Down Memory Lane: The Los Angeles Coastal Prairie and Its Vernal Pools

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Abstract

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The last major remnant of the Los Angeles Coastal Prairie was a portion of a 300-acre site destroyed as habitat in the late 1960s. Unfortunately the unique community was lost before it could be thoroughly studied. The substrate, which defined the prairie, was consolidated sand of the pre-Flandrian sand dune formation established during the Pleistocene. The prairie covered about 36 square miles, extending north-south from the crest of the Ballona Bluffs to Palos Verdes and inland from the lee of the El Segundo sand dunes for three to six miles. The area was rich with vernal pools and some marshy areas. It was renovmed for spectacular wildflower marshy areas. It was renowned for spectacular wildflower displays. The historical plant community of the prairie is reconstructed using herbarium records and historical sources and illustrated using anecdotal records.

Historical Description

Lay people have long recognized the unique character of the Los Angeles Coastal Prairie. The plains rolling to the sea are described in many travelers' accounts of early Los Angeles (Brewer 1930). Historian Roy Rosenberg writes of the time before the prairie was converted from ranching to dry farming in the 1800s by Inglewood founder Daniel Freeman:

It is recorded that the Freeman children rode over the rancho through fields of wildflowers that extended to the Pacific. The sight of these fields, suddenly confronting a person as he neared the top of Baldwin desired to the property of the property of the property of the property of the present panorama which greets the traveler as he speeds over rivers of concrete en route from the netropolital adsirtie of inglewood. Where flowers once grew with abandon, poppies, lupin, mustard, howeradish and verbens, there most appears as so of lights which that property of the p

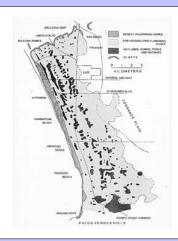
A Manhattan Beach resident wrote of his childhood in the 1920s:

While Iving at 3116. Alma, we almost always walked to school. We walked over the sandstames, through the area where Crandives School is located, across the fidds, over the railroad tracks, past the Catholic Church properly. Quite often we would pick wild flowers like Lupins, Indian Paint Brush, and mustard flower, which grew everywhere, to take to our teachers; Dow 1976-62.

Although the landscape that inspired it is now largely gone, there remains a Prairie Avenue in Inglewood.

Extent and **Edaphic Conditions**

Based on a map developed by Cooper (1967) for his comprehensive review of the coastal sand dunes of California, this map shows the extent of the prairie and its vernal pools. The prairie was defined edaphically by pre-Flandrian dunes, which coincide with the prairie was defined edaphically by pre-Flandrian dunes, which coincide with the Oakley Sand formation shown by the U.S. Sureau of Soils survey (Nelson 1919). The undrained vernal pools presumably were created by coastal ridges degraded over time. To the south, the prairie was bounded by the Palos Verdes upilift and an extensive marsh system. To the east the Torrance Plain was characterized by sage scrub, while the northern boundary was formed by the Ballona Bluffs. The western edge of the prairie was formed by the the active Flandrian sand dunes along the immediate coast. In contrast, the sand of the earlier dune system, created during the last glaciation, had become more or less consolidated, presenting the soil conditions that defined the prairie. The enormous quantities of sand contained in both dune systems were provided by alluvial sand carried by Ballona Creek, which until the 1800s was fed by the Los Angeles River.





This March 1938 photograph by W.D. Pierce shows the prairie floor. Distinguishable species and cover, based on three transects with a microscope across the photograph, include Lupinus bicolor (39%), Camissonia bistorta (18%), Phacelia stellaris (14%), Lotus strigosus (8%), Festuca megaluru (4%), Crypuntha intermedia (1%) and open soil (16%).



Botanical Diversity

Native Plants of the Los Angeles Coastal Prairie and Its Vernal Pools. Habitats: D. dunes and prairie; P. prairie (not dunes); V. vernal pools. ISouthern California vernal pool indicator species. ZVernal pool associates, found also in aquatic, marsh, or seepage areas. Found in vernal pool basins, but common in other habitats (Zedler 1987). Species or examples of genera listed by Keeley (1989) as composing pristine native California grasslands. Nomenclature according to The Jepson Manual (Hickman 1993).

Scientific Name DICOTYLEDONES	Common Name	Habitat
AIZOACEAE		
esuvium verrucosum APIACEAE	Western Sea-Purslane	v
APIACEAE		P
piastrum angustifolium ryngium aristulatum parishii ASTERACEAE	San Diego Button-Celery	V1
ASTERACEAE	-	
Lehyrachaena mollis Imbrosia acanthicarpa	Blow-Wives Annual Bur-Sage	Po P
Imbrosia psilostachya	Western Ragweed	P
ister subulatus var. ligulatus laccharis emoryi	Aster	v
		V1
haenactis glabriuscula Corethrogyne filaginifolia var. virgata	Yellow Pincushion	D*
(Lessingia f., C. virgata)	California-Aster	D
[Lessingia f., C. virgata] ilago californica	Herba Impia	D3
inaphalium decurrens inaphalium canescens ssp. microcephalum inaphalium palustre	Cudweed, Everlasting	D P
naphalium palustre		V1
irindelia camporum var. bracteosum Iemizonia fasciculata [Deinandra f.] Ieterotheca grandiflora	Gumplant Tarplant, Tarweed	P ² 3
leterotheca grandiflora	Tarplant, Tarweed Telegraph Weed	D
Ieterotheca villosa [Chrysopsis fastigiata] socoma menziesii var. vernonioides		D
[Haplopappus venetus ssp. vernonioides]	Goldenbush	P
[Haplopappus venetus ssp. vernonioides] asthenia californica asthenia glabrata coulteri	Goldfields Goldfields	P* V*
	Tidy-Tips	
Anlacothriv savatilis		D
Aicropus californicus Polocarobus brevissimus	Slender Cottonweed Woolly-Heads	P V ¹
silocarphus brevissimus silocarphus tenellus	Woolly-Heads	V1
tafinesquia californica enecio californicus	California Chicory Ragwort	D D
tebbinsoseris heterocarpa [Microseris h.]	Kagwort	P
		D D
tephanomeria virgata [Ptiloria v.] BORAGINACEAE		ь
	Fiddleneck	D*
ryptantha elevlandii florosa		D* P*
imsinesia speciaolis Tryptantha elevlandii florosa Tryptantha intermedia Tryptantha muricata Ieliotropium curassavicum var. oculatum		D*
Ieliotropium curassavicum var. oculatum	Heliotrope	D
Pectocarya linearis ssp. ferocula Pagiobothrys canescens		P P*
lagiobothrys canescens Plagiobothrys nothofulvus Plagiobothrys trachycarpus [Allocarya t.] BBASSICACEAE	Popcornflower	P* V*
Plagiobothrys trachycarpus [Allocarya t.] BRASSICACEAE	Popcornflower	V*
	Wallflower	D
Erysimum insulare [E. angustata] Iutchinsia procumbens [Hymenolobus p.] epidium detyotum [L. acutidens] epidium latipes		V V
epidium dictyotum [L. acutidens] enidium latines	Peppergrass Peppergrass	
epidium nitidum	Peppergrass	P ³ V ¹
epidium latipes epidium latipes epidium mitalum abis v.] EALLITRICHACEAE allivirehe marginata EARVOPHYLIACEAE 'ardionema remosissimum actilisaia suorross.		V1
ALLITRICHACEAE	Water-Starwort	V1
CARYOPHYLLACEAE		
ardionema ramosissimum		P D
oejungia squarrosa Polycarpon depressum	Polycarp	V
aratomenta ramosissimum coeflingia squarrosa colycarpon depressum pergularia marina CHENOPODIACEAE	Sand-Spurrey	D3
HENOPODIACEAE	Big Saltbush	P
triplex lentiformis [A. breweri] CONVOLVULACEAE alystegia macrostegia [Convolvulus m.]	ng satousi	
alystegia macrostegia [Convolvulus m.]	Morning-Glory Alkali Weed	D
CRASSULACEAE	Alkali Weed	V ²
RASSULACEAE	Pygmy-Weed	D.
rassula connata (C. erecta, Tillaca minima) UUURBITACEAE incurbita foetidissima UUSCUTACEAE incurta californica LLATINACEAE	1 ygaiy - recu	
ucurbita foetidissima	Calabazilla	D
USCUTACEAE	Dodder	D
II ATINACE AF	Dodder	ь
	Waterwort	V1
EUPHORBIACEAE Thamaesyce albomarginata Troton californicus		
hamaesyce albomarginata	Prostrate Spurge	D D
remocarpus setigerus	Turkey Mullein	P*3
remocarpus setigerus ABACEAE		p-
stragalus didymocarpus var. milesianus stragalus tener titi	Two-seeded Milkvetch Coastal Dunes Milkvetch	p,
istragalus trichopodus lonchus [A. leucopsis] otus purshianus [L. americanus, L. unifoliola		
otus purshianus [L. americanus, L. unifoliola otus salsuginosus	fus]	P'
otus sconarius	Deerweed	D*
otus strigosus upinus bicolor	Ministra I amin	D*
apinus vicotor upinus truncatus	Miniature Lupine	D* D*
upinus truncatus rifolium gracilentum	Clover	P*







A wallflower (Erysimum sp.) similar to the one found on the prairie.



FRANKENIACEAE Frankenia salina [F. grandifolia]	Alkali Heath	
HYDROPHYLLACÉAE Phacelia distans		
Pnacetta atstans Phacelia stellaris [P. douglasii vur. cryptantha] LAMIACEAE	Brand's Phacelia	
Salvia carduacea	Thistle Sage	
Salvia columbariae	Chia Hedge Nettle	
Stachys ajugoides LIMNANTHACEAE	Hedge Nettie	
Limnanthes douglasii	Meadowfoam	
LOASACEÄE		
Mentzelia affinis	Blazing Star	
MALVACEAE		
Malvella leprosa (Sida hederaca) Sidalcea malviflora malviflora	Alkali-Mallow Checker Mallow	
Sidalcea neomexicana [S. parviflora]	Checker Manow	
ONAGRACEAE		
Camissonia bistorta Camissonia cheiranthifolia	California Sun Cup Beach Evening Primrose	
Camissonia lewisii	Lewis' Evening Primrose	
Camissonia mierantha	_	
Epilobium pygmaeum [Boisduvalia glabella] Oenothera elata hirsutissima	Fireweed Evening Primrose	
PAPAVERACEAE	Evening Primrose	
Eschscholzia californica	California Poppy	
Platystemon californicus PLANTAGINACEAE	Cream Cups	
PLANTAGINACEAE		
Plantago elongata [P. bigelovii] Plantago erecta [P. hookeriana]	Plantain Dwarf Plantain	
POLEMONIACEAE		
Gilia angelensis		
Gilia capitata abrotanifolia Linanthus dianthiflorus		
Navarretia prostrata		
POLYGONACEAE		
Eriogonum gracile Mucronea californica	Wild Buckwheat	
Mucronea caujornica [Chorizanthe c. var. suksdorfii]	California Spineflower	
Rumex hymenosepalus	Wild-Rhubarb	
PORTULACACEAE		
Calandrinia ciliata [C. caulescens, C. menziesii] RANUNCULACEAE	Red Maids	
Ranunculus californicus	Buttercup	
ROSACEAÉ		
Horkelia cuneata		
SCROPHULARIACEAE		
Antirrhinum nuttallianum Castilleja exserta [Orthocarpus purpurascens]	Snapdragon Purple Out's Clover	
Linaria canadensis var. texana	Purple Owl's-Clover Blue Toadflax	
Veronica peregrina SOLANACEAE	Purslane Speedwell	
SOLANACEAE Datura wrightii [D. meteloides]	Jimson Weed	
Petunia parviflora	Jillison weed	
VERBENACEAE		
Verbena bracteata		
MONOCOTYLEDONES		
CYPERACEAE		
Cyperus eragrostis	Nutsedge Nutsedge	
Cyperus esculentus Eleocharis acicularis	Spikerush	
Eleocharis macrostachya	Spikerush	
IRIDACEAE		
Sisyrinchium bellum JUNCACEAE	Blue-Eyed Grass	
JUNCACEAE Juneus balticus		
Juneus bufonius	Toad Rush	
Juneus mexicanus		
Juneus phaeocephalus LEMNACEAE		
Lemna gibba	Duckweed	
Lemna gibba LILAEACEAE		
Bloomeria crocea [B. aurea]	Common Goldenstar	
Calochortus catalinae Dichelostemma capitatum [Brodiaea pulchella]	Catalina Mariposa-Lily Blue Dicks	
POACEAE	areas a/ICRN	
Alopecurus saccatus [A. howellii, A. californicu:	Foxtail	
Bromus carinatus Deschampsia danthonioides	California Brome	
	Annual Hairgrass Saltgrass	
Distichlis snicata		
Distichlis spicata Elvmus triticoides (Levmus t.)		
Distichlis spicata Elymus triticoides [Leymus t.] Festuca megalura [Vulpia microstachys hirsuta]	Fescue	
Distichlis spicata Elymus triticoides [Leymus t.] Festuca megalura [Vulpia microstachys hirsuta] Hordeum intercedens Koeleria macrantha [K. cristata]	Fescue Barley Junegrass	
Distichlis spicata Elymus triticoides [Leymus t.] Festuca megalura [Vulpia microstachys hirsuta]	Fescue	

Restoration Efforts

The most significant remnant fragment of the prairie is 30 acres, located in the lee of the El Segundo dunes at the Los Angeles International Airport (LAX), Preliminary restoration efforts were undertaken by Mattoni for the least disturbed areas from 1988–1994. Non-native plants were cleared by hand. Three of the extirpated annuals of the prairie floor were successfully reintroduced from local stock: Phacelia distans, Casilleja exserta and Plantago erecta. The restoration project led by Mattoni was terminated in 1994 when LAX hired a consultant to explore expansion of the airport; access to the site for further research has not been allowed.

The description and historical composition of the coastal prairie is important to future restoration efforts. Because of published errors about the historical extent of the El Segundo dunes, some restoration efforts have attempted to re-establish dune vegetation across areas of the prairie. The description of the Los Angeles Coastal Prairie given here should inform restoration efforts, as well as aid in the identification of previously overlooked fragments of these habitats in the urban mosaic.

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