus mollis	American dune grass	100	open sand
Leymus triticoides	Creeping wild rye	50	drainage areas
Lotus scoparius	Deerweed	25	mid-rear dune
Lupinus arboreus	Yellow bush lupine	100	mid-rear dune
*Lupinus tidestromii**	Tidestrom's lupine	200	open sand
Phacelia ramossisima	Branching phacelia	25	mid-rear dune
Poa douglasii	Dune bluegrass	400	open sand
TOTAL PLANTS		**5000**	

* permit needed - Year Two

**species not present onsite, but occurs <3 miles away at Carmel River Beach

Collection & Propagation

The plants installed for this project shall be grown using native seed, rhizomes or transplants collected from onsite or Carmel/ Pebble Beach areas, preferably within 3 miles. Seedling containers should be 6" supercells for well-rooted plant material, or 4 inch containers for rushes/sedges. A 4:1 planting mixture of propagation soil : site specific sand is recommended for beneficial mycorrhizae, blended with ¼ strength Osmacote fertilizer (14:14:14).

Plant Installation

Plantings shall occur between November and March 1 to take advantage of seasonal rainfall and cool temperatures. For optimal survival, plant material should be installed after 2-3 inches of rainfall, with more rain expected. Plant material should be healthy, vigorous and well-saturated at planting.

Placement for planting should be done by a habitat biologist familiar with dune ecology and dune plant species. Considering the different micro-habitats in the project area, the plants should be laid out in a natural pattern, working within and around the existing native plant clusters to expand already established clusters of native vegetation. The more resilient dune species (Artemisia pcynocephala, beach sagewort) shall be used in open sand areas and to repair uncontrolled pathways.

If necessary, dead ice plant mats should be cleared, or holes dug, to open the surface for planting. Create a 12" diameter basin around each plant for optimal retention of rainfall. Hand watering may be necessary at planting or during winter dry spells of greater than 3 weeks. Any watering should provide at least ¼ gallon to deeply water the entire root zone of each plant.

Irrigation if Needed

Temporary, above-ground irrigation lines may be necessary, but are NOT recommended due to weed and gopher invasion, unless drought years resume. If an irrigation system is installed, the schedule should be 3x/week during spring (if needed), once/ week during June and once/month July-September for the first six months after planting only.

F. Endangered Species Management

Tidestrom's Lupine: The goal is to protect and establish thriving new pockets of Tidestrom's lupine in the dunes to increase stability and long-term survival for the federally endangered population. The Tidestrom's lupine currently grows in relatively open sand areas associated with Abronia umbellata, Leymus mollis, and Poa douglasii, and primarily with other individuals of Tidestrom's lupine. In April 1995, biologists from Jones & Stokes mapped four Tidestrom's lupine locations in North Dunes and a total of 280 individuals. In May 2008, Jean Ferreira mapped the same locations with 340 individuals (216 reproductive, 124 juvenile). May 2016 surveys in the same areas counted 481 individuals (318 reproductive, 163 juveniles - J. Canepa). The Carmel North Dunes population cluster of this Federal and State listed species may be the most southern of the Tidestrom's lupine populations.

See Figure 1- Map of Sensitive Species in the North Dunes

To achieve a stable population that can survive routine fluctuations in the dune environment, both natural and man-made, at least ten locations should be scattered throughout the North Dunes with each location supporting at least 100 plants. Collection of seed for propagation of the Tidestrom's lupine shall be limited to the population on the North Dunes. Due to the small size of the population and limited seed available, collection should take <1% of the available seed and no more than 50-100 seeds per year from a variety of Tidestrom's individuals. Seed clusters may need to be lightly buried (or bagged) to prevent herbivory of the pods.

Lupines are easily grown from seed that have been collected when ripe, lightly scarified and sown in a well drained planting mix. Propagation in 6" cells will encourage a healthy tap root. Follow plant installation methods mentioned in section **E. Plant Propagation and Installation.** New areas for Tidestroms's population expansion shall be designated in Year Two after consultation with CA. Department of Fish and Game and once the required permits have been approved.

Lupinus chamissonis, silver beach lupine, is a native lupine found in the Monterey Dunes Complex and a popular landscape plant in many areas of the Monterey Peninsula. A hybrid species ***Lupinus chamissonis x Lupinus tidestromii*** has been reported in several local areas (Asilomar, Spanish Bay), and most recently in Carmel. The hybridization of *Lupinus chamissonis* with the Federal and State listed *Lupinus tidestromii* in the North Dunes introduces a new threat to the survival of the 4 or 5 known populations of Tidestrom's lupine, in addition to threats from development, trampling and competition from non-native species.

A morphological test key developed by local Botanist Vern Yadon can assist in determining the difference between the pure Tidestrom's lupine and the hybrid plants. This key was confirmed accurate through collection of genetic material at Asilomar and genetic testing by Dr.'s Eleanor Pardini and Tiffany Knight of Washington University in Saint Louis Missouri. The hybrid lupines were vigorous, evergreen, and more upright than the typically prostrate and winter deciduous perennial Tidestrom's lupine. They are most easily spotted in the late fall and early winter when the pure species is usually dormant (pictures below are courtesy of Pat Regan).

Typical Form of *Lupinus tidestromii*

Hybrid cross – Lupinus tidestromii x Lupinus chamissonis

At least once a year in the late fall/ winter a qualified biologist with experience identifying both pure and hybrid lupine species shall survey the lupine population at the North Dunes of Carmel. Utilizing Yadon's morphological key, any suspected hybrid lupines should be identified and confirmed. Those hybrids that are visually confirmed shall be pulled and removed from the site before flowering.

The Tidestrom's lupine population on the North Dunes has increased gradually since 1995, but is still negatively impacted by human and pet trampling. Fencing the plant locations will likely be necessary to protect the endangered species from disturbance, especially near the volleyball courts. However, if the central proposed pathway system is approved, and hikers are respectful of the dunes and stay on designated trails, fencing of the lupine may not be needed. The annual monitoring report for the lupine population will consider fencing, weighing disturbance levels and successful establishment of other native species that may help protect the Tidestrom's lupine clusters. A plastic coated cable and steel eye rod fence would create minimal visual impact and sufficient to alert visitors to avoid the area.

Black Legless Lizard: The restoration planting methods described previously will restore diverse dune scrub habitat to the bare sand areas of the North Dunes and where non-native plants are removed. The following dune species are part of the planting palette, *Ericameria ericoides, Eriogonum parvifolium, Lotus scoparius, Lupinus arboreus*, and *Phacelia ramosissima*, and provide especially good habitat for legless lizards due to the size and shade of their canopy, and the large amount of annual leaf litter that collects under the shrubs. The litter attracts insects which the legless lizards feed upon.

Labor crews and volunteers shall receive an introduction prior to work that describes appropriate actions to avoid impacts to Black legless lizards and if found, the method to return them safely to the sand underneath adjacent vegetation. Photos of the legless lizard and Tidestrom's lupine plants (mature/ juvenile/ cotyledons) will be introduced with a brief discussion of their natural history and the goals of the restoration program to protect, enhance, and expand the habitat for the two sensitive species.

G. Tree Management and Removal

To ensure a successful dune restoration project at the North Dunes, tree removal and management guidelines are critically important to further the goal of enhancing and ensuring sustainability of the coastal dune scrub vegetation and environmentally sensitive habitat areas (ESHA). There is certainly common ground in removing aggressively invasive species like *Acacia longifolia*, as well as dead, dying, and dangerous trees. A one for one tree replacement policy for dead/dying/dangerous trees in the northern 2/3rd (top) of the North Dunes project area is not conducive to successful habitat restoration of the ESHA.

Acacia has significantly altered sand movement and natural accretion in the North Dunes area, and similar impacts have been noted (as evidence for removal) in many other projects. Acacia removal on the steep upper beach slope is not recommended because of the possibility of accelerating beach and slope erosion. However, all other acacia trees and shrubs on the North Dunes should be cut, treated,

and hauled out as soon as possible. Acacia along the bluff edge should be trimmed back as far as possible, to reduce seed production and further spread.

Planted cypress trees in areas of pristine white sands within 50 feet of Tidestrom's lupine plants or potential (pristine) Tidestrom's habitat should be removed. While Monterey Cypress is a native species, it was not native to the North Dunes site and has significantly impacted the sandy substrate and shaded out native species germination.

Whether dune scrub species can be revegetated successfully in areas of cypress trees removal is unknown, but could be tested after selected (or complete) removal of dead/ dying/ dangerous Cypress trees. The fibrous roots of cypress trees spread their influence through much of the ESHA and may continue to impact native germination even after removal, in the dry, nutrient poor sands of the North Dunes. We could move forward with beautifying the weedy, degraded areas in the North Dunes, while researching what can be grown under acacias and dead/ dying dangerous trees that have been removed.
Tree removal activities need to be carefully managed to avoid negative impacts to the sands and other species that lay in the haul-out path, so timing and removal methods must be carefully engineered and managed, as well as monitored at all times.

H. Signage

Signage shall be installed to alert the public of restoration efforts and guide pedestrians to appropriate pathways through the fragile dune habitat. The North Dunes are a unique remnant dune, and the use of interpretive panels can greatly enhance resident and visitor appreciation by sharing the natural and cultural history of the dune area.

Habitat protection signs should be judiciously placed near entry areas and large planting areas, to prevent trespass in fragile areas. The signs are intended to educate the public and prevent or reduce human disturbance of the restoration area. Habitat signs shall be installed on presuure treated four x four posts secured in the sand with a top height of five feet. Each 18"W x 12"H aluminum sign will be labeled as follows to mimic existing dune restoration signage found at other locations on City property:

DUNE RESTORATION
Fragile Area
No Entry

The following list contains some broad ideas for interpretive panels. Many additional ideas can be generated from each theme.

- Fragile dune scrub habitat: the flora, fauna, geology, endangered species present
- Human history of Carmel Beach and the dunes: Bath House, military, century of recreation, famous artists of Carmel at beach gatherings
- Ocean habitat of Carmel Bay: the fish, mammal, birds, invertebrates, seaweeds
- Ocean tides, currents, and how they shape the summer and winter beach
- The Monterey cypress as the 'sentinel' of Carmel Beach. Its natural distribution, planting history in Carmel, world-wide popularity as a landscape tree, life span
- Restoration of the dune scrub habitat of Carmel, how, why, and how you can help
- Geography of the area: all landmarks you can see from the dunes or beach

III. SUCCESS CRITERIA

All restoration and maintenance efforts are designed and implemented to create a high quality dune habitat that is self-sustaining in perpetuity. Success criteria will be met when the number of native dune species in the project area is restored to a minimum of 30 species and 50% average native plant cover within 5 years. The average cover of aggressive, non-native species will be reduced to no more than 10% within 5 years. The number of non-native species shall be reduced by at least half, from 30 species to <15 species (landscaping plants near houses removed).

The special status population of Tidestrom's lupine shall total 1000+ individuals, with at least ten locations scattered throughout the North Dunes, each supporting a minimum of 100 plants.

IV. MONITORING

Monitoring of the restoration area will be conducted for 5 years to evaluate the presence of special status species, species diversity, percent cover, and number of native and non-native species. The health and vigor of planted seedlings, past plantings, and natural recruitment of seedlings from seed dispersal will be assessed. Sand stability, erosion, trampled areas, and fencing or boardwalk issues will be noted. Monitoring shall be conducted in late spring, when flowering or seed set can help determine vigor and reproductive ability of the plants.

Quantitative data will be collected within the project area to measure the progress of the restoration efforts. The Project Biologist will establish two (30 m) permanent transects per restoration acre (14-16 transects, 7-8 acre site). Data will be recorded from $1m^2$ quadrats placed every 3 m along the transect line (10 quadrats/ transect). All species within the plot will be recorded, and percent cover assigned, to calculate average native vs. non-native cover by transect and for the entire restoration area. Transects will be located outside of common use areas, permanently staked, mapped and photo-documented.

The number of native and non-native species (species diversity or richness) will be taken from transect data combined with a complete site survey to note any new species (native or non-native) and determine progress towards the diversity goal of >30 native species.

Survival or mortality of planted seedlings shall be assessed monthly through July.
Replanting shall occur the following winter in any planted area with bare areas >1m².
Mortality >10 plants should include possible reasons, ie. gophers, desiccation, trampling.
Excess herbivory may indicate that rodent or other chemical control is needed.

If straw stabilization methods, jute netting, or drift fencing is installed, efficacy of the method and any need for maintenance should be assessed during the annual monitoring surveys.
Any irrigation system should be assessed at least monthly during the watering periods.

Endangered species monitoring

To insure the long-term protection of the special status species, on-going monitoring of the populations shall be implemented for Tidestrom's lupine and Black legless lizard.

Tidestrom's lupine should be monitored annually by a qualified biologist. The information collected each year in May should include:

- Direct count of individuals, noting number of mature blooming plants, and number of non-blooming seedlings. These numbers should be compared with previous surveys to determine whether the population is stable, increasing, or declining.
- Note any impact from human use of the dunes. Consider fencing as a protective measure.
- Note any impact from herbivory, especially seed predation. Consider caging of plants if plant numbers decline > 10% any year.
- Note encroachment from non-native species and schedule weed control, tree maintenance or removal.
- Map locations in North Dunes, analyze reasons for any changes from previous years.
- Submit annual data to CA Department of Fish & Game, CA. Natural Diversity Data Base.

Black Legless Lizards

It is difficult to assess black legless lizard population size or stability. Restoration efforts are designed to create and improve quality dune scrub habitat suitable for the threatened black legless lizard and endangered Tidestrom's lupine. Since the North Dunes will be preserved in perpetuity, there are no foreseeable negative impacts for the black legless lizard population other than careless weed or tree removal, which shall be carefully managed and supervised during restoration implementation.

During Year One (baseline), and every 5 years thereafter, a survey for lizard presence/absence should be undertaken by a qualified biologist to confirm the continued presence of the lizards; mapping location and noting plant species for all occurrences.
As more information is developed for the species, including what constitutes a viable population, and established methods to estimate population size and stability, these endeavors should be undertaken.

V. REPORTS

In September of each year for a total of five years, the Project Biologist shall submit an annual monitoring report containing observations and analysis from the previous year to the City of Carmel Planning Department, California Department of Fish and Wildlife and the California Coastal Commission. Monitoring reports shall include methods, results, analysis, photo documentation, and a discussion of the results relative to success criteria. Recommended remedial measures should be described, if necessary.

VI. MAINTENANCE

Timely follow-up maintenance is critical for success with any dunes restoration project. At least quarterly inspections of the treatment areas are needed to identify any problems and schedule maintenance. Maintenance activities may include but are not limited to:

- Repair or replace cable fencing or boardwalk as needed.
- Remove aggressive non-native plants on the project site, including live sprigs of iceplant.
- Replant vegetation if necessary until the site is stabilized. Plant during winter months only.
- Add organic fertilizer around plantings that have not shown typical growth.
- If irrigation system is used-repair or adjust system and schedule as needed. Inspect the irrigation system during a watering cycle to detect any leaks or malfunctions.
- Evaluate emitter placement and adequacy of the sphere of water delivered to each plant.
- Add fencing around any Tidestrom's lupine locations that are being impacted by foot traffic.
- Consider caging of Tidestrom's lupine, if animal browse is heavy,.
- Re-apply straw planting in areas of new sand deposition or disturbed areas.
- Replace jute netting or stakes if used.
- Add segments of drift fencing to break up strong wind patterns.
- Address issues identified during monitoring that are necessary to meet success criteria.

North Dunes Update

From 2012-2014, the Carmel-by-the-Sea Garden Club successfully restored native dune species on 20,000 SF at the corner of San Antonio and Ocean Avenues in the North Dunes. Called the Centennial Tree Project, the Garden Club secured a coastal development permit with the support of the City, and raised funds to complete the project. Cable fencing was installed to protect the planting of 1200 site-specific, native dune seedlings. These seedlings established very well, and now provide a colorful panorama of blooming natives during spring and summer, maturing to produce ample seed in the fall and continue the process year after year. The Garden Club completed The Centennial Tree Project by installing sitting benches and interpretive signage. The members continue to voluntarily maintain their re-vegetated corner in a weed-free condition.

Additional grant funding from the city continued the momentum by providing two more sections of protective fencing and weed control by a crew during 2013-2014. Over the years, student and adult volunteers have pulled hundreds of cubic yards of iceplant from the North Dunes area. Carefully supervised volunteer activities require planning and management in the ESHA areas, but are key to successful restoration efforts.

Table 1. Native Plant Species of North Dunes, Carmel, California.

Initial Survey Date: May 13, 2008 (J. Ferreira)
Updated Survey: May 10, 2016 (J. Canepa)

Family	Species	Common Name
Asteraceae (Sunflower)	*Artemesia pynocephala*	Beach Sagewort
	Baccharis pilularis ss. consanguinea	Coyote Bush
	Ericameria ericoides	Mock Heather
Brassicaceae (Mustard)	**Cakile maritima*	Sea Rocket
Cucurbitaceae (Gourd)	*Marah fabaceus*	Wild cucumber
Cupressaceae	*Cupressus macrocarpa (native, but not to site)*	Monterey Cypress
Cyperaceae (Sedge)	*Carex pansa*	Dune sedge
Dennstaedtiaceae (Bracken)	*Pteridium aquilinum*	Bracken fern
Euphorbiaceae (Spurge)	*Croton californicus*	Croton
Fabaceae (Pea)	*Lotus scoparius*	Deerweed
	Lupinus arboreus	Bush lupine
	*Lupinus tidestromii***	Tidestrom's lupine***
REMOVE FROM SITE	*L. chamissonis (native/hybridizes w/ L. tidestromii)*	Silver beach lupine
REMOVE FROM SITE	*L. chamissonis x L. tidestromii*	Hybrid
Fagaceae (Oak)	*Quercus agrifolia*	Coast live oak
Hydrophyllaceae (Waterleaf)	*Phacelia ramosissima*	Branching phacelia
Juncaceae (Rush)	*Juncus effusus var. brunneus*	Common rush
Nyctaginaceae (Four O'Clock)	*Abronia latifolia*	Yellow sand verbena
	Abronia umbellata	Pink Sand Verbena
	Abronia latifolia X umbellata (hybrid)	White Sand Verbena
Onagraceae (Evening Primrose)	*Camissonia cheiranthifolia*	Beach Evening Primrose
Pinaceae	*Pinus radiata*	Monterey Pine
Polygonaceae (Knotweed)	*Erigonum parvifolium*	Dune Buckwheat
Poaceae (Grass)	*Distichlis spicata*	Salt grass
	Leymus mollis	Dune grass
	Leymus triticoides (ID'd in 2016)	Creeping wild rye
	Poa douglasii	Dune blue grass
Rosaceae (Rose)	*Rubus ursinus*	CA blackberry

*non-native, non-invasive, helpful pioneer plant in barren areas

**special status species

Table 2. Non-Native Plant Species of North Dunes, Carmel, California

Initial Survey Date: May 13, 2008 (J. Ferreira)
Updated Survey: May 10, 2016 (J. Canepa)

Family	Species	Common Name
Aizoaceae (Iceplant)	*Carpotbrotus edulis*	Hottentot Fig
	Conicosia pugioniformis	Conicosia
Asteraceae (Sunflower)	*Sonchus oleraceus*	Sow Thistle
Fabaceae (Pea)	*Acacia longifolia*	Sydney golden wattle
	Genista monspessulana	French broom
Malvaceae (Mallow)	*Malva parviflora*	Cheeseweed
Oxalidaceae (Oxalis)	*Oxalis pes-caprae*	Bermuda buttercup
Polygonaceae (Knotweed)	*Rumex acetosella*	Sheep sorrel
Poaceae (Grass)	*Avena fatua*	Wild oat
	Briza major	Rattlesnake grass
	Bromus diandrus	Rip-gut grass
	Ehrharta erecta	Veldt grass
	Hordeum jubatum	Foxtail barley
	Vulpia myuros	Rattail fescue
Solanaceae	*Solanum nigrum*	Black nightshade

Horticultural species planted on North Dunes by Sand and Sea homeowners

Austrialian Tea Tree
Flowering plum
Broom
Pride of Madera
Agave
Aloe
Allium
Nasturtium
Rosemary
Honeysuckle
Fountain Grass
Bermuda grass

Table 3. Proposed Native Plant List for North Dunes, Carmel (2016)

Scientific name	Common name	Quantity	Location
Abronia latifolia	Yellow sand Verbena	100	open sand
Abronia umbellata	Pink sand Verbena	100	open sand
Abronia subspecies	White sand verbena	50	open sand
Ambrosia chamissonis	Beach bur	100	All areas
Armeria maritima	Sea Thrift	200	open sand
Artemisia pycnocephala	Dune sagewort	600	All areas
Camissonia cheiranthifolia	Beach primrose	300	All areas
*Calystegia soldanella**	Beach morning glory	100	Slopes
Carex pansa	Dune sedge	300	Low moist areas
*Castilleja latifolia**	Seaside painted cup	100	mid-rear dunes
*Corethrogyne filaginifolia**	California beach aster	200	Slopes
Croton californica	Croton	50	open sand
Dudleya caespitosa	Bluff lettuce	100	mid-rear dune
Ericameria ericoides	Mock heather	300	mid-rear dune
Erigeron glaucus	seaside daisy	400	mid-rear dune
Eriogonum parvifolium	Dune buckwheat	500	mid-rear dune
*Eriophyllum staechadifolium**	Lizardtail	400	mid-rear dune
*Eschscholtzia cal. var. maritima**	CA. beach poppy	200	mid-rear dune
Leymus mollis	American dune grass	100	open sand
Leymus triticoides	Creeping wild rye	50	drainage areas
Lotus scoparius	Deerweed	25	mid-rear dune
Lupinus arboreus	Yellow bush lupine	100	mid-rear dune
*Lupinus tidestromii**	Tidestrom's lupine	200	open sand
Phacelia ramossisima	Branching phacelia	25	mid-rear dune
Poa douglasii	Dune bluegrass	400	open sand
TOTAL PLANTS		**5000**	

* permit needed - Year Two

**species not present onsite, but occurs <3 miles away at Carmel River Beach

North Dunes Habitat Restoration Project, Carmel By The Sea

(North Dunes Del Mar Dunes Habitat Restoration Plan, Ferreira, 2009)

Tasks	Deliverables	Potential Impacts	Schedule
	Success Criteria	**Solution(s) for Impact**	
Restoration Plan/Coastal Development Permit	**Restoration Plan/Development Permit**		
Summarize & Update 2009 Restoration Plan	Restoration Plan Summary/ Work Plan Matrix		Jul 2016
Prepare/Submit Coastal Development Permit to C.Commission	CD Permit		Jul/Aug 2016
Create/Update Implementation Schedule & Phasing Maps	Schedule/Maps (Aug 2016 & annually in June)	**Impact:** Restoration activities may impact ESHA	June (5 years)
Create Tree Removal Schedule/Map (*separate CDPermit*)	Schedule/Map (Sep 2016 & annually in Aug)	**Solution:** Schedule tasks for dormant, less active periods	Aug (5 years)
Approval/ Coordination - City/Fed/State Agencies	Approved CDPermit (CCComm, USFW, CADFG)		Year 1
Project management	**Project management**		
Planning/ Adaptive Management	Quarterly staff meetings		quarterly
	Annual Report (monitoring, recommendations)		Sept 30 (5 years)
Update Biological Assessments	Progress Report (Annual surveys/ activities)		Sept 30 (5 years)
Coordination with contractors	Contractor/ Labor Crew/Volunteer		as needed
Supervision of Labor Crews/ Volunteer projects	Training & Guidelines for working in ESHA		as needed
Boardwalk/ Fencing/ Stabilize Sand	**Boardwalk/ Fencing/ Stabilize Sand**	**Boardwalk/ Fencing/ Stabilize Sand**	
North Dunes Boardwalk & viewing platform	completed		2011
Cabling of Dune Habitat (San Antonio, Ocean Ave)	completed	**Impact:** Minimal, localized ground disturbance	Feb 2012 & 2013
Re-Cable Special Status Species Area (Tidestrom's lupine)	Fencing completed/accurate plant ID signage	in ESHA, possibly affecting dune scrub species	Oct/Nov 2016
Cable Phased Treatment Areas	Fencing completed w/do not disturb signage	and endangered Tidestrom's lupine.	Years 1-3
Annual Maintenance: boardwalk, cabling	No hazards or transgression areas	**Solution:** Install/repair cabling during	Oct-Nov
Stabilize sand with straw plugs/ jute netting as needed.	Moving sand controlled in bare sand areas.	dormancy period for native spp. (Oct-Nov)	Oct-Nov
Weed Control Plan	**Weed control Plan**	**Impact:** Disturbance to native germ (Dec-Feb)	
Stage control efforts by prioritizing weed areas	Phased Weed Control Maps	BL Lizard, SB Butterfly larval stages	Aug 2016
Weed prescribed areas to increase native spp. diversity/cover	Non-native cover reduced to <5% (5 years)	**Solution:** Weed between Feb-May	annually Feb-Apr
Remove annual weeds from site immediately	Increase in native cover & diversity	when native seedlings > 2-4 in. diam.	
Run Native Seedling Recruitment Trials in cleared areas	Measurable difference in native recruitment	and weeds have not dispersed seed	Jan Feb
Annual Weed Maintenance Program	Non-native cover reduced to <5% (5 years)	Train/Supervise weeders to ID: BL Lizard/SBB larvae	annually Feb-Apr
Plant Establishment	**Plant Establishment**	**Plant Establishment**	
Seed Collection	Total 4000-5000 seedlings/ transplants		Jun-Sept
Propagation	Years 1-3 (1000 per year)		Aug-Sept
Seed Broadcast	Years 4-5 (500 per year)		Nov-Jan
Transplant, Plant Propagated Seedlings			Jan-Feb

North Dunes Habitat Restoration Project, Carmel By The Sea

(North Dunes Del Mar Dunes Habitat Restoration Plan, Ferreira, 2009)

Tasks	Deliverables	Potential Impacts	Schedule
	Success Criteria	**Solution(s) for Impact**	
Endangered Species Mngmnt			
Permit for Tidestroms Lupine (LUTI) seed collection/ planting	Permit Application&Approval-LUTI (CADFG)	**Impact:** Disturbance to native germination	Year One
Fencing	Tidestrom's Fencing Installed	(Dec-Jan), BLLizard, SBButterfly larval stages	Oct/Nov 2016
Identify/Remove Lupine hybrids & Lupinus chamissonis	Reduced # of hybrids within 3 yrs (2020)	**Solution:** Weed between Feb-May	annually Feb-Mar
Plant Tidestrom's Lupine	300-500 LUTI Seedlings Planted	when native seedlings > 2-4 in. diam.	Jan-Feb
Annual Tidestroms Lupine surveys	10 populations of >100 LUTI each by 2021	and weeds have not dispersed seed	annually Mar-May
Black legless lizard sitings & informal assessment	Increase in recorded occurrences of BLL	Train/Supervise weeders to ID: BL Lizard/SBB larvae	ongoing
Monitoring			
Baseline assessments- Phased treatment areas	Annual Report (Sep- 5 years) to:		Years 1-5
Assess Establishment of new seedlings, seed dispersal	City of Carmel		Years 1-5
Other Impacts (Erosion, critters, trampling)	Coastal Commision		Years 1-5
Survey Tidestrom's lupine	USFW. CADFG		Years 1-5
Black legless lizard sitings & informal assessment			Years 1-5
Volunteer Participation		**Impact:** Possible Disturbance to native	
Carmel by the Sea Garden Club	Labor Crew/Volunteer Guidelines for ESHA	germination & ESHA, BLLizard	
MeEarth		**Solution:** Weed between Feb-May	
Carmel High School	# of weed bags/ iceplant piles removed	when native seedlings > 2-4 in. diam.	
Beach Garden Project	# of volunteers/ hours- annual report	and weeds have not dispersed seed	
		Train/Supervise weeders to ID: BL Lizard/SBB larvae	
Interpretive Signage	Panels/ Signs Installed		
Public Education	Species ID signs along walkways		Years 1-5
	Well-sited, accurate signage		
Other Public Relations media	Newspaper articles		Years 1-5
Tree Removal		**Impact:** Disturbance to native germination	
Assess ESHA encroachment by non-native trees		ESHA, BL Lizard, Birds	Year 1
Create phased removal plan		**Impact:** Soils/vegetation/BLLizard, birds	Year 1
Removal		Changes in sun and wind exposure	Years 2-5
Maintenance		**Solution:** Tree Removal between Oct-Nov	ongoing

CITY OF CARMEL-BY-THE-SEA

AGENDA BILL

AB 1037
November 2, 2015
Consent Calendar

TO:	Honorable Mayor and Members of the City Council Douglas J. Schmitz, City Administrator
FROM:	Leslie Fenton, Executive Assistant
SUBJECT:	Receive a report on the North Dunesand Del Mar Dunes Habitat Restoration Plan, subsequent revisions to that plan, and prior Commission and Council actions with regards to the North Dunes and Del Mar Dunes.

AMOUNT OF EXPENDITURE	$ 0
AMOUNT BUDGETED	$ 0
APPROPRIATION REQUIRED	$ 0

RECOMMENDATION

Receive report.

SUMMARY

In July 2008 Botanist Jean Ferreira wrote the "North Dunes & Del Mar Dunes Habitat Restoration Plan", which recommended that the City "Identify Monterey Cypress landscaping areas in North dunes that will be maintained as historical landscaping. Remove all other non-native trees in the dunes with exception of one landmark sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave" and that "Those individual trees planted away from Ocean Ave, more in the central portion of the North Dunes should be removed and the area restored to the native dune scrub. The Monterey pine trees planted at the very north end of North Dunes should also be removed and dune scrub restored to the area."

On 29 July 2008 a public workshop was held and the public comments included recommending replanting more Cypress, leaving or cutting dead Cypress all the way down, and removing baby Cypress and pines in north dunes area, and not replacing dead trees. The Forest and Beach Commission discussed the item at their September 2008 meeting and came to the consensus that it "is not opposed to tree removal but are of the opinion that tree removal should be evaluated in each area and should be the last phase in any program that is adopted." The Planning Commission reviewed the document at their 8 October 2008 meeting and made several recommendations to be incorporated into the plan, one of them being that the plan no longer call for the removal of existing trees in the dunes.

In April 2009 Botanist Jean Ferreira submitted a revised "North Dunes & Del Mar Dunes Habitat Restoration Plan." The revised report recommended that the City "Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping including the one

landmark-sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave", and that "Those individual trees planted away from Ocean Ave, more in the central portion of the North Dunes and the Monterey Pines planted at the very north end of the dunes should not be replaced if removed due to disease or death and the area restored to the native dune scrub. Mature cypress and pines should be removed after they died or decline to the point they are no longer esthetic or safe."

At the 8 April 2009 Planning Commission meeting Commission members discussed the revised "North Dunes & Del Mar Dunes Habitat Restoration Plan." The Planning Commission requested two revisions to the plan involving pathways and boardwalks and the project was continued to the May 2009 meeting. At the 20 May 2009 Special meeting the Planning Commission again reviewed the plan and the changes made throughout and recommended that the City Council adopt the plan and the Mitigated Negative Declaration by a unanimous vote.

At the 2 June 2009 City Council meeting Council approved Resolution No. 2009-39 adopting the Del Mar Master Plan, A Mitigated Negative Declaration and a Mitigation and Monitoring Plan.

It should be noted that The General Plan/Coastal Land Use Plan Adopted June 3, 2003 states "P5-25 Continue the use of Monterey Cypress as the predominant tree species on the beach bluff and North Dunes. The exact number of trees may vary over time, but whenever a tree dies or is lost during a storm, replacement trees should be planted in approximately the same location. Maintain a low-to-medium density of trees (40 to 60 trees) in the North Dunes. (LUP)"

In May 2014, a Planning Commission ad-hoc subcommittee was formed to study the issue of the North Dunes restoration, including consideration for the removal of non-native vegetation and trees. On 30 September 2015, a public workshop was held and was attended by Ms. Joey Canepa, who is the botanist that will be assisting the City with future dune restoration efforts. At the workshop it was noted that future efforts to restore the North Dunes by removing non-native vegetation would require the issuance of a Coastal Development Permit. Any tree removal is required to be consistent with the policies of the General Plan and North Dunes Restoration Plan, and should be done with a phased approach.

PRIOR CITY COUNCIL ACTION

The City Council adopted the Del Mar Master Plan 2 June 2009.

ATTACHMENTS

N/A

APPROVED:

_____ **Date:** _____

Douglas J. Schmitz, City Administrator

NORTH DUNE CHRONOLOGY

July 15, 2008	North Dunes & Del Mar Dunes Habitat Restoration Plan written by Jean Ferreira, Botanist. States *"Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping. Remove all other non-native trees in the dunes with exception of one landmark sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave."*
July 29, 2008	Public workshop held, public participation
September 4, 2008	Forest & Beach Commission reviewed biologists report. "Is not opposed to tree removal but are of the opinion that tree removal should be evaluated in each area and should be the last phase in any program that is adopted."
October 8, 2008	Planning Commission reviewed biological survey. Commission only provided guidance on the report.
April 1, 2009	North Dunes & Del Mar Dunes Habitat Restoration Plan written by Jean Ferreira. States "Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping including the one landmark-sized Eucalyptus tree at the corner of Ocean and N. san Antonio Ave."
April 8, 2009	Planning Commission reviewed the plan with the recommendations made at the October 8, 2008 Planning Commission meeting. One of these recommendations was "the plan no longer calls for the removal of existing trees in the dunes." Commission provided direction and continued to May meeting.
May 20, 2009	Planning Commission. Reviewed additional revisions to Del Mar Master Plan. Recommended adoption of the plan and the Mitigated Negative Declaration to the City Council.
June 2009	Approved by City Council

The General Plan/Coastal Land Use Plan Adopted June 3, 2003

P5-25 Continue the use of Monterey Cypress as the predominant tree species on the beach bluff and North Dunes. The exact number of trees may vary over time, but whenever a tree dies or is lost during a storm, replacement trees should be planted in approximately the same location. Maintain a low-to-medium density of trees (40 to 60 trees) in the North Dunes. (LUP)

Botanical Consulting Services

North Dunes & Del Mar Dunes Habitat Restoration Plan

City of Carmel-by-the-Sea

Written for:
Mr. Sean Conroy
Senior Planner

Written By:
Jean Ferreira
Botanist

July 15, 2008

pobox 5506, carmel, ca 93921 • p & f: 831-626-3814

Dune Restoration & Management Program

THE MISSION of this restoration & management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes.

THE OBJECTIVES are to eliminate all aggressive non-native species, restore the native dune scrub, expand the population of Tidestrom's lupine, and the quantity and quality of available habitat for Black Legless Lizards, establish a trail system to provide safe visitor access without compromising the health of the dune habitat and provide interpretation of the North Dunes, Del Mar Dunes and Carmel Beach to enhance the visitors experience and knowledge of the Carmel dunes.

THE SPECIFIC GOALS to achieve these objectives are outlined below and described further in the following sections of this plan.

1. Providing protection for existing populations of the special status species during the implementation of this plan and for management of the populations in perpetuity.

2. Elimination of all aggressive exotic species on the dunes. The two species with the greatest cover and opportunity for restoration are iceplant and Sydney golden wattle. The weedy components of the dune scrub adjacent to the roads and restroom will also be addressed.

3. Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping. Remove all other non-native trees in the dunes with exception of one landmark sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave.

4. Stabilize drifting sand in areas to be planted with straw or jute.

5. Plant and seed native dune plants in areas of bare sand or where exotics were removed.

6. Use only local plant sources for the revegetation. Seeds and plants shall be propagated from plant material collections within two miles of the site.

7. Establish thriving new stands of Tidestrom's lupine in the dunes to add stability and long-term survival to the population.

8. Improve the quality of habitat for the black legless lizard by establishing large stands of native dune scrub, and creating a habitat corridor between North Dunes and Del Mar Dunes.

9. Establish short (5-year) and long range (on-going) monitoring program for the special status species and dune scrub.

10. Establish a maintenance program to follow-up on the exotic plant control, sand stabilization and respond to all needed actions noted during monitoring.

11. Provide safe pedestrian access to the dunes, minimizing impact to the dune habitat. Con-

F+B Commission
Sept. 2, 2008

VII. ORDERS OF BUSINESS

1. Discussion and direction regarding development of a management plan for the Del Mar/North Dunes area of Carmel Beach.

Mike Branson, City Forester, gave a brief introduction.

Sean Conroy, Building and Planning Services Manager presented his staff report

Chairperson JOHN opened the pubic hearing at 2:10 p.m.

Barbara Livingston appeared before the Commission.

Chairperson JOHN closed the public hearing at 2:11 p.m.

By general consensus the Commission supports:

1. The use of boardwalks/wood walks and or defined sand trails at existing trails and access area,
2. Supporting limiting access through the dunes for habitat restoration.
3. Is not opposed to tree removal but are of the opinion that tree removal should be evaluated in each area and should be the last phase in any program that is adopted.

The Commission feels the installation of the boardwalks/sand paths should be installed prior to any restoration to see if it actually changes the patterns of the public and they use the boardwalks.

No other action taken.

2. Discussion and planning direction of an Arbor Day event on October 30, 2008 co-sponsored with the Friends of Carmel Forest.

City Forester gave a brief presentation.

Barbara Livingston gave a brief overview of the planned day.

No other action.

IX. REPORTS FROM STAFF AND COMMISSION

1. Receive report from the Ad Hoc Beach Committee regarding activities and condition of the beach.

Mike Branson, City Forester stated the public works crew have removed 9,000 lbs of charcoal taken off the beach so far.

No other action.

X. ADJOURNMENT

CITY OF CARMEL-BY-THE-SEA
PLANNING COMMISSION
AGENDA CHECKLIST

MEETING DATE: 8 October 2008 BLOCK: N/A LOT: N/A

FIRST HEARING: X CONTINUED FROM: N/A

ITEM NO: MP 08-5 APPLICANT: City of Carmel

SUBJECT:

Introduction of the Del Mar Master Plan project and a review of a Biological Survey for the project area.

ENVIRONMENTAL REVIEW:

N/A

LOCATION: ZONING:

West of San Antonio bet. City Line and 8th Ave P, AS, ESHA

ISSUES:

1. Does the Commission support the recommendations of the Biologist?
2. Does the Commission support defined trails through the dunes?

OPTIONS:

1. Provide guidance on the Biologists recommendations.

RECOMMENDATION:

Option #1

ATTACHMENTS:

1. Staff Report dated 8 October 2008.
2. General Plan excerpts/Workshop summary.
3. Biologists report.

STAFF CONTACT: Sean Conroy, Planning & Building Services Manager

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CITY OF CARMEL-BY-THE-SEA

DEPARTMENT OF COMMUNITY PLANNING AND BUILDING

STAFF REPORT

TO: CHAIRMAN STRID AND PLANNING COMMISSIONERS

FROM: SEAN CONROY, PLNG & BLDG SERVICES MANAGER

DATE: 8 OCTOBER 2008

SUBJECT: INTRODUCTION OF THE DEL MAR MASTER PLAN PROJECT AND A REVIEW OF A BIOLOGICAL SURVEY FOR THE AREA.

INTRODUCTION

Goal 4-2 of the General Plan encourages the City to develop a master plan for the Del Mar parking lot and surrounding dunes area. The Del Mar parking lot is located at the foot of Ocean Avenue. The Del Mar Dunes are located between the parking lot and 8th Avenue and the North Dunes encompasses the area north of the parking lot to the City line. Other General Plan policies and objectives related to this area are attached.

The master plan is intended to address issues related to parking, circulation, public access, aesthetics and environmental resources of the parking area and adjacent dunes. The City hired a coastal biologist who has prepared the attached analysis of the dunes habitat. The City has also hired a traffic consultant to provide recommendations on the improvement of the parking area. This report is not yet available.

The City held a public workshop on 29 July 2008 to introduce the project and allow for public participation. Attached is a summary of the comments that were made during the workshop.

On 4 September 2008 the Forest and Beach Commission reviewed the biologists report and provided input. The Commission's input is summarized below.

PROJECT DESCRIPTION

The purpose of this hearing is to introduce the Planning Commission to the project and receive input regarding the recommendations of the biologist. Issues related to parking, circulation and aesthetics will be discussed at a future meeting.

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EVALUATION

Dune Restoration: The biologist identified the following three sensitive species or habitat that should be enhanced and preserved:

1) Tidestrom's Lupine.
2) Black Legless Lizard.
3) Central Dune Scrub.

The biologist also made the following recommendations regarding the dunes area:

- Protect and restore native habitat.
- Eliminate aggressive, non-native species (i.e. ice plant, acacia, etc.).
- Establish formal trails through the dunes to reduce impacts on native species.
- Establish information/interpretive panels.
- Limit the planting of new trees in the dunes and do not replace existing trees when they die.

Access: The biologist recommended a combination of defined sand paths and/or boardwalks to provide access through the dunes and from the Del Mar parking area to the Beach Bluff pathway on Eighth Avenue. Having defined trails through the dunes, particularly in areas where restoration efforts are to occur, is important to protect and restore the dune habitat and sensitive species. Boardwalks provide a safe and enjoyable way to experience the beach area and provide for improved wheelchair access.

The Shoreline Management Plan was adopted as part of the Local Coastal Program and incorporated information from various public documents that preceded it, including the Carmel Beach Master Plan that was adopted by the City Council in 2000. This plan recommended the installation of a boardwalk in the dunes that would link the Del Mar area with the beach bluff pathway at Eighth Avenue. The Shoreline Management Plan indicates that issues related to dune access will be addressed as part of the Del Mar Master Plan.

The Forest and Beach Commission was generally supportive of the biologist's report and made the following recommendations:

- The use of boardwalks/sand trails are encouraged, particularly at existing access areas.
- Supportive of dune restoration and protecting habitat.

- The removal of non-native species and dune restoration should be done in a phased approach to be able to apply lessons learned in each phase.
- Most existing trees should not be removed immediately but could be removed individually and not replaced as they die or become unsafe.

Staff is requesting input from the Commission on the following questions:

1) Does the Commission support the use of boardwalks and/or defined sand trails? If so, where?
2) Does the Commission support the creation of a viewing platform(s)?
3) Does the Commission support limiting access through portions of the dunes to protect and reestablish natural dune habitats?

RECOMMENDATION

Provide direction regarding the recommendations of the biologist.

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General Plan and Local Coastal Program
Policy Guidance for the
Del Mar and North Dunes Master Plan

These policies make specific reference to the Del Mar Master Plan and will serve as the primary basis for our work. All of these issues must be addressed in the Master Plan.

G4-2 Develop a Master Plan for the Del Mar and North Dunes area. Upon approval, the Coastal Land Use Plan shall be amended to incorporate all elements of the Master Plan.

O4-3 Appoint an ad hoc citizens committee to develop the Del Mar and North Dunes Master Plan. Address issues related to parking and circulation, access recreation facilities, aesthetics, special events, impacts on residents and visitors and protection of environmental resources. Guide Plan development using the goals, objectives, and policies of this Land Use Plan consistent with Coastal Act policies, for provision of public access and protection of sensitive resources.

P4-15 Address circulation and parking problems. Make the area more pedestrian/people friendly and protect the environment.

P4-16 Use City staff along with needed consultants (environmental restoration specialist, traffic engineer, landscape architect) to develop a plan of balanced improvement.

P4-17 Consider reallocating parking so it will flow in a more efficient manner. Consider a regular shuttle from downtown or from a designated parking area.

P4-18 Improve the pedestrian experience through the Del Mar parking area for those arriving on foot and from parked vehicles to the beach. Consider construction of boardwalks or other improvements to aid beach circulation, protect tree roots and protect the sensitive vegetation in the North Dunes area.

P4-19 Provide disabled access consistent with ADA requirements. Provide access that blends with the beach and allows disabled individuals the opportunity to enjoy a more natural beach experience.

P4-20 Provide adequate and aesthetically pleasing trash containers.

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P4-21 Provide secure bicycle racks.

P4-22 Continue to support passive beach activities that are consistent with maintaining the natural beach setting. Active recreational opportunities need not be enhanced.

P4-23 Do not install formal picnic tables or benches. Rather, provide driftwood logs for seating. Picnicking on the beach should be conducted in a traditional manner with blankets, etc.

P4-24 Retain the informal atmosphere of the volleyball courts.

P5-42 Restore, maintain and enhance the degraded habitat in the Del Mar Dunes area to enhance environmental resources and aesthetics. Protect sensitive habitat and special-status species through development and implementation of the Del Mar and North Dunes Master Plan.

Public Workshop Summary 29 July 2008

Attendance: approximately 25

Parking and Circulation

-Hire parking engineer to address flow
-Cosmetically improve area
-Possible shuttle bus/trolley
-Reduce north side curb height
-Address drainage
-Ban RV's along San Antonio
-Designate passenger-loading zones
-Make Scenic a one-way street from Ocean to 8th, no parking on E/s for ADA pathway
-Make Scenic one-way running north only. In-fill the current opening in the middle of Ocean with parking.
-Improve the cross-walk appearance and location.
-Reduce congestion where possible
-Consider having time-limits on parking
-Prohibit RV's from parking lot and along San Antonio
-Use permeable paving where possible
-Change shape of road, remove hump in the middle
-Add diagonal parking along north side curb
-Leave landscaping as is.
-Make slight expansions of parking area to allow for a redesign of the parking
-Put parking underground
-Have ADA spots in south section and have ADA access from there
-Keep RV's out of main parking area
-Widen parking area along San Antonio

Pedestrian Circulation

-Add 4th Ave. walkway signs
-Bridges over certain areas of dunes
-Supportive of boardwalks
-Handicap access parking off of 4th Ave
-Secure bike racks should be provided
-Improve walkways (more aesthetically pleasing)
-Pedestrian & bike paths and bike racks
-ADA accessible boardwalk to bring closer to water
-Provide a viewing platform
-Boardwalks north of Ocean only, none along Del Mar dunes
-ADA viewing platform just west of parking area
-Install defined walkways from San Antonio to the bathrooms with eye rod and cable fencing
-Connect 4th Avenue path to restrooms through the dunes

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-Boardwalks may get washed away if placed south of parking area.
-Provide ADA access south of 10th
-Install access mats during summer so wheel chairs, strollers can access beach
-Path from parking lot to 8th should all be boardwalk
-Use DG for paths where possible
-Provide access at 8th for ADA
-Place bike racks near bathroom
-Add benches occasionally along pathways
-Add path from San Antonio through dunes
-Have sponsors for sections of boardwalk for funding
-Don't use defined trails or boardwalks in north dunes
-Evaluate possibility of using the "land ease" system for getting wheelchairs to the beach
-Address privacy concerns for Del Mar property owners
-Place paths lower on Del Mar Dunes if possible
-Place information signs at dune trail entrances to protect dunes
-No formal fencing or trails should be installed near volleyball courts or main beach access points.
-Address boardwalk maintenance
-Path in north dunes may encourage transients to congregate
-Address pedestrian safety at NW corner of Ocean & San Antonio

Aesthetics
-Remove large Cypress stumps
-Replant more Cypress
-Work with native plant society on appropriate planting
-Provide literature on native plans
-If Cypress die, either leave them or cut them all the way down
-Remove acacia and ice plant
-Have volunteers help with removal and planting (middle school, river school etc.)
-Make use of existing planters
-Beautify existing planters down Ocean
-A few more benches along walkway
-Water system for irrigation
-Enlarge planters and make pathways more informal (meander)
-Use pavers
-Remove acacia in south dunes
-Level out dead Cypress trees near the restroom
-Improve trashcan appearance
-Underground utilities
-Push sand up to cover rocks
-Possible solar lighting
-Relocate Cypress landscape trees and improve landscape islands
-Consider picnic benches
-Improve appearance of Del Mar restrooms
-Add no skateboarding signs
-Enforce "no fire" restrictions in area

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Environmental Resources

-Restore & maintain habitat and dunes
-Remove evasive species
-Plant more dune scrub for lizard habitat
-Remove baby Cypress & pines in north dunes area. When existing trees die, do not replant.
-Add paths to avoid trampling habitat
-Add interpretive signs
-Use volunteers
-Remove non-native species but allow dunes to restore themselves
-If iceplant is removed, address erosion control
-Enhance dunes, particularly north of parking lot
-Address general beach clean-up
-Underground utilities in parking lot and up Ocean Avenue
-Get expert advice on plantings and landscaping

Things to Avoid

- Significantly reducing parking.
- Building in the ESHA.
- Expanding active use areas (volleyball courts, picnic tables, etc.)
- Developing commercial activities (restaurants, snack bar, etc.)

CITY OF CARMEL-BY-THE-SEA
PLANNING COMMISSION
AGENDA CHECKLIST

MEETING DATE: 8 October 2008 BLOCK: N/A LOT: N/A

FIRST HEARING: X CONTINUED FROM: N/A

ITEM NO: N/A APPLICANT: City of Carmel

SUBJECT:

Consideration of a review of the City of Monterey's Green Building Ordinance and a request for direction.

ENVIRONMENTAL REVIEW:

N/A

LOCATION: ZONING:

City-wide N/A

ISSUES:

1. Should the City follow Monterey's Model?

OPTIONS:

1. Provide guidance on the development of Green Building standards in the City.

RECOMMENDATION:

Option #1

ATTACHMENTS:

1. Staff Report dated 8 October 2008.
2. Monterey's Ordinance.
3. Green Building Checklists.

STAFF CONTACT: Sean Conroy, Planning & Building Services Manager

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2. Del Mar Master Plan
City of Carmel
City wide

Consideration of an introduction to the Del Mar Master Plan, review of a Biological Survey for the project, and a request for direction.

Sean Conroy, Planning & Building Services Manager, presented the staff report. Chairman Strid opened the public hearing at 5:15 p.m. Clayton Anderson, Wayne Kelley, John Dilks, Chuck Hanson, Patty Dilks, Monte Miller and John Thodos appeared before the Commission. There being no other appearances, the public hearing was closed at 5:37 p.m.

There was no motion for this item. The Commission only provided guidance on the Biologists recommendations.

3. Green Building
City of Carmel
City wide

Consideration of a review of the City of Monterey's Green Building Ordinance and a request for direction.

Sean Conroy, Planning & Building Services Manager, presented the staff report. Chairman Strid opened the public hearing at 6:00 p.m. Monte Miller appeared before the Commission. There being no other appearances, the public hearing was closed at 6:01 p.m.

The Commission recommended that the City Council form an ad-hoc committee composed of local builders, architects and engineers. The committee would look at the City's design guidelines and the state mandates and how they can be incorporated into together.

Chairman Strid re-opened the public hearing at other appearances, the public hearing was closed at 6:16 p.m.

4. MP 08-4
Demolition Use Permits
City of Carmel
City wide

Consideration of recommendations to the City Council regarding revisions to CMC sections 17.30 (Demolition of Buildings) and 17.52.080 (Use Permits) requiring a Use Permit for all projects involving the demolition of structures.

Sean Conroy, Planning & Building Services Manager, presented the staff report. Chairman Strid opened the public hearing at 6:20 p.m. There being no other appearances, the public hearing was closed at 6:20 p.m.

Commissioner WILSON moved **to approve as modified**, seconded by REIMERS and **carried** by the following roll call vote:

Appendix "A"

Botanical Consulting Services

North Dunes & Del Mar Dunes Habitat Restoration Plan

City of Carmel-by-the-Sea

Written for:
Mr. Sean Conroy
Senior Planner

Written By:
Jean Ferreira
Botanist

April 1, 2009

Note: This appendix contains findings and recommendations from a professional Botanist contracted by the City. The information in this appendix is meant to provide background and assist in the dune restoration efforts. Not all recommendations from this appendix have been incorporated into the final Del Mar Master Plan.

Dune Restoration & Management Program

THE MISSION of this restoration & management program is to recreate a self-sustaining native dune habitat with thriving populations of the special status species, while providing safe visitor access and enjoyment of the dunes.

THE OBJECTIVES are to eliminate all aggressive non-native species, restore the native dune scrub, expand the population of Tidestrom's lupine, and the quantity and quality of available habitat for Black Legless Lizards, establish a trail system to provide safe visitor access without compromising the health of the dune habitat and provide interpretation of the North Dunes, Del Mar Dunes and Carmel Beach to enhance the visitors experience and knowledge of the Carmel dunes.

THE SPECIFIC GOALS to achieve these objectives are outlined below and described further in the following sections of this plan.

1. Providing protection for existing populations of the special status species during the implementation of this plan and for management of the populations in perpetuity.

2. Elimination of all aggressive exotic species on the dunes. The two species with the greatest cover and opportunity for restoration are iceplant and Sydney golden wattle. The weedy components of the dune scrub adjacent to the roads and restroom will also be addressed.

3. Identify Monterey Cypress landscaping areas in North Dunes that will be maintained as historical landscaping including the one landmark-sized Eucalyptus tree at the corner of Ocean and N. San Antonio Ave.

4. Stabilize drifting sand in areas to be planted with straw or jute.

5. Plant and seed native dune plants in areas of bare sand or where exotics were removed.

6. Use only local plant sources for the revegetation. Seeds and plants shall be propagated from plant material collections within two miles of the site.

7. Establish thriving new stands of Tidestrom's lupine in the dunes to add stability and long-term survival to the population.

8. Improve the quality of habitat for the black legless lizard by establishing large stands of native dune scrub, and creating a habitat corridor between North Dunes and Del Mar Dunes.

9. Establish short (5-year) and long range (on-going) monitoring program for the special status species and dune scrub.

10. Establish a maintenance program to follow-up on the exotic plant control, sand stabilization and respond to all needed actions noted during monitoring.

11. Provide safe pedestrian access to the dunes, minimizing impact to the dune habitat. Con-

1. Consideration of Planning Commission minutes from March 11, 2009.

VIII. CONSENT AGENDA (PULLED ITEMS)

At this time the Commission will consider items pulled from the Consent Agenda.

IX. PUBLIC HEARINGS

If you challenge the nature of the proposed action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Planning Commission at, or prior to, the public hearing.

1. UP 09-2 Robert & Judith Profeta W/s Junipero bt. 5th & 6th Block 58, Lot(s) 21 & 22	Consideration of an application to amend an existing Use Permit for a restaurant located in the Service Commercial (SC) District.
2. MP 08-6 Green Building Program	Consideration of recommendations from the Green Building Committee regarding the development of green building development standards in the City of Carmel-by-the-Sea.
3. MP 08-5 Del Mar Master Plan	Consideration of recommendations to the City Council regarding adoption of the Del Mar Master Plan and a Negative Declaration. The Master Plan area includes the Del Mar Parking Area located on Ocean Avenue, west of San Antonio Avenue and the Del Mar and North Dunes located to the north and to the south of the parking area. This project requires certification by the California Coastal Commission.

X. ADMINISTRATION

1. Review of City's draft Capital Improvement and Capital Outlay budget.

CITY OF CARMEL-BY-THE-SEA
PLANNING COMMISSION
AGENDA CHECKLIST

MEETING DATE: 8 April 2009 BLOCK: N/A LOT: N/A

FIRST HEARING: CONTINUED FROM: N/A

ITEM NO: MP 08-5 APPLICANT: City of Carmel

SUBJECT:

Consideration of recommendations to the City Council regarding the adoption of the Del Mar Master Plan and a Negative Declaration.

ENVIRONMENTAL REVIEW:

N/A

LOCATION: ZONING:

Del Mar parking area (west of San Antonio, east of Carmel Beach) P

ISSUES:

1. Does the proposed plan implement the goals of the General Plan?

OPTIONS:

1. Recommend adoption of the plan to the City Council.
2. Continue the application to a future meeting.

RECOMMENDATION:

Option #2

ATTACHMENTS:

1. Staff Report dated 8 April 2009.
2. Del Mar Master Plan.

STAFF CONTACT: Sean Conroy, Planning & Building Services Manager

CITY OF CARMEL-BY-THE-SEA

DEPARTMENT OF COMMUNITY PLANNING AND BUILDING

STAFF REPORT

TO: CHAIRMAN STRID AND PLANNING COMMISSIONERS

FROM: SEAN CONROY, PLNG & BLDG SERVICES MANAGER

DATE: 8 APRIL 2009

SUBJECT: CONSIDERATION OF RECOMMENDATIONS TO THE CITY COUNCIL REGARDING THE ADOPTION OF THE DEL MAR MASTER PLAN AND A NEGATIVE DECLARATION.

BACKGROUND & DESCRIPTION

Goal 4-2 of the General Plan encourages the City to develop a master plan for the Del Mar parking area and surrounding dunes area. The Del Mar parking area is located at the foot of Ocean Avenue. The Del Mar Dunes are located between the parking area and 8th Avenue and the North Dunes encompasses the area north of the parking lot to the City line. Other General Plan policies and objectives related to this area are attached.

The master plan is intended to address issues related to parking, circulation, public access, aesthetics and environmental resources of the parking area and adjacent dunes. The City hired a coastal biologist who has prepared the attached analysis of the dunes habitat.

The City held a public workshop on 29 July 2008 to introduce the project and allow for public participation. On 8 October 2008 the Commission reviewed and commented on the dune restoration portion of the plan. On 11 February 2009 the Commission reviewed the parking and circulation portion of the plan.

The Planning Commission will be reviewing the Del Mar Master Plan in its entirety at this hearing.. This project is an amendment to the Local Coastal Program and will require Certification by the California Coastal Commission.

EVALUATION

CEQA: An Initial Study and Negative Declaration was circulated from 9 February through 11 March 2009. The City received a comment from the Department of Fish and Game and another from the Native American Heritage Commission. The Initial Study

indicated that no impact would occur on biological resources. The Fish and Game is concerned that construction activities and the removal of invasive species have the potential of impacting sensitive species, and that mitigation measures should be incorporated. This requires a recirculation of the Initial Study and Negative Declaration under CEQA.

Staff has revised the Initial Study to include appropriate mitigation measures and has recirculated the Negative Declaration. Therefore, no final action can be taken at this meeting. However, the Commission should take public comment and provide as much direction as possible on the Plan so that it can be brought back at the next meeting for a formal decision.

MASTER PLAN: The Master Plan is divided into three parts. These parts are summarized below along with some questions the Commission may want to discuss.

1. The Del Mar Master Plan: This is the primary text for the plan and contains the goals, policies and objectives. The plan addresses implementation of the goals, policies and objectives for the parking area, the dune restoration efforts, access, beach use and signage. Some items, such as signage, have deferred implementation to a later date. The primary reason for this is that signage in the Master Plan area should also be consistent with signage all along the beach. Since this stretches beyond the borders of the master plan, its implementation is being deferred.

Question:

- Does the plan achieve the goals of the General Plan?
- Are there revisions that should be incorporated into the plan?

2. Exhibit "A" Traffic and Circulation Plan: This contains the proposed site alterations to the Del Mar parking area. As described to the Planning Commission on 11 February 2009, the proposal includes:

- The expansion of several planters to reduce paved surfaces and improve aesthetics.
- Three new spaces near the intersection of Ocean & Scenic.
- The relocation of the ADA parking spaces.
- A new turn-around at the bottom of Ocean Avenue.
- An improved crosswalk on Del Mar Avenue.
- Two new parallel parking spaces near the south end of the parking area.
- The removal of one parking space near the crosswalk that causes a bottleneck.
- The replacement of one parking space with four motorcycle parking spaces.

- Improved curb heights and new sidewalk materials on the north and south sides of Ocean Avenue.
- The low landscape wall on west side of parking area has been eliminated.
- The hybrid-only spaces have been eliminated.

Questions:

- Are the proposed changes appropriate for the parking area?
- Are additional changes needed?

3. *Exhibit "B" Habitat Restoration Plan:* When the Commission reviewed the Habitat Restoration Plan in October, 2008, the Commission was generally supportive of the plan but made several recommendations. Those recommendations have been incorporated into the plan along with other changes. These changes include:

- No path or trail is proposed from Del Mar to Eighth Avenue.
- No alteration to the dune bluffs along the Del Mar and North Dunes is proposed due to the potential for dune failure.
- Only two boardwalks are proposed. One will provide access from the south end of Del Mar to a small viewing platform. The other will connect the entrance to the dunes adjacent to the Sand and Sea Development on San Antonio Avenue with the restroom/volleyball court area of the North Dunes. The idea is that this boardwalk will provide a more direct and enjoyable access rout for those approaching the beach from the newly completed Fourth Avenue walkway.
- The restoration areas have been divided into phases to allow for implementation over time.
- The plan no longer calls for the removal of existing trees in the dunes.

Questions:

- Are the changes in the Dune Restoration Plan consistent with the Commission's previous direction?
- Are there additional changes that should be included?

San Antonio Avenue: Parking along San Antonio Avenue between Ocean and Fourth Avenues is permitted on the west side only. During the public workshop and past hearings, some members of the public have expressed concern regarding the parking of RV's along this area and their impacts on views of the dunes and the ocean. This issue was not specifically addressed in the Master Plan.

Staff notes that parking is an important issue with the Coastal Commission. Staff would not support eliminating parking along San Antonio Avenue. However, RV's could be

prohibited in this area as they are in other parts of the City. However, prohibiting RV's in this location will only move them into other parts of the residential district and cause similar problems in those locations. The Commission should provide guidance on this issue.

RECOMMENDATION

Provide direction on this project and continue it until the next Planning Commission meeting.

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Central Region
1234 East Shaw Avenue
Fresno, California 93710
http://www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
DONALD KOCH, Director

March 4, 2009

Sean Conroy
Department of Community
Planning and Building
City of Carmel-by-the-Sea
Post Office Drawer G
Carmel, California 93921

Subject: Negative Declaration (ND)
Del Mar Master Plan
SCH No. 2009021008

Dear Mr. Conroy:

The Department of Fish and Game has reviewed the ND submitted by the City of Carmel-by-the-Sea for the above Project. Project approval would allow the development of a Master Plan for the Del Mar area. The Master Plan would include two main objectives: 1) to improve parking, circulation, pedestrian flow, handicap accessibility, and aesthetics in the Del Mar parking area, and 2) to establish and maintain long-term goals, policies, and objectives for conservation and use of the Del Mar and North Dunes, including the implementation of a Habitat Restoration Plan. The parking area is located at the foot of Ocean Avenue and extends from San Antonio Avenue on the east to Del Mar Avenue on the west. The North Dunes area is a 4- to 5-acre tract located on the north end of the beach adjacent to the parking lot, and the Del Mar Dunes are a thin stretch of dunes extending from the parking area to approximately Eighth Avenue.

Implementation of the Master Plan would entail both construction and habitat restoration activities in an area of documented sensitive species, notably the State threatened Tidestrom's lupine (*Lupinus tidestromii*) and State species of concern black legless lizard (*Anniella pulchra nigra*). The Initial Study checklist completed for the ND states that no impact will occur to sensitive or special status species. The Department does not agree with this assertion, as restoration activities such as invasive plant removal described in the Habitat Management Plan, in addition to proposed construction related to parking and access projects such as wind walls, boardwalks, and trails have the potential to impact the above-listed species. The Department recommends revising the ND to include avoidance, minimization, and mitigation measures to reduce any impacts that may result from Project approval and recirculating the document in order to disclose potential impacts under the California Environmental Quality Act (CEQA). Our specific comments follow.

Department Jurisdiction

Trustee Agency Authority: The Department is a Trustee Agency with the responsibility under CEQA for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation,

protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing, as available, biological expertise to review and comment on environmental documents and impacts arising from project activities, as those terms are used under CEQA.

Responsible Agency Authority: The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under the California Endangered Species Act (CESA), the Department may need to issue an Incidental Take Permit for the Project. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (Sections 21001{c}, 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports a Statement of Overriding Consideration (SOC). The CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080. The Project has the potential to reduce the number or restrict the range of endangered, rare, or threatened species (as defined in Section 15380 of CEQA), including the State and Federally endangered Tidestrom's lupine.

Other Rare Species: The Project has the potential to reduce the number or restrict the range of endangered, rare, or threatened species (as defined in Section 15380 of CEQA), such as the State species of concern black legless lizard which may be present in the Project area.

Project Recommendations

Tidestrom's Lupine: The Master Plan includes activities that are intended to be ultimately beneficial to this species, but also proposes projects that could have impacts to the species without appropriate avoidance, minimization, and mitigation measures. During 2008 botanical surveys, plants were found in two of the four Tidestrom's lupine locations previously identified on the Project site in 1995. The Project includes a Habitat Restoration Plan with the goal of establishing 10 locations throughout the North Dunes with at least 100 plants each, by collecting and propagating seeds from plants within two miles of the site. The Habitat Restoration Plan identifies the need for a Scientific Collecting Permit, and the Department recommends consultation with the Department and the United States Fish and Wildlife Service (USFWS) to form a more detailed plan prior to recirculating the CEQA document.

The CEQA document should also include adequate detail regarding any related Project construction in the dunes in order to determine whether avoidance of Tidestrom's lupine populations can occur or whether an Incidental Take Permit would be required. Collection and propagation of seeds from State-listed plants would require a CESA Memorandum of Understanding, pursuant to Fish and Game Code (FGC) Section 2081(a), from the Department. However, "take" authorization under FGC Section 2081(a) can be authorized only for scientific, educational, or management proposes. In other words, the "take" has to be incidental to activities that are being implemented for the primary purpose of benefiting the species.

In the event that "take" of State-listed species, such as Tidestrom's lupine, could occur incidentally as a result of Project-related activities that are not for the benefit of the species (for example, parking lot construction) or if the restoration activities are mitigation for Project-related impacts, then an Incidental Take Permit, pursuant to FGC Section 2081(b) would be required prior to Project-related ground-disturbing activities. It is important to note that Department needs the Lead Agency's CEQA document to identify the Department as a Responsible Agency in this capacity as well as to fully describe the potential impacts to listed species and associated mitigation measures; otherwise, preparation of a supplemental CEQA document may be necessary prior to Incidental Take Permit issuance. For the reasons described in the introductory portion of this letter, the ND in its current form would not support the Department's issuance of an Incidental Take Permit.

Black Legless Lizard: Habitat for this species is documented in both the Del Mar and North Dunes areas, and individuals were found during surveys in 2008. The Habitat Restoration Plan states that management and restoration recommendations will be designed to avoid impacts to the species and its habitat. Because restoration and construction activities are included in the proposed Master Plan, the CEQA document should include any avoidance, minimization, or mitigation measures that will be utilized for all projects completed under the Master Plan.

The Department appreciates the opportunity to comment on this Project and would be glad to assist in the continued development of a restoration plan. If you have any questions regarding the above comments, please contact Linda Connolly, Environmental Scientist, at the address provided on this letterhead or by telephone at (559) 243-4014, extension 242.

Sincerely,

Jeffrey R. Single, Ph.D.
Regional Manager

cc: United States Fish and
Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93003

State Clearinghouse
Office of Planning and Research
Post Office Box 3044
Sacramento, California 95812-3044

ec: Deb Hillyard
Jeff Cann
Department of Fish and Game

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

February10, 2009

Clear 3.4.09 e

RECEIVED
FEB 25 2009
STATE CLEARING HOUSE

Sean Conroy
City of Carmel-by the Sea
P.O. Drawer G
Carmel, CA 93921

RE: SCH#2009021008 Del Mar Specific Plan; Monterey County.

Dear Mr. Conroy:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Completion (NOC) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5 minute quadrangle name, township, range and section required.**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,
Katy Sanchez
Katy Sanchez
Program Analyst

CC: State Clearinghouse

There was no motion for this item, discussion only.

3. MP 08-5 Del Mar Master Plan	Consideration of recommendations to the City Council regarding adoption of the Del Mar Master Plan and a Negative Declaration. The Master Plan area includes the Del Mar Parking Area located on Ocean Avenue, west of San Antonio Avenue and the Del Mar and North Dunes located to the north and to the south of the parking area. This project requires certification by the California Coastal Commission.

Sean Conroy, Planning & Building Services Manager, presented the staff report. Chairman Strid opened the public hearing at 5:54 p.m. Wayne Kelley, John Thodos, Mary Liskin appeared before the Commission. There being no other appearances, the public hearing was closed at 6:08 p.m.

Continued to May meeting.

X. ADMINISTRATION

1. Review of City's draft Capital Improvement and Capital Outlay budget.

Sean Conroy presented the staff report. Chairman Strid opened the public hearing at 6:25 p.m. There being no other appearances, the public hearing was closed at 6:25 p.m.

Commissioner WILSON moved to recommend to the City Council that the CIP is consistent with the General Plan, seconded by HEWER and carried by the following roll call vote:

AYES:	Hewer, Hillyard, Reimers, Wilson, Strid
NOES:	None
ABSENT:	None
ABSTAIN:	None

CITY OF CARMEL-BY-THE-SEA

DEPARTMENT OF COMMUNITY PLANNING AND BUILDING

STAFF REPORT

TO: PLANNING COMMISSIONERS

FROM: SEAN CONROY, PLNG & BLDG SERVICES MANAGER

DATE: 20 MAY 2009

SUBJECT: CONSIDERATION OF RECOMMENDATIONS TO THE CITY COUNCIL REGARDING THE ADOPTION OF THE DEL MAR MASTER PLAN AND A MITIGATED NEGATIVE DECLARATION.

BACKGROUND & DESCRIPTION

Goal 4-2 of the General Plan encourages the City to develop a master plan for the Del Mar parking area and surrounding dunes area. The Del Mar parking area is located at the foot of Ocean Avenue. The Del Mar Dunes are located between the parking area and 8th Avenue and the North Dunes encompasses the area north of the parking lot to the City line. Other General Plan policies and objectives related to this area are attached.

The master plan is intended to address issues related to parking, circulation, public access, aesthetics and environmental resources of the parking area and adjacent dunes. The City hired a coastal biologist who has prepared the attached analysis of the dunes habitat.

The Planning Commission has reviewed this project on three separate occasions, most recently on 8 April 2009.

EVALUATION

Revisions: Below is a summary of the requested revisions by the Planning Commission from the previous meeting and a response from staff on how the changes have been incorporated into the plan.

1. A sand pathway should be added connecting Del Mar with 8th Avenue.

Response: Figure 5 shows a sand pathway connecting the Del Mar parking area with Eighth Avenue. The path will be located as far west as possible to limit visual impacts on the neighboring properties. Also, since no habitat restoration is proposed in the Del Mar

Dunes, no cable fencing is needed for the proposed trail. This will also limit impacts on neighboring properties.

2. Rather than defining paths, restoration areas should be defined and no formal paths or boardwalks should be established in the North Dunes.

Response: The plan has been amended to remove the formal sand trails and boardwalk from the North Dunes. Three primary restoration areas have been identified. Two of the restoration areas will be dedicated to the Tidestrom's lupine and other compatible habitat, and the third area primarily to the Black Legless Lizard. These areas would be surrounded with low-profile fencing to protect the habitat areas. The remainder of the dunes will be left open for typical beach recreation uses. This achieves a reasonable balance of dune restoration and historic beach use and is consistent with the General Plan.

If the Commission would still like to see more open areas, staff recommends dividing up restoration area #3.

Attached to the summary is a brief narrative from the City's consultant regarding the population of Tidestrom's lupine and the importance of habitat protection.

San Antonio Avenue: Parking along San Antonio Avenue between Ocean and Fourth Avenues is permitted on the west side only. During the public workshop and past hearings, some members of the public have expressed concern regarding the parking of RV's along this area and their impacts on views of the dunes and the ocean. This issue was not specifically addressed in the Master Plan.

Staff notes that parking is an important issue with the Coastal Commission. Staff would not support eliminating parking along San Antonio Avenue. However, RV's could be prohibited in this area as they are in other parts of the City. However, prohibiting RV's in this location will only move them into other parts of the residential district and cause similar problems in those locations. The Commission should provide guidance on this issue.

CEQA: An Initial Study and Negative Declaration were circulated from 9 February through 11 March 2009. The City received a comment from the Department of Fish and Game and another from the Native American Heritage Commission. Based on some concerns raised by the Fish and Game, staff recirculated a Mitigated Negative Declaration. No comments were received during the recirculated review period.

The primary concerns raised by the Fish and Game related to potential impacts on sensitive species during the restoration and construction phases of the project. Several mitigation measures have been included to reduce any potential impact to less than significant levels (see attached Mitigation and Monitoring Plan).

RECOMMENDATION

Recommend that the City Council adopt the Del Mar Master Plan and a Mitigated Negative Declaration.

Tidestrom's Lupine

The Tidestrom's lupine population on North Dunes was surveyed on May 2, 2009. The plants were located in generally the same location as seen in 2008, with the addition to one small location with two mature blooming plants on an island of vegetation near the northeastern corner of the site (San Antonio Ave at Surf and Sea). The total number of lupines counted in 2009 was 296, a decrease from the 340 seen in 2008. The decrease was in mature blooming plants, not seedlings. The mature plants are typically the more stable portion of the population due to high seedling mortality. The decrease was seen in areas that are being disturbed by a high volume of foot traffic. The Tidestrom's lupine population in the Indian Village Dunes in Pebble Beach was also surveyed this season to observe associated species, growth habit and patterns with the other species on the dunes.

The Indian Village Dunes (Bird Rock Road/Dune Road at 17 Mile Drive) are protected by perimeter fencing, a boardwalk trail, and signage. The dunes support numerous sensitive plant species including Tidestrom's lupine, beach layia, spine flower, and Menzie's wall flower. The Pebble Beach Company has had a weed control program on the site for numerous years, although there are still some exotics present.

PBC does not have a current program for surveying the populations of the sensitive species (personal communication: Eric Love Resource Manager, PBC, 24 April 09). The Indian Village Dunes population of Tidestrom's lupine appeared to be of similar size to the North Dunes population, although I did not make a direct count. However, the diversity of other plant species growing with the lupine was 3 to 4 times greater than that found in Carmel. In addition to the plants found with the Tidestrom's lupine on the North Dunes, the Indian Village Dunes population also has the following natives: *Erysimum menziesii, Plagiobothrys sp., Polygonum paronychia, Poa douglasii, Dudleya caespitosa, Chorizanthe pungens var. pungens, Lessingia fi laginifolia, Pteridium aquilinum, Layia carnosa, Lotus heermanii var. orbicularis, Eschscholzia californica, and Cardionemaramosissimum.* The plants are growing on the dune slopes (as opposed to the swales) in a very white, almost sugar-like sand. The plants including the Tidestrom's lupine are all fairly evenly spaced (probably reducing competition for moisture) at about 6 to 12 inch apart.

AYES:	COMMISSION MEMBERS:	Hillyard, Reimers, Wilson, Hewer
NOES:	COMMISSION MEMBERS:	None
ABSENT:	COMMISSION MEMBERS:	None
ABSTAIN:	COMMISSION MEMBERS:	None

3. MP 08-5
Del Mar Master Plan

Consideration of recommendations to the City Council regarding adoption of the Del Mar Master Plan and a Mitigated Negative Declaration. The Master Plan area includes the Del Mar Parking Area located on Ocean Avenue, west of San Antonio Avenue and the Del Mar and North Dunes located to the north and to the south of the parking area. This project requires certification by the California Coastal Commission.

Sean Conroy, Planning & Building Services Manager, presented the staff report. Chairman Hewer opened the public hearing at 6:51 p.m. Barbara Livingston, Mary Liskin and Doug Helene appeared before the Commission. There being no other appearances, the public hearing was closed at 6:56 p.m.

Commission WILSON moved **to recommend adoption of the plan and the Mitigated Negative Declaration to the City Council**, seconded by REIMERS and **carried** by the following roll call vote:

AYES:	COMMISSION MEMBERS:	Hillyard, Reimers, Wilson, Hewer
NOES:	COMMISSION MEMBERS:	None
ABSENT:	COMMISSION MEMBERS:	None
ABSTAIN:	COMMISSION MEMBERS:	None

XI. ADJOURNMENT

There being no further business to come before the Commission, the meeting was adjourned at 7:00 p.m.

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Leslie Fenton, Administrative Coordinator

ATTEST:

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Alan Hewer, Chairman

Carmel Residents Association NEWS

MARCH – APRIL, 2014

GUEST EDITORIAL

BY GREG D'AMBROSIO

North Dunes Master Plan

It's a wise city that makes small, carefully considered steps — and avoids leaving us with regrets that can't be undone in our future.

Greg D'Ambrosio served on the staff of the City of Carmel for many years, first as City Forester and later as Assistant City Administrator. He coauthored the Shoreline Management Plan and authored the original Forest Management Plan, among other village master plans. In recognition of his years of passionate advocacy for the preservation and protection of Carmel's public open spaces, iconic trees and urban forest, the CRA named him Carmel Citizen of the Year in 2011.

Modifications to the North Dunes Plan to permit removal of cypress are currently under consideration eliciting passion, tenacity and heart-felt opinions from residents and supporters of both sides of this controversial issue. I believe there is some common ground here to work toward sensible management solutions. Each side can obtain most of its intended goals by agreeing to meet in the middle without trampling on the principles established in the Local Coastal Plan and all plans that support that master document.

If the proposal for tree removal were to move forward, I believe it would create profound conflicts within the Local Coastal Plan and most of its supporting management plans. It would likely require an EIR review, including historic policy changes that would have profound, fundamental and permanent impacts on our village character. At minimum there would have to be conflict resolution within all our planning documents, creating a significant cultural shift.

In responsibly carrying out the Shoreline Management Plan, we should focus on and initiate a logical systematic and orderly approach toward restoring the north dunes. We should focus our efforts on eradicating invasive plants from the dunes by first removing all the ice plant. This invasive species has been removed from nearly half the north dunes, accomplished by volunteers whose actions speak louder than words. This effort should continue.

Following successful completion of ice plant removal, focus should be redirected toward the removal of all acacia thickets and individual acacia trees, except for those thickets growing on the north dune bluffs, where they provide stability and a protective barrier potentially preventing people from falling to the beach below.

When these first two phases have been completed, we should stop and take stock of what has been accomplished. There will probably be as much or substantially more white sand dune open space than previous Carmel generations remember.

As for the Monterey cypress, instead of "logging off" all these iconic trees, the City should initiate "best management practices" by developing a regularly scheduled on-going management and maintenance program. Thoroughly thinning the canopy of each cypress tree and moderately heading back long branches to control excessive growth would be ideal. Following these tree maintenance techniques with regular supplemental clean up of canopy duff and understory vegetation beneath each tree would keep the sand relatively clean. And when trees die, replace them one for one.

For the residents and others supporting the "total removal proposal," especially those neighbors who live adjacent to the dunes who would be the most impacted, consider this graphic picture as a by-product in the aftermath of this extraordinary proposal: removal of these trees and the inevitable loss of other mature cypress shrouding the parking lot and beach rest rooms will change your views forever. Now, instead of a buffer of vegetation of differing heights, hues of green interspersed with white sand dunes, you will see an unaltered parking lot full of cars, people walking everywhere, and incessant lines of vehicles waiting for parking spaces. Increased noise will become the norm. Wind-blown sand and litter will likely increase, migrating toward and onto private properties. This change of scenery will be smack dab in the forefront of the blue waters of Carmel Bay and the white sand beach that was once filtered by the iconic cypress which help protect and complement the view sheds of today.

One thought dominates whenever I consider monumental structural changes to our village: take small, carefully considered steps. After seizing an opportunity that seems absolute, you may regret the decision you thought best and realize you can never go back to what once was.

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http://www.carmelresidents.org/News/CRANews2014_03_04.pdf