

9. APPENDICES

Appendix A1. Minutes of meeting with long-time residents, Feb. 16, 2010

Notes on the meeting with long-term resident Friends of Madrona Marsh: Jane Nishimura, Jack Knapp, Shirley Turner, and Ruth McConnell, and Tracy Drake [TD], conducted by Dan Cooper [DSC] & Emile Fiesler [EF].

(Notes in brackets are clarifications by TD/EF/DSC)

1. Jack Knapp: (Jack has lived in Torrance since 1958, near the intersection of Crenshaw Boulevard and Sepulveda Boulevard.)

In his neighborhood, he has observed:

- * Coyotes
- * Gray "Desert" Fox
- * Red Fox, and their dens & pups
- * Jackrabbits and Cottontail rabbits in area, but not on Preserve
- * Norway Rats, in association with restaurants
- * "Meadow Mice"
- * Quail, but not for a long time
- * Ringneck Snakes [= *Diadophis punctatus*]
- * Rattlesnakes: observed by "old-timers" Jack spoke with in past; still on PV
- * Toads, in his yard, which were mainly active at night; many became traffic victims
- * Lizards; commonly seen on walls, etc., in neighborhood.

In the area that is now the Preserve, he has observed:

- * Bats: inside a fenced section (of the Kelt area) in between stacked railroad ties lived bats and their "joeys" (= "pups"); they would stream out at night [= Mexican free-tailed bat? (DSC); which are common in urban Los Angeles area, incl. Downtown L.A./L.A. River]. Tracy said that Jack was the last person to see bats on the Preserve.
- * Red Squirrels [= eastern fox squirrel; noted "red tails"]
- * "Field Mice" [probably *Mus musculus*, DSC]
- * Cliff Swallows (couldn't recall where they nested)
- * Western Meadowlark: hundreds of them
- * Swimming snake in the Sump [could be Calif. kingsnake, DSC]
- * Toads with a white stripe on their back, that lived in Gopher holes and would come out in Spring, after "the third heavy rain." [In our area, the only Toad species with a clear whitish stripe along their spine is *Bufo boreas halophilus* = California/Western Toad (EF)];
- * "Grass Frogs", some of which were captured/hibernating in his fridge [= Pacific tree-frog *Hyla regilla*, common in wet grass in late winter/early spring]
- * Mosquito Fish
- * Barn owls used to roost in old buildings in area; since torn down; no owls.

Jack never saw [on the Preserve?]:

- * Gray Squirrels
- * Burrowing Owls
- * Fish, other than Mosquitofish

Related historic observations:

- * The Marsh ponds got "trash(ed)" [= litter would come in during rain], but the "North Fork," which ran under the historic railroad line, was kept clean.
 - * He remembers dairy cattle being grazed locally by a man on horseback to various areas, including MMP, c. 1960s.
 - * Also farmed were turkeys, strawberries, carrots, & tomatoes.
 - * Canoes were used in wet years.
 - * Sepulveda/Madrona Ave. would be under 18-20" of water after rain.
 - * Snakes fairly common in past, nearly gone today.
 - * Mice often seen "at dawn and twilight"; not so today.
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2. Shirley Turner:

- * Brought Elderberry clippings from a canyon on PV Peninsula [Possibly from SPFD...the San Pedro Fuel Depot, TD]
- * The oil company employees brought (= released) snakes to the Preserve (with conservation/restoration in mind)
- * There were dairy farmers in the area
- * Her son-in-law has seen Legless Lizards in the area south of Torrance High School; near El Prado Park = east of Crenshaw Boulevard, near Carson Street
- * Remembers a night-heron roost at 237th St. [= Lago Seco Pk?, TD]
- * She recommends contacting "John Small", who rides a bike and birds the area.

Shirley has observed on the Preserve:

- * Two kinds of rabbits (= jackrabbits, cottontail) which were fed on by local cats. Large numbers of feral cats frequented eucalyptus grove @ 235th St. and fed on local rabbits.
 - * Yellow-headed Blackbird (rare sighting?)
 - * Lizards, near the Elderberry [not clear when, i.e. before or after TD released]
 - * Toads ("once, at night, in marsh along Sepulveda"; later by entrance during night walk) [possibly released individuals? No date]
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3. Jane Nishimura:

- * One early morning, about twenty years ago, she saw a Gray(?) Fox on the Preserve, near Sepulveda Boulevard; when it noticed Jane, it took off to the west
- * She saw a flock of Cattle Egrets following a tractor (disking the area?)

- * Shrikes
 - * The Preserve had been used as a car driving training area, and when muddy, local kids would drive in and drive through pools.
 - * She recommends watching the two videos made by Huell Howser (1995 & 200?)
 - * She suggested the possibility of contacting the Katoni family, who farmed in the area
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4. Ruth McConnell (and others):

- * Walt Wright was hired around 1989/1990; he stopped the practice of disking the soil of the Preserve
 - * Walt thought that a Cottonwood that grew on the Preserve was the oldest exemplar in California [??]
 - * In 1989 a juvenile California kingsnake was photographed on the Preserve (copy at MMP, seen by EF/DSC/TD)
 - * David Moody photographed a young Horned Lizard on the Preserve (on drying *Azolla filiculoides*) in the early 1990's (copy at MMP, seen by EF/DSC/TD)
 - * Swifts were observed on the Preserve (occur irregularly)
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5. Tracy Drake:

- * Found 5-6 Slender Salamanders near the Nature Center during an El Nino year (2004 or 2005); she has taken photos of them [photo not located]
- * Seen a dark greenish Snake with blue, lengthwise side-stripes in a Vernal Pool; probably the striped form of California kingsnake, which commonly swims. [Striped racer/two-striped garter snakes are foothill species, and wouldn't be expected locally, DSC]
- * The only Lizard seen by Tracy on MMP during 2001-2004 was one Western Fence Lizard
- * On June 25, 2006 [per EF], Western Fence Lizards and Side-blotch Lizards were released onto the Preserve.
- * In 2009 (?) Tracy saw a lizard on the wall of the Sump pump building, which, initially identified as a side-blotched lizard, but was likely a Western Fence Lizard [DC]

Appendix A2. Minutes of meeting with Tony Baker on origin of Madrona Marsh flora, Nov. 12, 2009

Tony is a landscape designer based in Palos Verdes who has been involved with,, and has been actively introducing plant species on, MMP for many years. TB = Tony Baker; TD = Tracy Drake; WW = Walt Wright, former manager of Preserve; “Mis-ID” = likely mis-identification (per TB); PV = Palos Verdes Peninsula. “Garden” = nature center garden (north of Plaza del Amo, across the street from Preserve).

Quercus agrifolia: WW and TB planted several trees

Quercus dumosa: Mis-ID

Mirabilis californica: TB planted around entrance to Preserve from seed collected at PV (Portuguese Bend and/or US Fuel Depot, San Pedro).

Romneya coulteri: WW planted?

Platanus racemosa: WW planted?

Eriogonum parvifolium: WW planted, possibly from El Segundo Dunes; also planted from seeds collected at PV (Portuguese Bend, Malaga Cove), and these plants appear different from earlier plantings (TD claimed single plant was present on south side of Preserve in early 1980s). [Note: this could not be confirmed].

Heteromeles arbutifolia: Planted in sump.

Populus nigra: WW planted

Prunus ilicifolia ssp. *lyonii*: Shirley Turner/Girl Scouts planted years ago; individuals may have “volunteered” from earlier plantings.

Eriogonum fasciculatum: Planted in sump, some hydroseeded here, but staff/volunteers started removing feeling it was non-native.

Abronia umbellata: WW planted; TB also attempted to introduce, but this failed.

Rhus integrifolia: Shirley Turner planted one.

Apiastrum angustifolium: Naturally-occurs in sump (TD) [Note: this could not be confirmed.]

Ambroisa psilostachya: Naturally-occurring (TD)

Aster subulatus: TB feels it does not occur, but he has seen it at Harbor Park.

Baccharis pilularis: TB planted at entrance and in sump from seed collected at Portuguese Bend, PV; feels it may be naturally-occurring in sump.

Chaenactis glabriuscula: Does not occur

Encelia californica: WW and TB planted in nature center garden and at Preserve entrance.

Ericameria ericoides: WW and TB planted around 20 plants from seed gathered at Malaga Cove, PV

Gnaphalium bicolor: Naturally-occurring [Note: this could not be confirmed]

Hazardia squarrosa: Mis-ID

Isocoma menziesii: WW planted in garden? Dan Portway may have introduced it in several areas, but possibly natural, since it’s common on PV.

Cryptantha intermedia: Does not occur?

Erysimum insulare: TB planted at entrance and garden.

Lepidium nitidum: Mis-ID?

Isomeris arborea: WW planted?

Sambucus mexicana: TB introduced from seed collected near George F. Canyon, PV.

Cressa truxillensis: ?
Crassula connata: ?
Cucurbita foetidissima: TB planted at entrance and garden, growing it in nursery; TD planted from material collected at Malaga Cove, PV.
Astragalus trichopodus: WW planted in entrance and garden, from seed collected in PV.
Lotus strigosus: ?
Lupinus chamissonis: WW planted, probably from El Segundo Dunes.
Phacelia ramosissima: WW and TB planted, the latter from seed collected at Portuguese Bend, PV.
Camissonia cheiranthifolia: WW planted
Camissonia lewisii: ?
Clarkia unguiculata: Seed introduced in garden
Epilobium ciliatum: Naturally-occurring?
Plantago erecta: TB gave seed collected in Malaga Cove, PV, to Dan Portway, which were spread mainly along eastern edge of Preserve.
Bloomeria crocea: “ “
Phacelia viscida: “ “
Descurainia pinnata: “ “
Calochortus catalinae: “ “
Dichelostemma pulchra: “ “
Hordeum depressum: ?
Hordeum jubatum: ?
Nassella lepida: Seed of *N. lepida* and *N. pulchra* spread in garden and entrance.
Vulpia microstachys: ?
Eriogonum gracile: This species emerged during construction of nature center, when land was graded and barren. Seed was collected, but status not known.
Polygonum hydropiperoides: ?
Polygonum punctatum: ?
Rumex hymenosepalus: TB introduced at entrance and garden from seed collected at Malaga Cove, PV.
Ranunculus californicus: ?
Rosa californica: TD attempted to introduce at entrance and garden.
Salix exigua: TD introduced from cuttings taken near LAX and at PV.
Salix laevigata: WW introduced from cuttings taken at Harbor Park.
Nicotiana clevelandii: Mis-ID
Typha angustifolia: Naturally-occurring?
Lemna minor: ?
Lemna minuta: ?
Plantago bigelovii: ?
Bidens cernua: Naturally-occurring?
Hemizonia pungens: Mis-ID
Holocarpha virgata: Mis-ID
Oenothera hookeri: Naturally-occurring? This species had been weeded-out in past years under the (mistaken) belief it was non-native.
Acopecurus saccatus: Mis-ID

Appendix B. Bird lists

Table B1. Annotated checklist of regularly-occurring birds of the Madrona Marsh Preserve

(See text for explanation of methods)

"Abundant" = averaging >10 individuals/visit or encountered with nearly 100% frequency at a given season.

"Common" = averaging > 5/visit, or freq. >80%.

"Fairly common" = averaging 1 - 5/visit, or freq. 50-80%.

"Uncommon" = averaging 0.5 - 1/visit, or 10-50% freq.

"Rare" = averaging <0.5/visit, or encountered with <10% freq.

Season

Spring: 01 April - 31 May

Summer: 01 June - 31 July

Fall: 01 August - 31 October

Winter: 01 November - 31 March

In addition to species observed at least once a year at the site, the list below also includes those that were historically regular but whose status has changed (e.g., loggerhead shrike), as well as species that have been confirmed as breeding at Madrona Marsh even though they may not currently be regular breeders (e.g., black-necked stilt). Species known to be "vagrants" (such as several eastern wood-warblers) and rare transients that have never occurred more than marginally in coastal southern California (e.g., Bobolink, Virginia's warbler) are listed separately, since they will not be the target of future restoration or management at the site, and because their status in the region is treated elsewhere.

WATERFOWL

American wigeon: Common winter resident, present in variable numbers in spring and, when water is present, fall. Maximum for 2008: 61 on 30 January 2008. 5-year winter ave. (2004-2008): 14.7/visit. Very common and even increasing in abundance, wigeon are now one of the most common ducks at Madrona Marsh (when filled). This species was considered "irregular" as of 1982 [Envicom 1982] but "common" in winter/spring by the mid-1980s (Byhower 1996); it is now frequent at golf course ponds and other constructed wetlands in the Los Angeles area.

Gadwall: Common winter resident and irregular breeder. Maximum for 2008: 42 on 24 February 2008., 5-year winter ave. (2004-2008): 12.5/visit. Noted as breeding in three years since 2000. This species was considered "irregular" in the 1980s [Envicom 1982] [Byhower 1986], and has apparently undergone a dramatic increase in the region, including as a breeder (see [Unitt 2004]).

Mallard: Common permanent resident and breeder, abundant in winter. Maximum for 2008: 125 on 31 December 2008.; 5-year winter average (2004-2008): 29.3/visit; 5-year summer average: 15.7/visit. The mallard breeds most years, though in 1982, it was considered a "potential breeding species with reliable water and secure upland nesting area", with status similar during mid-1970s (Wells and Massey 1976). By mid-1980s, considered a "common resident nester" by Byhower [Byhower 1986]. During the 1970s and 80s, feral mallard-like ducks were frequently seen at Madrona Marsh, though are less common today, probably because few people keep ducks as pets today.

Northern pintail

Previously the most common waterfowl species, pintail were probably attracted through regular discing of the floor of the main vernal pool/marsh at the site, which encouraged a flush of early-successional aquatic forbs and grasses when winter rains arrived. Today they occur in very low numbers, often just one or two per winter, and the species is infrequent in the South Bay, due to the near-total lack of such habitat. However, it remains common inland, along large storm-control channels that are regularly disc'd. This species has experienced a major decline since the 1980s, when considered "abundant" in winter [Byhower 1986]. A high of 30 birds was recorded during surveys by Wells and Massey [Wells 1976], who wrote "winter resident that arrives as soon as there is a decent puddle in the marsh ... formerly most abundant of all waterfowl, with flocks of 30 not uncommon".

Blue-winged teal: Uncommon transient and winter resident, lingering into early summer; most common in winter, maximum for 2008: 7 on 30 January 2008. This species was considered "irregular" as of 1982 [Envicom 1982], and of "questionable" occurrence by Byhower [Byhower 1986].

Cinnamon teal: Fairly common early spring transient (arriving in late winter); rare fall transient and breeder (in 2001); maximum for 2008 16 on 08 March 2008. Considered a "probable breeder" in 1982, and a high of 16 birds recorded by Wells and Massey [Wells 1976], so its status is similar today (e.g., in 1982 it was also absent in summer and fall). It may have been extirpated as a wintering resident, similar to its situation at the Ballona Wetlands [Cooper 2006], Wells and Massey considered it a "winter resident ... arriv(ing) after the first good rain and stay(ing) till [*sic*] the marsh dries up," and Byhower [Byhower 1986] found it an "abundant" breeding resident, presumably year-round.

Green-winged teal: Uncommon winter resident in low numbers; up to three present in 2008. This species may be more common now following a decline in the 1970s and 80s (when irregular [Byhower 1986]; according to [Wells 1976] it was "more abundant in previous years, second only to the (northern) pintail"). The original decline was possibly due to a cessation of discing, which probably encouraged weeds favored by this and other dabbling ducks. In our area, this species seems to favor very shallow, herbaceous-dominated wetlands (as does the northern pintail, which has also declined at the Preserve), and is still very common in winter where this habitat persists, like at the San Gabriel River.

Northern shoveler: Common winter resident; maximum for 2008: 73 on 24 February 2008; average for 2008: 24.3/visit. Though no more than five detected by Wells and Massey [Wells 1976] (who noted: "in former years, far more numerous"), this species was deemed "common" in winter and spring by Byhower [Byhower 1986] and has apparently remained so.

Ring-necked duck: Fairly common winter visitor; maximum for 2008: seven on 27 March 2008. Rare prior to the 1990s [Envicom 1982] [Byhower 1986], and likely increasing somewhat in the area; see e.g., [Cooper 2006].

Ruddy duck: Fairly common winter visitor and irregular breeder; maximum for 2008: six in late February 2008. Breeding noted in two years since 2000. Its former status was similar - noted as an "irregular breeder" in 1982 EIR, with a high of five birds found by Wells and Massey [Wells 1976], yet considered an "abundant" breeding resident by Byhower [Byhower 1986].

Hooded merganser: Rare but apparently increasing winter visitor in very small numbers.

GREBES

Eared grebe: Listed by Byhower [Byhower 1986] as occurring in winter [no abundance info]. It is likely that the reduction of low-profile marsh discourages its presence today.

Pied-billed grebe: Fairly common resident (when water is present) but in very small numbers (generally 1-4 seen); maximum for 2008: seven on 24 April 2008; breeding noted by Byhower [Byhower 1986] and in most years since 2000. Its former status was similar - Envicom [1982] states "nests in marsh. Absent in dry years. Requires year-round open water."

CORMORANT and WADERS

Double-crested Cormorant: Rare visitor, presumably mostly overhead.

Great egret: Uncommon but apparently increasing year-round visitor; maximum for 2008 4 on 22 February 2008; they appear more regularly as a spring through fall visitor since 1992, when essentially absent during the breeding season; historically unrecorded [Envicom 1982].

Great blue heron: Uncommon year-round visitor (1-2 birds when present).

Snowy egret: Fairly common winter and spring resident; maximum for 2008 12 on 01 April 2008. Increasing in numbers since 1992, particularly in spring, when small numbers are resident through the breeding season (following regional pattern; see e.g., [Cooper 2006]); considered "irregular" in 1982 [Envicom 1982] and "uncommon" in 1986 [Byhower 1986], though Wells and Massey [Wells 1976] assert it was "a regular winter visitor in past years".

Green heron: Uncommon visitor or resident in small numbers (1-2 birds); also present during surveys in 1976/1981 and considered an "uncommon resident" by Byhower [Byhower 1986], so numbers probably stable for past few decades. No evidence of nesting [T. Drake, *in litt.*].

Black-crowned night-heron: Uncommon visitor year-round (1-2 birds). Considered "irregular" in 1982 [Envicom 1982], and "uncommon" by Byhower [Byhower 1986].

RAPTORS

Red-shouldered hawk: Permanent resident (1-2 birds), recorded as breeding by Drake [2005], but without details and probably not on-site. Considered "irregular" in 1982 [Envicom 1982], but Byhower [Byhower 1986] found it to be resident.

Red-tailed hawk: Permanent resident, up to 3/visit; breeding two years since 2000; considered a "potential breeder" in 1982 [Envicom 1982], though graphed as only present in fall and winter (perhaps colonized as a nester during 1980s, as Byhower found it to be a common breeding resident). Apparently breeds regularly at a sump along Maple Ave. to the north of the Preserve (T. Drake, *in litt.*).

Sharp-shinned hawk: Rare winter visitor, generally recorded singly. Status little-changed in recent years; considered "irregular" in 1980s [Envicom 1982], [Byhower 1986].

Cooper's hawk: Permanent resident (1-2 birds) and irregular breeder; increasing in frequency (especially during the breeding season) since the late 1990s when birds started nesting in urban situations throughout southern California e.g., [Unitt 2005]; breeding noted in two years since 2000. This species has increased greatly since the 1980s, when it was considered "irregular" by [Envicom 1982] and "questionable" by Byhower [Byhower 1986].

Merlin: Rare fall and winter visitor, generally recorded singly. Clearly increasing in recent years; unrecorded by earlier surveys and visits (see [Envicom 1982]).

American kestrel: Resident (1-2 birds) during fall and winter, less regular during spring and summer. This species formerly bred on the site [Byhower 1986], though it has been unrecorded as breeding since 2000 if not earlier. Undoubtedly more numerous historically, Wells and Massey [Wells 1976] detected a high of 10 birds (a number hard to imagine today in coastal Los Angeles Co.).

RAILS

Sora: Uncommon transient, mainly in spring; status similar as in 1980s [Envicom 1982, Byhower 1986].

Virginia rail: Rare transient, typically singly; Wells and Massey [Wells 1976] considered its presence dependent on water levels in MMP, asserting it was more common in prior years, and Byhower [Byhower 1986] considered its presence "questionable".

American coot: Common breeding resident, most numerous in spring; max. (2008) 17 on 15 Apr. Breeding most years, and noted as breeding in 1982 [Envicom 1982], with a high of 7 recorded during April/May 1981.

SHOREBIRDS

Note: The number and diversity of shorebirds is highly dependent on the presence of shallow-water habitat, especially drying, muddy edges of ponds. This situation is infrequently present at the site, and shorebirds are consequently scarce on the ground here, though they may pass overhead in numbers, particularly during spring (April) and fall (July - Sept.) migration. Wells and Massey [Wells 1976] note that several shorebirds were formerly more common, as they were surveying during a drought, but Byhower [Byhower 1986] considered all shorebirds except for the Wilson's snipe to be uncommon or irregular.

Killdeer: Formerly a common spring transient and early-summer resident, often arriving in late winter; uncommon in fall and late winter. Breeding was noted three years since 2000, noted as nesting in 1982 [Envicom 1982], and Wells and Massey [Wells 1976] felt that "one or two pairs nest in environs of marsh." However, recent years have seen no nesting, and the species appears to be no longer present continuously throughout the winter.

Greater yellowlegs: Uncommon transient and winter visitor.

Solitary sandpiper: Rare transient, generally recorded singly.

Least sandpiper: Rare transient, possibly not annual.

Spotted sandpiper: Rare transient.

Long-billed dowitcher: Rare and irregular transient in past years, but increasing and now up to 20 present when water levels are high, as in late winter (T. Drake, *in litt.*).

Wilson's snipe: Uncommon transient and winter visitor; possibly less regular and numerous today as a winterer than formerly; Wells and Massey [Wells 1976] found "up to 25" from October until April, Byhower [Byhower 1986] found it to be "common" from fall through spring, and Moody recorded double-digit counts during the 1990s. The loss of low-profile marsh vegetation (and increase in tall reeds and riparian trees) may account for its decline.

Black-necked stilt: Irregular spring transient, at least once remaining to breed (2005). Also considered "irregular" in the 1980s [Envicom 1982], [Byhower 1986], and doubtfully part of the regular historical or modern avifauna.

GULLS and TERNS

Note: Gulls are now typically observed flying over the site, rather than landing. Wells and Massey [Wells 1976] wrote that gulls are found "singly or in small numbers in marsh and environs, usually loafing" and claim that more species were seen in previous years.

Ring-billed gull: Rare [but regular] in winter.

California gull: Common winter resident; maximum for 2008 46 on 20 December 2008.

Western gull: Common resident, most numerous in winter; maximum for 2008: 73 on 03 April 2008.

Caspian tern: Rare visitor, presumably mostly overhead.

PIGEONS and DOVES

Rock pigeon (introduced species): Common resident, most numerous fall/winter; often recorded as flying overhead. Also common in previous decades (e.g., [Wells 1976]).

Eurasian collared-dove (introduced species): Rare visitor; recent arrival to California, but dramatically increasing so may become very common very soon.

Mourning dove: Common breeding resident, becoming abundant in fall and winter as migrants arrive; breeding noted most years since 2000; Wells and Massey [Wells 1976] note a similar pattern, with large flocks in winter (30-40 birds) and smaller numbers nesting in spring.

PARROTS

Mitred parakeet/Yellow-chevroned parakeet (introduced species): Rarely seen, presumably most (all?) records involve birds overhead.

SWIFTS and HUMMINGBIRDS

Vaux's swift: Uncommon spring transient in variable numbers (typically depending on weather conditions); also noted by Wells and Massey [Wells 1976] as a spring migrant (high of 20 birds).

White-throated swift: Fairly common spring transient, uncommon to rare at other times of year. Probably scarce historically (listed as "irregular" by [Envicom 1982]), before construction of cement highway overpasses, etc., that have been adopted as nesting sites.

Anna's hummingbird: Common breeding resident (winter average is eight birds/visit); breeding noted each year since 2000; resident and presumed breeding by previous investigators (Wells and Massey [Torrance 1976] found two territories).

Allen's hummingbird: Common breeding resident (winter average is six birds/visit); breeding noted each year since 2000; dramatic increase since 1992, when mainly present during summer and fall. Listed as "irregular" by [Envicom 1982], but considered an "uncommon resident" in the mid-1980s by Byhower [Byhower 1986].

Rufous hummingbird: Apparently a rare transient; must be told with care from above species. **Calliope hummingbird** likely also occurs as a rare transient, at least in some years.

KINGFISHERS

Belted kingfisher: Rare transient and winter visitor (considered "questionable" by Byhower, and probably a recent arrival following more regular use of mosquitofish by L.A. Co. Vector Control).

WOODPECKERS

Downy woodpecker: Fairly common resident, up to three birds noted most visits. This species has undergone a dramatic increase since the 1990s, when a rare visitor (and not occurring prior); breeding noted in three years since 2000.

Northern flicker: Fairly common winter visitor and uncommon transient; max. (2008) 7 on 16 Dec. Apparently a regular fall and winter resident during the 1970s and 80s (various sources), so status apparently little-changed from then.

FLYCATCHERS

All flycatchers, including phoebes, were apparently uncommon or irregular during surveys by Wells and Massey [Wells 1976], [Envicom 1982], and Byhower [Byhower 1986], recorded in small numbers during migration if at all.

Olive-sided flycatcher: Uncommon transient (singles).

Western wood-pewee: Fairly common transient (up to three birds/day).

Willow flycatcher: Uncommon transient (singles).

Dusky flycatcher: Rare transient.

Pacific-slope flycatcher: Fairly common transient (up to four birds/day).

Black phoebe: Fairly common, irregularly-breeding resident, with up to 12 present in 2008; breeding noted in 2000 and 2008. Became established year-round during early 1990s, and formerly only a post-breeding visitor and winter resident, and much less common [Wells 1976] [Envicom 1982] [Byhower 1986]; this species has bred most years since 2000.

Say's phoebe: Fairly common resident, up to 2 adults present in 2008; breeding first noted in 2008. Major increase (formerly an uncommon fall and winter resident), colonizing as a nester during mid-2000s (and breeding three years since 2000). Unrecorded by Wells and Massey [Wells 1976] or Byhower [Byhower 1986], this species continues to increase in the region.

Ash-throated flycatcher: Fairly common spring transient and mid-summer visitor; rare fall transient. No evidence of local breeding, and no change in status since 1970s.

Cassin's kingbird: Fairly common winter resident; irregularly present at other seasons. Major increase since mid-2000s (region-wide; formerly an uncommon transient at site), and may soon breed.

Western kingbird: Fairly common spring transient, rare at other seasons; may have increased since the 1970s (seen once by Wells and Massey [Wells 1976] and evidently unrecorded by [Envicom 1982]) but has not bred.

VIREOS

Cassin's vireo: Uncommon to rare transient.

Warbling vireo: Common spring transient, less common in fall; maximum for 2008: 27 on 09 May 2008. This species has certainly increased with the planting of willows and other trees, as Byhower [Byhower 1986] considered it "rare".

JAYS and CROWS

Western scrub-jay: Fairly common breeding resident; maximum for 2008 seven on 02 September 2008. Breeding noted in five years since 2000, with a slight decline in maximum numbers since 1992. This species has undergone a major local increase since 1970s, when only recorded as a fall visitor [Wells 1976], [Envicom 1982], and an "uncommon" resident (non-breeding) in the mid-1980s [Byhower 1986].

American crow: Common resident, breeding in surrounding neighborhood; maximum for 2008 47 on 18 September 2008. Numbers much higher in recent decades ([Wells 1976] recorded a high of only seven birds), with breeding most years since 2000. Unrecorded as breeding by Wells and Massey [Wells 1976] or Byhower [Byhower 1986],

though [Envicom 1982] noted nesting in eucalyptus trees, finding that it foraged "off site", presumably in the open fields formerly located to the east (since developed).

Common raven: Common breeding resident; maximum for 2008 11 on 20 December 2008. Breeding most years since 2000; increase since 1992 at all seasons, most dramatically during summer. A recent colonist since the 1980s (various sources).

SWALLOWS

Tree swallow: Uncommon early spring transient (especially in March); status little-changed from 1970s.

Violet-green swallow: Rare transient.

Northern rough-winged swallow: Common to abundant spring transient (arriving in March) and irregular breeder (presumably off-site, as little habitat exists on-site); maximum for 2008: 100 on 09 April 2008. Breeding noted (without details) in two years since 2000 (but apparently only a spring transient during 1970s and 1980s).

Cliff swallow: Common spring and summer resident, uncommon in fall. Breeding noted in four years since 2000, and noted as breeding nearby during 1970s and 1980s [Wells 1976] [Envicom 1982] [Byhower 1986].

Barn swallow: Common to abundant spring and summer resident, fairly common in fall. Breeding noted in five years since 2000. Local population increase apparent during past decades - recorded once by Wells and Massey [Wells 1976], listed as "irregular" by [Envicom 1982] and "uncommon" by Byhower [Byhower 1986].

Bank swallow: Rare transient

BUSHTIT

Bushtit: Abundant resident; maximum for 2008 **101** on 07 February, 2008. Breeding noted every year since 2000, and apparently increasing since the 1970s and 80s (owing to increased tree and shrub cover?); unrecorded by Wells and Massey [Wells 1976] and noted as "irregular" [Envicom 1982] [Byhower 1986]. This species breeds commonly in highly-urbanized situations, such as in landscaping within apartment complexes, office parks, etc.

WRENS

House wren: Common fall transient, with smaller numbers remaining through winter; less common in spring. This species was considered "irregular" by [Envicom 1982] and "rare" by Byhower [Byhower 1986], increasing in recent years throughout coastal Los Angeles County [Cooper 2006; D. Cooper, pers. obs.].

Bewick's wren: Rare fall and winter visitor, not recorded every year.

Marsh wren: Unpredictably present, but always in very small numbers [generally singly] and is probably best considered an uncommon-to-rare transient. Inexplicably listed as a winter and spring "visitor" by [Envicom 1982], it was apparently unrecorded by Wells and Massey [Wells 1976], and missed [by Envicom] in April/May 1981 surveys. The fact that this species has been absent or irregular since the formation of MMP in the late 1960s/early 1970s suggests that it was not present historically at the site. The local resident race in southwestern California, ssp. *clarkii*, is considered a Bird Species of Special Concern by the Dept. of Fish and Game [Shuford 2008].

KINGLET and THRUSHES

Ruby-crowned kinglet: Common winter resident; maximum for 2008 9 on 30 November 2008. Apparently a recent colonizer, probably owing to increased tree [willow] cover; recorded occasionally through 1970s and 80s [Wells 1976] [Envicom 1982] [Byhower 1986].

Blue-gray gnatcatcher: Irregularly common fall and winter resident; maximum for 2008 6 on 02 January 2008. (but absent winter 2009-10). Listed as "irregular" by [Envicom 1982] and "uncommon" by Byhower [Byhower 1986].

Hermit thrush: Fairly common winter resident; maximum for 2008 4 on 09 December 2008. Listed as "irregular" by [Envicom 1982] and "questionable" by Byhower [Byhower 1986] so probably attracted by planted trees (especially willows) in recent years and increasing in regularity.

Swainson's thrush: Fairly common spring transient, rare in fall; maximum for 2008 5 on 08-09 May 2008. Listed as rare/irregular by [Envicom 1982] and Byhower [Byhower 1986], so probably attracted by planted trees (especially willows) in recent years.

American robin: Uncommon winter visitor and transient; highly variable in numbers from year to year. Listed as "irregular" by [Envicom 1982] and "questionable" by Byhower [Byhower 1986].

THRASHERS

Northern mockingbird: Common breeding resident; nesting noted most years; listed as a year-round resident though not recorded as nesting on the site (but in the surrounding area) in [Envicom 1982], but considered a nesting species by Byhower [Byhower 1986].

STARLING

European starling (introduced species): Abundant breeding resident; breeding noted 2008 (only year since 2000); breeding noted by [Envicom 1982], with up to 60 detected in the mid-1970s [*Ibid*].

WAXWING

Cedar waxwing: Irregularly common transient and winter resident. Listed as "irregular" by [Envicom 1982].

WOOD-WARBLERS

Orange-crowned warbler: Fairly common transient and winter visitor. Purported breeding noted in three years since 2000 without details and likely in error. The apparent increase in recent years, particularly during the nesting season – when absent historically; see [Envicom 1982] [Byhower 1986] – is probably due to increased tree and shrub cover.

Nashville warbler: Uncommon transient.

Yellow warbler: Fairly common transient, particularly in late spring; maximum for 2008 11 on 27 May 2009; rare in winter. Noted by [Envicom 1982] as occurring "in marsh willows" in fall and spring, which is true today.

Yellow-rumped "Audubon's" warbler: Abundant winter visitor ("myrtle" warbler uncommon in winter), when present in double-digits. Considered "irregular" by Wells and Massey [Wells 1976], so undoubtedly present in higher numbers now with riparian, and other, plantings.

Black-throated gray warbler: Fairly common winter visitor and uncommon transient; listed as "irregular" by [Envicom 1982] (and "questionable" by [Byhower 1986]), so probably attracted by planted trees (especially sycamores and willows) in recent years.

Hermit warbler: Rare transient.

Townsend's warbler: Fairly common spring transient, uncommon in fall and winter. Not listed as occurring by Byhower [Byhower 1986] so probably attracted by planted trees (especially sycamores and willows) in recent years.

Palm warbler: Rare late fall transient; wintered 2007-08 (T. Drake, *in litt.*).

Common yellowthroat: Common breeding resident (up to 12 birds), with breeding noted in six years since 2000. Its seasonal status is apparently unchanged since the 1970s, though its abundance has apparently increased with an expansion of emergent marsh vegetation: a maximum of just two birds was found by Wells and Massey [Wells 1976] in fall and winter, and it was missed altogether on the spring 1981 surveys [Envicom 1982].

MacGillivray's warbler: Rare transient, though cryptic and probably overlooked.

Wilson's warbler: Common spring transient, uncommon in fall and rare in winter; maximum for 2008 41 on 16 May 2008. Listed as occurring in "small numbers" by

[Envicom 1982], so probably attracted by planted trees [esp. sycamores and willows] in recent years.

TANAGER

Western tanager: Fairly common spring transient, uncommon in fall; maximum for 2008 16 on 08 May 2008. Like the warbling vireo and many other migrants, this species has apparently increased in abundance in recent years with riparian plantings.

SPARROWS

California towhee: Common breeding resident (up to nine birds); breeding noted in five years since 2000; major increase at all seasons since late 1990s, when still a rare/irregular visitor; undoubtedly attracted by increase in planted shrubs in recent years.

Chipping sparrow: Fairly common fall transient and winter resident; rare in spring; apparently increasing - unrecorded in winter prior to the mid-2000s [Torrance 1976] [Envicom 1982].

Clay-colored/Brewer's sparrows: Both rare fall transients, generally found singly.

Lark sparrow: Fairly common winter resident, uncommon in fall; like Chipping sparrow, increasing as a winter visitor through the 1990s and 2000s (unrecorded by [Wells 1976], [Envicom 1982]).

Savannah sparrow: Common transient, remaining in small numbers through winter. Reports of "Belding's savannah sparrow" would require full documentation.

Fox sparrow: Uncommon winter resident; increasing since the 1990s (formerly a rare visitor).

Lincoln's sparrow: Fairly common fall and winter resident, occurring in low numbers.

Song sparrow: Status complex - Rare fall transient today; one pair evidently resident (if not breeding) during 1970s [Wells 1976], rare in spring and summer during the 1990s, then present and breeding (at least in 2000), and now rare again. Drake [Drake 2005] states that it has bred in the "sump", a steep-sided, vegetated storm-retention basin in the southeastern corner of the Preserve, but probably in error (T. Drake, *in litt.*), so possibly simply an irregular resident, though in very small numbers. This species can be very common in native habitat in the region (e.g., Ballona Wetlands, [Cooper 2006]), but was apparently never common at Madrona Marsh.

Golden-crowned sparrow: Uncommon winter resident and (spring) transient. Unrecorded by Byhower [Byhower 1986] so probably increasing with proliferation of planted shrubs.

White-crowned sparrow: Abundant winter resident; maximum for 2008: 211 birds in 2008; status probably little-changed - also considered "common" by Byhower [Byhower 1986].

GROSBEAKS and BUNTINGS

Note: All grosbeaks and buntings were considered rare/irregular by [Envicom 1982] and by Byhower [Byhower 1986].

Black-headed grosbeak: Fairly common spring and uncommon fall transient; maximum for 2008 eight on 14 May, 2008.

Blue grosbeak: Uncommon fall and rare spring transient; no breeding records.

Lazuli bunting: Fairly common transient.

BLACKBIRDS

Red-winged blackbird: Abundant breeding resident (up to 100 birds); breeding noted in most years since 2000. Breeding also noted in earlier years [Envicom 1982], with 20 birds observed in spring 1981. Wells and Massey [Wells 1976] noted feeding mainly in "adjacent (agricultural) fields" and even farther away.

Yellow-headed blackbird: Uncommon spring transient, recorded annually in small numbers (up to 4; T. Drake, *in litt.*).

Western meadowlark: Common winter resident, extirpated as a breeding resident; maximum for 2008 30 on 28 October 2008; usually recorded in the single digits. Remarkably, noted by [Envicom 1982] as nesting "on edges of marsh and forag(ing) in fields" as late as the early 1980s, though by the mid-1980s [Byhower 1986], nesting was considered questionable. It is likely that the dramatic loss of open space surrounding the site since the 1970s, i.e., west of Maple Drive, led directly to the loss of this species as a nester at the site, and contributed to its current extirpated status in the South Bay (K. Larson, pers. comm.). The western meadowlark is now nearly absent as a breeder on the coastal slope of Los Angeles Co., and is considered a Los Angeles County Bird Species of Concern LAAS 2009].

Great-tailed grackle: Uncommon spring visitor, remaining year-round in some years; first appeared in the mid-1990s, but rare prior to late 2000s. No breeding records (yet).

Brown-headed cowbird: Fairly common breeding resident; breeding noted in five years since 2000. This species has apparently increased recently; only considered a winter visitor and spring transient during 1970s and 80s. This increase may be related to the abundance of shrub- and tree-nesting species whose nests it parasitizes; e.g., common yellowthroat, orioles.

Hooded oriole: Uncommon spring and summer resident, lingering into early fall; breeding noted in five years since 2000. Hooded oriole numbers have increased recently, mirroring trends elsewhere in the region [Cooper 2006]; only recorded as a transient, and rarely, prior to mid-2000s.

Bullock's oriole: Fairly common in spring, occurring less commonly through summer and fall; breeding noted in most years since 2000. This species has apparently colonized as a nester since the 1970s and 80s [when rare], probably owing to the increase in sycamores, poplars and other planted trees.

FINCHES

House finch: Abundant breeding resident, most common in summer, when flocks of several hundred may occur. Breeding noted in most years since 2000. Large winter flocks and breeding on-site also noted by previous investigators.

Lesser goldfinch: Fairly common (mainly fall) transient and winter resident, uncommon through summer. Winter maximum for 2008: 19 birds on 29 January 2008. Interestingly, there are no breeding records of this species.

American goldfinch: Abundant breeding resident; breeding noted most years since 2000; see figure 7. Massive flocks in fall; e.g., 301 birds on 18 September 2008. Formerly, 1970s through early 1990s, present only in fall and winter, this species has increased dramatically, began nesting in late 1990s, and is now abundant year-round. The increase in willow forest habitat and planted sycamore trees has likely enabled the dramatic increase of this species locally.



Figure 7. American goldfinch *Spinus tristis* on nest (in coast live oak *Quercus agrifolia*) near entrance to MMP, 02 June 2010 (photo by Daniel S. Cooper).

MISCELANEOUS EXOTICS

House sparrow (introduced species): Common resident; considered nesting in 1980s [Envicom 1982] [Byhower 1986], but no recent breeding evidence on-site (though nests in surrounding neighborhoods).

Orange bishop (introduced species): Common summer and fall resident, less common in winter. This species first bred in 2007 (D. Moody, unpublished data), and is likely established as a permanent feature of the site's avifauna.

Nutmeg mannikin (introduced species): Common fall transient, appearing irregularly at other times of year.

Table B2. Bird species recorded during winter and breeding surveys, 2009-10 (DSC; this study)

Presence indicated by “x”; f/o = observed flying-over and not landing or using habitat for foraging. See text for “breeding status” codes. “Sp. #” is the number listed on the Madrona Marsh Bird Checklist. Birds reported (to DSC) or seen after the end of the survey on court day are in parentheses.

	Breeding survey					Breeding status	Winter survey				
	(All 2010)						2009	2009	2010	2010	2010
	16 Apr.	23 Apr.	06 May	17 May	07 June		02 Dec.	10 Dec.	10 Jan.	29 Jan.	16 Feb.
American Wigeon	x						x	x	x	x	x
Gadwall	x								x	x	x
Mallard	x	x	x	x	x	1 a	x	x	x	x	x
Blue-winged Teal	x										
Cinnamon Teal	x								x	x	x
Green-winged Teal										x	
Northern Shoveler							x	x	x	x	x
Northern Pintail									x	x	
Ring-necked Duck											x
Hooded Merganser										x	x
Double-cr. Cormorant		f/o									
Great Egret	x	x		x	x						x
Great Blue Heron											
Snowy Egret	x	x	x								
Green Heron	x		x								
Black-crowned Night-heron											
Sharp-shinned Hawk	x							x	x	x	x
Cooper's Hawk	x	x	x	x		3		x	x	x	
Red-shouldered Hawk		(x)			x						
Red-tailed Hawk		x			x		x	x	x	x	
American Kestrel							x	x	x	x	x
Peregrine Falcon										x	

	Breeding survey					Breeding status	Winter survey				
	16 Apr.	23 Apr.	06 May	17 May	07 June		02 Dec.	10 Dec.	10 Jan.	29 Jan.	16 Feb.
Sora	x	x							x		
American Coot	x	x	x			1a	x	x	x	x	x
Killdeer	f/o										
Long-billed Dowitcher	x	x									
California Gull							f/o	f/o			
Western Gull	f/o										
Rock Pigeon	f/b		f/o								
Mourning Dove	x			x	x	2	x	x	x	x	x
Yellow-chevroned Parakeet	x										
White-throated Swift	x	x									
Anna's Hummingbird	x	x	x		x	1a	x	x	x	x	x
Allen's Hummingbird	x	x	x	x	x	2	x	x	x	x	x
Red-breasted Sapsucker								x			
Downy Woodpecker		x		x							
No. ("red-shafted") Flicker	x						x	x	x	x	x
No. ("yellow-shafted") Flicker								x		x	
Western Wood-Pewee				x							
Willow Flycatcher				x							
Hammond's Flycatcher	x										
Pacific-slope Flycatcher		(x)		x							
Black Phoebe	x	x		x	x	3	x	x	x	x	x
Say's Phoebe	x	x	x	x	x	1a	x	x	x	x	x
Ash-throated Flycatcher	x	x		x							
Cassin's Kingbird		(x)					x	x			
Western Kingbird	x			x							
Cassin's Vireo			x								
Warbling Vireo		x	x	x							
Western Scrub-Jay	x				x		x	x			x

	Breeding survey					Breeding status	Winter survey				
	16 Apr.	23 Apr.	06 May	17 May	07 June		02 Dec.	10 Dec.	10 Jan.	29 Jan.	16 Feb.
American Crow	x	x	x	x		1b	x	x	x	x	x
Common Raven	x	x	x		x	1a				x	
Tree Swallow	x										
No Rough-winged Swallow	x		x	x	x						
Bank Swallow				x							
Cliff Swallow	x	x		x	x						
Barn Swallow	x	x		x	x	3					
Bushtit	x	x	x	x	x	1a	x	x	x	x	x
House Wren							x	x		x	x
Ruby-crowned Kinglet								x	x	x	x
Blue-gray Gnatcatcher	x						x				
Western Bluebird							x				
Hermit Thrush							x				
Swainson's Thrush				x							
American Robin							x				
Northern Mockingbird		x	x			1b	x	x	x	x	
European Starling	x	f/o	x	x		1b	x	x	x	x	x
American Pipit								f/o			
Cedar Waxwing	x			x				x			
Orange-crowned Warbler	x	x					x	x	x	x	x
Yellow Warbler		x		x				x			
Yellow-r. (Audubon's) Warbler	x	x					x	x	x	x	x
Yellow-r. (Myrtle) Warbler		x					x	x			x
Black-throated Gray Warbler	x	x					x		x		
Townsend's Warbler				x				x			
Common Yellowthroat	x	x	x	x		1a	x	x	x	x	x
Wilson's Warbler	x	x	x	x							
Western Tanager			x	x							

	Breeding survey					Breeding status	Winter survey				
	16 Apr.	23 Apr.	06 May	17 May	07 June		02 Dec.	10 Dec.	10 Jan.	29 Jan.	16 Feb.
California Towhee	x		x		x	1a	x	x	x	x	
Chipping Sparrow	x										
Vesper Sparrow									x		
Lark Sparrow		x					x	x	x	x	x
Black-throated Sparrow	x										
Savannah Sparrow	x						x	x	x	x	x
Lincoln's Sparrow	x									x	x
Song Sparrow										x	
White-crowned Sparrow	x						x	x	x	x	x
Black-headed Grosbeak	x			x							
Blue Grosbeak	x	(x)									
Lazuli Bunting	x			x							
Red-winged Blackbird	x	x	x	x	x	1a	x	x		x	
Western Meadowlark							x	x	x	x	x
Great-tailed Grackle	x	x	x	x							
Brown-headed Cowbird		x		x	x	2					
Hooded Oriole		x									
House Finch	x	x	x	x	x	1b	x	x	x	x	x
Lesser Goldfinch	x			x			x	x	x	x	x
American Goldfinch	x	x	x	x	x	1a	x	x	x	x	x
House Sparrow	x	x									
Nutmeg Mannikin									x	x	x
Orange Bishop	x	x		x	x		x	x		x	
Total spp.	59	43	25	36	20		38	43	37	44	36

Appendix C. Herptiles and Mammals

Table C1. Herptiles and Mammals of Madrona Marsh Preserve

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
HERPTILES								
Western toad	<i>Bufo boreas</i>	Native	Absent (extirpated)	Considered present	"Observed in large numbers as newly metamorphosed juveniles on the marsh site [current MM]. Adults were relatively rare and were observed on both sites."	3 observed	"Whether these toads are present on the Preserve is under review"	Photograph showing 2-3 adults from "winter 2001" found at nature center, but possibly of released/introduced animals; 5 adults released Dec. 2010 from Lytle Cr. [TD]
Western spadefoot	<i>Spea hammondi</i>	Native	Absent (extirpated)	Possibly present	"Collected as tadpoles on the 110-acre grassland site...Since extensive tadpole collecting was not undertaken in the marsh it is not known whether they breed there also, but it seems likely."	[not listed]; notes "no other populations known in Los Angeles Basin (Morafka 1981)"	"Five male individuals were dropped on the Preserve from the Lomita Toad Preserve in April 2001"	Not persisting/extirpated.

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
Pacific treefrog	<i>Pseudocris regilla</i>	Native	Present	Considered present	"Observed in large numbers both as adults and newly metamorphosed juveniles only on the marsh site. It is especially common in the reeds and grasses surrounding the water of the marsh."	"Numerous individuals detected"	Listed; no information	Photographed 2010 (abundant)
Bullfrog	<i>Rana catesbiana</i>	Non-native	Irregularly present	Considered present	"Observed both as adults and tadpoles on the north side of the marsh in the drainage canal along Monterey St."	3 observed; notes "presence indicates availability to permanent water, probably the drainage canal"	Listed; no information	Photographed (2) in 2005 [EF]
Pacific/garden slender-salamander	<i>Batrachoseps pacificus/major</i>	Native?	Absent	Possibly present	[not listed]	[not listed]	"Though this salamander has not recently been seen at MMP, a herpetologist (David Morafka) believed it is 'probably still here' as they have been observed in local neighborhoods."	No confirmed records.
Southern alligator-lizard	<i>Elgaria multicarinata</i>	Native	Present	Considered present	"Collected on both sites. They were usually associated either with eucalyptus tree litter or the trash strewn on both sites."	[not listed]	"Declining at MMP since the 1970s. Predation by foxes, shrikes, hawks, owls, and domesticated mammals are important causes."	Photographed 2010 (uncommon)

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
Western fence-lizard	<i>Sceloporus occidentalis</i>	Native	Present (introduced)	Considered present	[not listed]	[not listed]	"Last seen at MMP Oct. 2004"	Photographed 2010 (common)
Side-blotched lizard	<i>Uta stansburiana</i>	Native	Present (introduced)	Considered present	[not listed]	[not listed]	Listed; no information	Photographed 2010 (uncommon)
Coast horned lizard	<i>Phrynosoma coronatum</i>	Native	Absent (extirpated?)	Possibly present	[not listed]	[not listed]	"David Moody observed one on the Preserve in Sept. 1991"	Photographed 2009; probably same individual released in 2008
California legless lizard	<i>Anniella pulchra</i>	Native	Absent	[not listed]	[not listed]	[not listed]	Listed; no information	No records
Gopher snake	<i>Pituophis melanoleucus</i>	Native	Present	Considered present	"Collected on both sites."	1 observed	"Resides on the Preserve and is common in dry sandy soil, open brush land, and prairies."	Photographed 2010 (uncommon resident)
Western yellow-bellied racer	<i>Coluber constrictor</i>	Native	Absent (extirpated)	Possibly present	"Observed on the marsh site."	3 observed	Listed; no information	Not persisting/ extirpated
Striped racer	<i>Masticophis lateralis</i>	Non-native	Absent	Possibly present	[not listed]	[not listed]		No records
California kingsnake	<i>Lampropeltis getulus</i>	Native	Present	Considered present	[not listed]	[not listed]	"Resides on the Preserve and can be seen in coastal marshes and sandy areas."	Photographed June 2009 (rare resident)
Western ringneck snake	<i>Diadophis punctatus</i>	Native?	Absent	Considered present	[not listed]	[not listed]		No records

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
Garter snake (species unk.)	<i>Thamnophis</i> sp.	N/A	Absent	Considered present	[not listed]	[not listed]	Both <i>T. couchi</i> and <i>T. sirtalis</i> listed by Drake (2005) as present, with no evidence.	No records
Red-eared slider	<i>Trachemys scripta</i>	Non-native	Present	[not listed]	[not listed]	[not listed]	Listed as "to be removed" (along w/ iguana and desert tortoise)	Photographed 2010 (uncommon)
MAMMALS								
Virginia opossum	<i>Didelphis marsupialis</i>	Native	Present	Considered present	[not listed]	[not listed]	Listed; no information	Photograph found in MMNC (from 1990s?)
Broad-handed mole	<i>Scapanus latimanus</i>	Native	Absent	Considered present	[not listed]	[not listed]	Listed; no information	No records
Ornate shrew	<i>Sorex ornatus</i>	Native	Absent	Considered present	[not listed]	[not listed]	Listed; no information	No records
Long-tailed weasel	<i>Mustela frenata</i>	Native	Absent	Considered present	[not listed]	[not listed]		No records
House mouse	<i>Mus musculus</i>	Non-native	Unknown	Considered present	"The only small, granivorous rodent observed on the marsh and environs"	"4 captured at edge of marsh"	Listed; no information	Photographed 16 Oct. 2011 (T. Drake)
California vole	<i>Microtis californicus</i>	Native	Unknown	Considered present	[not listed]	"1 captured at edge of marsh vegetation"	Listed; no information	No records
Western harvest-mouse	<i>Reithrodontomys megalotis</i>	Native	Unknown	Considered present	[not listed]	[not listed]	Listed; no information	No records.
Deer mouse	<i>Peromyscus</i> sp.	Native	Unknown	Considered present	[not listed]	[not listed]	Listed; no information	No records

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
Botta's pocket-gopher	<i>Thomomys bottae</i>	Native	Present	Considered present	"Extremely abundant throughout the marsh and environs, as evidenced by the profusion of recent burrows."	"numerous signs observed"	Listed; no information	Abundant evidence (active burrows)
Norway rat	<i>Rattus norvegicus</i>	Non-native	Unknown	Considered present	[not listed]	"numerous signs observed"; "One individual has been observed"	[not listed]	No records
San Diego black-tailed jackrabbit	<i>Lepus californicus</i>	Native	Absent (extirpated)	"Sighted"	"Observed over the duration of the study in small numbers on the marsh, but not on the adjacent area. 3 to 4 different individuals were noted."	"numerous signs observed"	Listed; no information	No records
Desert cottontail	<i>Sylvilagus audubonii</i>	Native	Absent (extirpated)	[not listed as present or likely]	"Observed only in the initial stages of the study and have not been observed for the last 6 months. Their apparent extinction on the marsh could be due to human action, or to predation by hawks. A rabbit carcass was observed on one occasion, but the cause of death could not be discerned"	"numerous signs observed"	Listed; no information	No records

English name	Latin name	Native-ness (to MMP area)	Current status on MMP	Wildlife Park 1973	Hillman 1976	Envicom 1982	Drake 2005	This study
California ground-squirrel	<i>Spermophilus beecheyi</i>	Native	Absent	"Not officially identified on the site, but is a likely resident in the area"	[not listed]	[not listed]	[not listed]	No records
Eastern fox squirrel	<i>Sciurus niger</i>	Non-native	Present	[not listed]	[not listed]	[not listed]	[not listed]	Photographed 2010 (resident)
Striped skunk	<i>Mephitis mephitis</i>	Native	Present	"Sighted"	Burrow/scent detected in eucalyptus grove	1 observed	Listed; no information	Photographed 2005
Raccoon	<i>Procyon lotor</i>	Native	Present	"Sighted"	[not listed]	[not listed]	Listed; no information	Photographed 2010
Domestic cat	<i>Felis domesticus</i>	N/A	Irregularly present		"Common on both the marsh and environs"	Observed; "numerous signs observed"	Listed as having been removed	Irregularly present
Domestic dog	<i>Canis familiaris</i>	N/A	Irregularly present		"Observed only on the unfenced areas adjacent to the marsh."	Observed (no #)	Not listed	Irregularly present
Domestic rabbit	N/A	N/A	Irregularly present	[not listed]	[not listed]	[not listed]	Listed as having been removed	Irregularly present
Red fox	<i>Vulpes vulpes</i>	Non-native	Absent (extirpated)	[not listed]	[not listed]	[not listed]	Listed; no information	Photographed 23 May 2009 (D. Magammana); irregularly present?
Mosquitofish	<i>Gambusia affinis</i>	Non-native	Irregularly present	[not listed]	[not listed]	[not listed]	[not listed]	Photographed 2005; frequently introduced

Appendix D Invertebrate lists

Table D1 Butterfly data from historic MMP documentation

We have gathered the aggregate available historical butterfly data, and combined it into one spreadsheet. This spreadsheet is split over 4 pages due to its large width. The detailed tally data obtained between August 2002 and the present is shown in the last three parts of the spreadsheet, and the other data in the first.

The spreadsheet rows have been sorted as follows: first by family, which are ordered according to order adopted by the North American Butterfly Association, followed by subfamily, genus, and species, which are ordered alphabetically. In some of the older documentation, vernacular names of butterfly species have been used that are currently not commonly used. These vernacular names have been added to the spreadsheet enclosed in square brackets, to enable cross-referencing between the older and the newer records. Other common name synonyms that are still valid have been added without the square brackets.

The spreadsheet has been color-coded to highlight how the data was obtained, and with which certainty we may assume a given observation to be valid or a given species to be currently or historically present. To establish this, two types of color-codes have been used in the table: a color filling the whole spreadsheet cell, and a color (or boldface) for a type font used.

The following color-codes have been used for filling cells of the table:

- red not recorded (used for checklists only);
- yellow observation only; no photographic or pinned specimen records;
- green at least one specimen recorded with proof (photos or specimen);
- dark green recorded from Madrona Marsh Nature Center's Native Plant Garden;
- blue verification pending; species cannot be determined with certainty from available material; and
- orange questionable record.

The color-codes in the next list have been used to color type fonts in the table:

- **brown** next year spreadsheet (likely reflecting old data) lists different number;
- **red** info from two or more sources does not match;
- **orange** number is the same as that for a previous year; likely due to keeping only the historic maximum, or because last year's 'old' number was not erased;
- **green** new maximum number of observations, as compared to previous data from same source;
- **purple** numbers are the same as a similar species (from a different source); and
- **bold** unusual sighting.

The following abbreviations have been used in the table:

- BB pinned by B. Bixler
- DW pinned by Duminda Wijayaratna
- EF photographed by Emile Fiesler; EF-2011 refers to this report
- F Fall (Autumn)
- fam only the family is listed
- G recorded from Madrona Marsh Nature Center's Native Plant Garden
- HM pinned by Howard G. Medina
- JB pinned by Jeanne Bellamin
- JM Jess Morton reports having photographed it
- LO pinned by L. Ochoa
- MR listed in [Drake 2005]
- NN author unknown
- S Summer
- TD reported by Tracy Drake
- W Winter
- '*' (asterisk) extended its range to S-CA; see section **2.2.10**

Family	Subfamily	Genus	Species	Common Name	Introduced	1976	1995	1996?	1997	2001	2002	2003	2004	2004	2005	2005
						JM	HM	NN	JB	NN	LO	TD	BB	DW	TD	MR
Papilionidae	Papilioninae	Papilio	cresphontes	Giant Swallowtail	No					1		1			1	yes
Papilionidae	Papilioninae	Papilio	polyxenes	Black Swallowtail	No										1	yes
Papilionidae	Papilioninae	Papilio	rutulus	Western Tiger Swallowtail	No		1	10		10		13			13	yes
Papilionidae	Papilioninae	Papilio	zelicaon	Anise Swallowtail	No	yes				1		1			1	yes
Pieridae	Pierinae	Anthocharis	sara	Sara Orangetip	No	fam		0		0		0	1		0	yes
Pieridae	Pierinae	Pieris	rapae	Cabbage White	Yes	fam		171		171	1	171			171	yes
Pieridae	Pierinae	Pontia	protodice	Checkered White [=Common W.]	No	yes	fam	1		2		8			15	yes
Pieridae	Coliadinae	Colias	eurytheme	Orange Sulphur [=Alfalfa B.]	No	fam		8		8		11			16	yes
Pieridae	Coliadinae	Nathalis	iole	Dainty Sulphur	No	yes	fam							2	61	yes
Pieridae	Coliadinae	Phoebis	sennae	Cloudless Sulphur	No	fam		1		1		1			1	yes
Lycaenidae	Polyommatainae	Brephidium	exile	Western Pygmy-Blue	No	yes	fam	14		14		14			14	yes
Lycaenidae	Polyommatainae	Celastrina	ladon	Spring Azure	No	fam									1	yes
Lycaenidae	Polyommatainae	Echinargus	isola	Reakirt's Blue	No	yes	fam									
Lycaenidae	Polyommatainae	Everes	amyntula	Western Tailed-Blue	No	yes	fam								1	yes
Lycaenidae	Polyommatainae	Leptotes	marina	Marine Blue	No	fam		12		17		17		2	25	yes
Lycaenidae	Polyommatainae	Plebejus	acmon	Acmon Blue	No	yes	fam	1	290	290		290		1	290	yes
Lycaenidae	Theclinae	Satyrium	californica	California Hairstreak =Western H.	No	fam		68		68						
Lycaenidae	Theclinae	Strymon	melinus	Gray Hairstreak [=Common H.]	No	yes	fam	2			1	68		1	37	yes
Nymphalidae	Heliconiinae	Agraulis	vanillae	Gulf Fritillary	Yes*	fam		3		3		3			3	yes
Nymphalidae	Nymphalinae	Junonia	coenia	Common Buckeye	No	yes	fam		34	34		34		1	34	yes
Nymphalidae	Nymphalinae	Nymphalis	antiopa	Mourning Cloak	No	fam	1	6		8		17			17	yes
Nymphalidae	Nymphalinae	Vanessa	annabella	West Coast Lady	No	fam		12	3	12		12			123	yes
Nymphalidae	Nymphalinae	Vanessa	atalanta	Red Admiral	No	fam	1	2		3		3			3	yes
Nymphalidae	Nymphalinae	Vanessa	cardui	Painted Lady	No	yes	fam	11		13		13			462	yes
Nymphalidae	Nymphalinae	Vanessa	virginiensis	American Lady	No	yes	fam	1	25	25		25		1	94	yes
Nymphalidae	Limenitidinae	Limenitis	lorquini	Lorquin's Admiral	No	fam		0		0		0			0	yes
Nymphalidae	Danainae	Danaus	gillippus	(Striated) Queen	No	yes	fam		1	1		2			2	yes
Nymphalidae	Danainae	Danaus	plexippus	Monarch	No	yes	fam		15	15		15			15	yes
Hesperiidae	Pyrginae	Erynnis	funeralis	Funereal Duskywing	No	fam	1	2		2		5			5	yes
Hesperiidae	Pyrginae	Erynnis	tristis	Mournful Duskywing	No	fam		0		0		0			0	yes
Hesperiidae	Pyrginae	Heliopetes	ericetorum	Northern White-Skipper	No	fam						2			2	yes
Hesperiidae	Pyrginae	Pyrgus	albescens	White Checkered Skipper	No	yes	fam									
Hesperiidae	Pyrginae	Pyrgus	communis	Common Checkered-Skipper	No	fam		2		2		2			2	yes
Hesperiidae	Hesperiinae	Atalopedes	campestris	Sachem [=Field Skipper]	No	fam		26		26		26			26	yes
Hesperiidae	Hesperiinae	Hylephila	phyleus	Fiery Skipper	No	yes	fam	3	185	185		185		3	185	yes
Hesperiidae	Hesperiinae	Lerodea	eufala	Eufala Skipper	No	fam	1	19		19		19		1	19	yes
Hesperiidae	Hesperiinae	Poanes	melane	Umber Skipper	No	yes	fam	1	34	34		34			34	yes
Hesperiidae	Hesperiinae	Polites	sabuleti	Sandhill Skipper	No	fam				9		9		2	9	yes

Part 1 of 4 of the historic butterfly data spreadsheet: family and subfamily taxonomy, whether a species is introduced, plus all data except the detailed tally data, which is presented in the next three parts of the table, below.

Genus	Species	Common Name	2002												2003											
			8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12							
Papilio	cresphontes	Giant Swallowtail	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0					
Papilio	polyxenes	Black Swallowtail																								
Papilio	rutulus	Western Tiger Swallowtail	8	11	2	0	0	0	0	3	3	8	7	10	13	11	2	0	0	0	0					
Papilio	zelicaon	Anise Swallowtail	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0					
Anthocharis	sara	Sara Orangetip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Pieris	rapae	Cabbage White	73	56	21	9	4	14	15	28	31	48	54	171	73	56	21	9	4							
Pontia	protodice	Checkered White [=Common W.]	2	2	1	1	0	0	0	0	0	0	2	8	2	3	1	1	0							
Colias	eurytheme	Orange Sulphur [=Alfalfa B.]	11	4	6	0	0	1	2	0	0	3	2	8	11	4	6	0	0							
Nathalis	iole	Dainty Sulphur																								
Phoebis	sennae	Cloudless Sulphur	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0					
Brephidium	exile	Western Pygmy-Blue	13	7	14	5	1	0	1	2	3	4	2	8	13	11	14	5	1							
Celastrina	ladon	Spring Azure																								
Echinargus	isola	Reakirt's Blue																								
Everes	amytula	Western Tailed-Blue																								
Leptotes	marina	Marine Blue	12	11	13	3	1	0	0	0	2	8	5	17	12	23	13	3	1							
Plebejus	acmon	Acmon Blue	86	42	10	1	0	1	2	1	4	3	3	290	86	54	10	1	0							
Satyrium	californica	California Hairstreak =Western H.																								
Strymon	melinus	Gray Hairstreak [=Common H.]	37	32	11	3	0	0	0	6	5	9	6	68	37	36	11	3	0							
Agraulis	vanillae	Gulf Fritillary	1	3	2	1	0	0	0	0	1	0	0	0	1	3	2	1	0							
Junonia	coenia	Common Buckeye	8	5	4	2	2	1	1	3	3	3	5	34	8	5	4	2	2							
Nymphalis	antiopa	Mourning Cloak	11	10	4	1	0	2	1	2	5	8	6	17	11	10	4	1	0							
Vanessa	annabella	West Coast Lady	8	5	2	1	3	2	1	1	3	3	4	12	8	6	2	1	3							
Vanessa	atalanta	Red Admiral	1	2	3	2	1	1	1	2	2	2	0	1	1	2	3	2	1							
Vanessa	cardui	Painted Lady	9	6	3	1	0	0	0	0	13	6	4	13	9	8	3	1	0							
Vanessa	virginensis	American Lady	11	7	4	2	1	2	3	5	5	3	3	25	11	7	4	2	1							
Limenitis	lorquini	Lorquin's Admiral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Danaus	gillippus	(Striated) Queen	2	0	1	0	0	0	0	0	0	0	1	1	2	1	1	0	0							
Danaus	plexippus	Monarch	2	4	7	13	15	15	14	12	6	1	0	1	2	4	7	15	15							
Erynnis	funeralis	Funereal Duskywing	1	0	0	0	0	0	1	2	0	1	1	5	1	0	0	0	0							
Erynnis	tristis	Mournful Duskywing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
Heliopetes	ericetorum	Northern White-Skipper							0	0	0	0	0	2	0	0	0	0								
Pyrgus	albescens	White Checkered Skipper	0	0	1	0	0	0	0	0	0	2	0	1	0	0	1	0	0							
Pyrgus	communis	Common Checkered-Skipper							0	0	0	2	0	1	0	0	1	0	0							
Atalopedes	campestris	Sachem [=Field Skipper]	12	8	8	0	0	0	0	0	0	0	0	26	12	8	8	0	0							
Hylephila	phyleus	Fiery Skipper	91	67	20	11	3	1	1	6	7	7	31	185	91	67	20	11	3							
Lerodea	eufala	Eufala Skipper	15	14	8	3	0	0	0	2	2	4	6	19	15	14	8	3	0							
Poanes	melane	Umber Skipper	18	16	9	2	0	1	1	1	4	6	5	34	18	16	9	2	0							
Polites	sabuleti	Sandhill Skipper	8	9	6	0	0	0	0	0	3	2	3	9	8	9	6	0	0							

Part 2 of 4 of the historic butterfly data spreadsheet: detailed tally data for 2002 and 2003.

Genus	Species	Common Name	2004												2005													
			1	2	3	4	5	6	7	8	9	10	11	12	W	1	2	3	S	4	5	6	7	8	9	10	11	12
Papilio	cresphontes	Giant Swallowtail	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0
Papilio	polyxenes	Black Swallowtail	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Papilio	rutulus	Western Tiger Swallowtail	0	0	1	3	8	7	10	13	11	3	0	1	1	0	0	3	1	3	4	7	4	10	10	0	0	0
Papilio	zelicaon	Anise Swallowtail	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
Anthocharis	sara	Sara Orangetip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pieris	rapae	Cabbage White	0	5	2	2	48	54	171	73	56	31	11	4	4	14	15	28	6	31	50	57	109	48	24	19	6	2
Pontia	protodice	Checkered White [=Common W.]	0	0	0	0	2	8	4	5	3	1	0	0	0	0	0	0	0	2	2	1	9	2	1	1	1	
Colias	eurytheme	Orange Sulphur [=Alfalfa B.]	0	0	0	3	2	8	11	4	6	0	0	1	2	0	2	3	4	18	4	3	7	1	0	0	0	
Nathalis	iole	Dainty Sulphur	0	0	0	0	4	37	61	47	38	4	0	1	0	0	0	0	4	2	1	0	1	0	1	0	0	
Phoebis	sennae	Cloudless Sulphur	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	2	0	1	0	1	0	0	0	
Brephidium	exile	Western Pygmy-Blue	0	1	1	3	4	5	8	13	12	14	5	2	2	1	1	2	3	1	5	4	1	1	0	1	1	
Celastrina	ladon	Spring Azure	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Echinargus	isola	Reakirt's Blue	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Everes	amyntula	Western Tailed-Blue	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Leptotes	marina	Marine Blue	0	2	2	8	5	17	12	25	17	4	1	0	0	2	8	2	17	12	4	2	2	3	4	4	4	
Plebejus	acmon	Acmon Blue	1	2	5	1	3	4	290	86	54	23	3	0	1	2	3	4	3	4	31	31	158	43	5	1	1	
Satyrrium	californica	California Hairstreak =Western H.	0	0	0	5	9	6	68	37	36	11	4	2	0	0	7	5	2	6	46	28	17	1	0	0	0	
Strymon	melinus	Gray Hairstreak [=Common H.]	0	0	0	1	0	0	3	1	3	2	1	1	1	0	0	1	2	1	0	0	1	2	1	1	1	
Agraulis	vanillae	Gulf Fritillary	0	0	0	3	3	5	34	8	5	4	3	2	1	1	3	1	3	3	5	1	0	0	3	0	0	
Junonia	coenia	Common Buckeye	0	0	0	3	3	5	34	8	5	4	3	2	1	1	3	1	3	3	5	1	0	0	3	0	0	
Nymphalis	antiopa	Mourning Cloak	0	0	1	5	8	6	17	11	10	4	3	3	3	2	1	3	2	5	15	6	11	6	3	1	1	
Vanessa	annabella	West Coast Lady	0	0	0	1	3	4	12	8	6	4	2	3	2	1	123	33	3	5	7	3	2	3	6	4	4	
Vanessa	atalanta	Red Admiral	0	0	0	2	2	1	1	1	2	3	2	1	1	1	2	2	2	1	0	1	1	0	1	0	1	
Vanessa	cardui	Painted Lady	0	0	1	13	6	4	13	9	8	5	3	2	2	1	3	462	90	98	6	6	35	6	2	4	4	2
Vanessa	virginiensis	American Lady	0	0	0	5	3	3	25	11	7	4	2	1	2	3	94	23	5	3	5	13	5	2	1	0	0	
Limenitis	lorquini	Lorquin's Admiral	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Danaus	gillippus	(Striated) Queen	0	0	0	0	2	1	2	1	1	1	0	0	0	0	0	0	0	2	3	0	2	1	1	0	0	
Danaus	plexippus	Monarch	1	6	8	6	1	1	1	2	4	7	13	15	2	15	14	12	2	6	5	1	4	2	3	5	8	2
Erynnis	funeralis	Funereal Duskywing	0	0	0	0	1	2	5	1	1	1	0	0	0	1	2	1	2	1	2	1	0	1	1	0	0	
Erynnis	tristis	Mournful Duskywing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heliopetes	ericetorum	Northern White-Skipper	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	
Pyrgus	albescens	White Checkered Skipper	0	0	0	0	0	0	26	12	11	8	0	0	0	0	1	1	0	0	0	3	1	0	0	0	1	
Pyrgus	communis	Common Checkered-Skipper	0	0	0	0	2	0	1	1	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	
Atalopedes	campestris	Sachem [=Field Skipper]	0	0	0	0	0	0	26	12	11	8	0	0	0	0	1	1	0	0	0	3	1	0	0	0	1	
Hylephila	phyleus	Fiery Skipper	0	0	0	7	7	31	185	91	67	20	11	3	4	1	1	6	1	7	9	31	35	20	69	48	3	0
Lerodea	eufala	Eufala Skipper	0	0	1	2	4	6	19	15	14	8	3	0	1	0	0	3	5	4	6	8	3	7	5	3	0	
Poanes	melane	Umber Skipper	1	1	1	4	6	34	18	16	9	2	0	1	1	1	4	4	4	5	16	7	3	3	1	0	0	
Polites	sabuleti	Sandhill Skipper	0	0	0	3	2	3	9	8	9	6	0	0	0	0	0	0	3	2	3	7	1	3	4	3	0	

Part 3 of 4 of the historic butterfly data spreadsheet: detailed tally data for 2004 and 2005.

Genus	Species	Common Name	2006												2007				2008			2009
			1	2	3	4	5	6	7	8	9	10	11	12	5	S	12	3	6	7-9	10	F
Papilio	cresphontes	Giant Swallowtail	0	0	0	0	0	0	1	0	0	0	0					yes	yes	yes		
Papilio	polyxenes	Black Swallowtail	0	0	0	0	0	0	0	0	0	0	0									
Papilio	rutulus	Western Tiger Swallowtail	0	0	3	3	2	7	10	14	11	3	0	0	yes	yes	yes	yes	yes	yes	yes	
Papilio	zelicaon	Anise Swallowtail	0	0	0	0	0	0	1	0	0	0	0								yes	
Anthocharis	sara	Sara Orangetip	0	0	0	0	0	0	0	0	0	0	0									
Pieris	rapae	Cabbage White	14	1	28	31	9	57	171	16	56	21	11	4	yes	yes	yes	yes		yes	yes	yes
Pontia	protodice	Checkered White [=Common W.]	0	0	0	0	2	15	4	9	3	0	0			yes		yes				
Colias	eurytheme	Orange Sulphur [=Alfalfa B.]	0	1	0	2	3	4	18	4	4	7	0	0	yes			yes		yes	yes	
Nathalis	iole	Dainty Sulphur	0	0	0	0	4	37	61	47	38	4	0				yes				yes	
Phoebis	sennae	Cloudless Sulphur	0	0	0	0	0	0	1	0	0	0	0							yes	yes	
Brephidium	exile	Western Pygmy-Blue	0	0	2	3	4	5	8	3	12	14	5	2	yes	yes	yes	yes	yes	yes	yes	
Celastrina	ladon	Spring Azure	0	0	0	0	0	0	0	0	0	0	0									
Echinargus	isola	Reakirt's Blue	0	0	0	0	0	0	0	0	0	0	0									
Everes	amyntula	Western Tailed-Blue	0	0	0	0	0	0	1	0	0	0	0									
Leptotes	marina	Marine Blue	0	1	0	0	8	5	17	7	25	17	4	4	yes			yes	yes	yes	yes	
Plebejus	acmon	Acmon Blue	0	2	3	4	3	4	290	19	158	43	5	0				yes	yes	yes	yes	
Satyrrium	californica	California Hairstreak =Western H.	23																			
Strymon	melinus	Gray Hairstreak [=Common H.]	0	0	7	5	1	6	68	37	36	11	4	2	yes	yes	yes	yes	yes	yes	yes	
Agraulis	vanillae	Gulf Fritillary	0	0	0	0	0	3	2	4	2	0	0	0	yes	yes	yes	yes	yes	yes	yes	
Junonia	coenia	Common Buckeye	0	0	3	3	3	5	34	8	5	4	3	2	yes			yes		yes		
Nymphalis	antiopa	Mourning Cloak	3	2	3	5	2	6	17	7	10	4	3	3	yes	yes	yes	yes	yes	yes	yes	
Vanessa	annabella	West Coast Lady	2	0	123	33	2	5	32	3	6	4	2	4			yes		yes		yes	yes
Vanessa	atalanta	Red Admiral	0	0	2	2	2	0	0	2	2	3	2	0			yes	yes			yes	
Vanessa	cardui	Painted Lady	0	1	462	98	1	6	35	9	8	5	4	2	yes			yes	yes	yes	yes	
Vanessa	virginensis	American Lady	2	3	94	23	1	5	3	1	7	4	2	0								
Limenitis	lorquini	Lorquin's Admiral	0	0	0	0	0	0	0	0	0	0	0	0								
Danaus	gillippus	(Striated) Queen	0	0	0	0	0	2	3	2	2	0	0	0						yes	yes	
Danaus	plexippus	Monarch	15	2	12	6	1	0	4	2	4	7	13	15	yes	yes	yes	yes	yes	yes	yes	
Erynnis	funeralis	Funereal Duskywing	0	0	2	2	0	2	5	0	0	0	0	0	yes	yes	yes	yes	yes	yes	yes	
Erynnis	tristis	Mournful Duskywing	0	0	0	0	0	0	0	0	0	0	0	0								
Helioptetes	ericetorum	Northern White-Skipper	0	0	0	0	0	0	0	0	0	0	0	0								
Pyrgus	albescens	White Checkered Skipper																				
Pyrgus	communis	Common Checkered-Skipper	0	0	0	0	2	0	0	0	0	0	0	0								
Atalopedes	campestris	Sachem [=Field Skipper]	0	0	0	0	0	0	26	2	11	8	0	0								
Hylephila	phyleus	Fiery Skipper	0	1	6	7	1	31	185	36	69	53	11	3	yes	yes	yes	yes	yes	yes	yes	
Lerodea	eufala	Eufala Skipper	0	0	3	5	4	6	19	6	14	8	3	0	yes			yes	yes		yes	
Poanes	melane	Umber Skipper	0	0	4	4	1	5	34	30	16	9	2	0	yes			yes	yes	yes	yes	
Polites	sabuleti	Sandhill Skipper	0	1	0	3	2	3	9	7	9	6	0	0	yes			yes	yes		yes	

Part 4 of 4 of the historic butterfly data spreadsheet: detailed tally data for 2006 to 2009.

Table D2 Dragonfly & Damselfly data from historic MMP documentation

We have gathered all the available historic odonata data and combined it into one electronic spreadsheet. This spreadsheet is split over 3 pages due to its large width. The rows have been sorted alphabetically, first by suborder, followed by family, subfamily, genus, and species respectively.

The odonata spreadsheet has been color-coded similarly to the butterfly data spreadsheet. The color-codes are used to highlight how the data was obtained, and with which certainty we may assume a given observation to be valid, or a given species to be currently or historically present. Two types of color-codings have been used in the table: a color filling the whole spreadsheet cell, and a color (or boldface) for a type font used.

The following color-codes have been used for filling cells of the spreadsheet:

- red not recorded (used for checklists only);
- yellow observation only; no photographic or pinned specimen records;
- green at least one specimen recorded with proof (photos or specimen);
- blue verification pending; species cannot be determined with certainty from available material;
- brown higher taxon recorded and only one species recorded in all lists combined;
- orange questionable record; and
- purple no historical records from Los Angeles Basin found in literature.

The color-codes in the next list have been used to color type fonts in the table:

- **brown** next year spreadsheet (likely reflecting old data) lists different number;
- **red** info from two or more sources does not match;
- **orange** number is the same as that for a previous year; likely due to keeping only the historic maximum, or because last year's 'old' number was not erased;
- **green** new maximum number of observations, as compared to previous data from same source.

The following abbreviations have been used in the table:

- CoT listed in [Faran 1976]
- CY pinned by C. Young
- DW pinned by Duminda Wijayaratna
- EF photographed by Emile Fiesler
- Env listed in [Envicom 1982]
- F Fall (Autumn)
- Fam. Only the family has been listed
- Gen. Only the genus has been listed
- JM Jess Morton reported having photographed it
- MA reported by Mark Angelos
- MR listed in [Drake 2005]
- S Summer
- W Winter
- Yr. statistic for the year

Suborder	Family	Subfamily	Genus	Species	Common Name	1976 CoT	1982 Env	1995 MA	1999 DW	2004 MR list	2005 EF	2008 EF	2009 EF	JM
Anisoptera	Aeshnidae	Aeshninae	<i>Anax</i>	<i>junius</i>	Common Green Darner	Fam.	yes		Gen.	yes	yes	yes	yes	yes
Anisoptera	Aeshnidae	Aeshninae	<i>Anax</i>	<i>walsinghami</i>	Giant Darner	Fam.			Gen.	yes	yes			
Anisoptera	Aeshnidae	Aeshninae	<i>Rhionaeshna</i>	<i>multicolor</i>	Blue-eyed Darner	Fam.			Gen.	yes	yes		yes	yes
Anisoptera	Libellulidae	Libellulinae	<i>Libellula</i>	<i>croceipennis</i>	Neon Skimmer	Fam.				yes	yes			
Anisoptera	Libellulidae	Libellulinae	<i>Libellula</i>	<i>saturata</i>	Flame Skimmer	Fam.				yes	yes	yes	yes	yes
Anisoptera	Libellulidae	Palpopleurinae	<i>Perithemis</i>	<i>intensa</i>	Mexican Amberwing	Fam.				yes	no			
Anisoptera	Libellulidae	Sympetrinae	<i>Erythemis</i>	<i>collocata</i>	Western Pondhawk	Fam.				yes	yes			
Anisoptera	Libellulidae	Sympetrinae	<i>Pachydiplax</i>	<i>longipennis</i>	Blue Dasher	Fam.			Gen.	yes	yes	yes	yes	yes
Anisoptera	Libellulidae	Sympetrinae	<i>Sympetrum</i>	<i>corruptum</i>	Variiegated Meadowhawk	Fam.	Gen.		Gen.	3	yes	yes	yes	yes
Anisoptera	Libellulidae	Sympetrinae	<i>Sympetrum</i>	<i>illotum</i>	Cardinal Meadowhawk	Fam.	Gen.		Gen.		yes	yes		
Anisoptera	Libellulidae	Sympetrinae	<i>Sympetrum</i>	<i>madidum</i>	Red-veined Meadowhawk	Fam.	Gen.		Gen.		yes	yes		
Anisoptera	Libellulidae	Sympetrinae	<i>Sympetrum</i>	<i>pallipes</i>	Striped Meadowhawk	Fam.			Gen.		yes	yes		
Anisoptera	Libellulidae	Trameinae	<i>Pantala</i>	<i>flavescens</i>	Wandering Glider	Fam.			Gen.	1	yes	yes		yes
Anisoptera	Libellulidae	Trameinae	<i>Pantala</i>	<i>hymenaea</i>	Spot-winged Glider	Fam.			Gen.		yes	yes		
Anisoptera	Libellulidae	Trameinae	<i>Tramea</i>	<i>lacerata</i>	Black Saddlebag	Fam.					yes	yes		
Anisoptera	Libellulidae	Trameinae	<i>Tramea</i>	<i>onusta</i>	Red Saddlebag	Fam.					yes	yes		yes
Anisoptera	Libellulidae	Urothemistinae	<i>Macrodiplax</i>	<i>balteata</i>	Marl Pennant	Fam.					no	v.p.		
Zygoptera	Coenagrionidae	Argiinae	<i>Argia</i>	<i>agriodes</i>	California Dancer	Fam.					yes	no		
Zygoptera	Coenagrionidae	Argiinae	<i>Argia</i>	<i>lugens</i>	Sooty Dancer	Fam.					no	no		
Zygoptera	Coenagrionidae	Argiinae	<i>Argia</i>	<i>vivida</i>	Vivid Dancer	Fam.				1	yes	yes		
Zygoptera	Coenagrionidae	Ischnurinae	<i>Enallagma</i>	<i>carunculatum</i>	Tule Bluet	Fam.			Gen.		yes	yes		yes
Zygoptera	Coenagrionidae	Ischnurinae	<i>Enallagma</i>	<i>civile</i>	Familiar Bluet	Fam.			Gen.		yes	yes	yes	yes
Zygoptera	Coenagrionidae	Ischnurinae	<i>Enallagma</i>	<i>praevarum</i>	Arroyo Bluet	Fam.			Gen.		no	no		
Zygoptera	Coenagrionidae	Ischnurinae	<i>Ischnura</i>	<i>carvula</i>	Pacific Forktail	Fam.	Gen.		Gen.		yes	yes	yes	yes
Zygoptera	Coenagrionidae	Ischnurinae	<i>Ischnura</i>	<i>denticollis</i>	Black-fronted Forktail	Fam.	Gen.		Gen.		yes	yes		(v.p.)
Zygoptera	Coenagrionidae	Ischnurinae	<i>Ischnura</i>	<i>perparva</i>	Western Forktail	Fam.	Gen.		Gen.		yes	v.p.		v.p.
Zygoptera	Lestidae	Lestinae	<i>Lestes</i>	<i>disjunctus</i>	Common Spreadwing	Fam.			Gen.		yes	yes		
Zygoptera	Lestidae	Lestinae	<i>Lestes</i>	<i>congener</i>	Spotted Spreadwing	Fam.		19	Gen.		no	no		

Part 1 of 3 of the historic odonata data spreadsheet: suborder, family and subfamily taxonomy plus all data except the detailed tally data, which is presented in the next two parts of the table, below.

Genus	Species	Common Name	2003	2004													
				yr.	10	11	12	1	2	3	4	5	6	7	8	9	10
Anax	junius	Common Green Darner	yes	1	0	12	12	11	5	7	3	8	3	46	8	18	20
Anax	walsinghami	Giant Darner	no			0	0	0	0	0	0	0	0	0	0	0	0
Rhionaeshna	multicolor	Blue-eyed Darner	yes			0	0	0	2	7	2	2	10	43	7	11	4
Libellula	croceipennis	Neon Skimmer	no			0	0	0	0	0	0	0	0	1	0	0	0
Libellula	saturata	Flame Skimmer	yes			0	0	1	0	2	2	5	4	5	4	2	1
Perithemis	intensa	Mexican Amberwing	no														
Erythemis	collocata	Western Pondhawk	yes			0	0	0	0	0	0	3	4	5	0	0	0
Pachydiplax	longipennis	Blue Dasher	yes			0	0	0	0	0	5	10	4	14	6	0	0
Sympetrum	corruptum	Variiegated Meadowhawk	yes			1	0	12	7	10	5	0	2	6	6	43	21
Sympetrum	illotum	Cardinal Meadowhawk	yes			0	0	0	0	0	0	3	0	3	0	0	0
Sympetrum	madidum	Red-veined Meadowhawk	no			0	0	2	0	0	0	3	0	3	0	0	0
Sympetrum	pallipes	Striped Meadowhawk	no			1	1	0	0	0	0	3	0	3	0	0	0
Pantala	flavescens	Wandering Glider	no			0	0	0	0	0	6	17	14	18	8	27	0
Pantala	hymenaea	Spot-winged Glider	no			0	0	0	0	0	2	0	0	2	0	0	0
Tramea	lacerata	Black Saddlebag	no			0	0	0	0	0	1	0	1	6	1	0	0
Tramea	onusta	Red Saddlebag	yes/yes			0	0	0	2	2	2	1	0	0	0	0	0
Macrodiplax	balteata	Marl Pennant	no														
Argia	agriodes	California Dancer	yes														
Argia	lugens	Sooty Dancer	no														
Argia	vivida	Vivid Dancer	no														
Enallagma	carunculatum	Tule Bluet	yes			0	0	0	0	0	0	5	2	1	1	0	1
Enallagma	civile	Familiar Bluet	yes			0	0	0	0	0	0	0	0	0	1	0	0
Enallagma	praevarum	Arroyo Bluet	no														v.p.
Ischnura	carvula	Pacific Forktail	yes			3	0	0	0	0	5	15	20	7	2	0	0 3?
Ischnura	denticollis	Black-fronted Forktail	yes														
Ischnura	perparva	Western Forktail	yes			0	0	1	0	2	0	0	0	0	0	0	0
Lestes	disjunctus	Common Spreadwing	yes			0	0	0	0	0	0	0	0	0	0	0	0
Lestes	congener	Spotted Spreadwing	no														

Part 2 of 3 of the historic odonata data spreadsheet: detailed tally data for 2003 and 2004.

Table D3 List of MMP Invertebrates

The following is a list of all invertebrates recorded at Madrona Marsh Preserve by EF for this study, which were identified primarily through high-resolution digital photography. Please refer to the main report for an explanation of methods.

Abbreviations used:

- F = female
- M = male
- imm = immature
- cf. = (Latin: confer) = compare
- n/a = not applicable
- nr. = near
- s.l. = (Latin: sensu lato) = broadly
- S. Cal. = Southern California
- var. = variant

Color code explanation

Confidence level (of identification)	high certainty	intermediate certainty	low certainty
Non-native / introduced taxon	N		
Introduced for biocontrol	B		
Migrant that expands its range	M		
Recorded at night	N		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night active
Common Name(s)								
Phylum: Annelida = Annelids	Annelida							
Class: Clitellata = Annelid Worms								
Order: Haplotaxida = Earthworms & kin								
Earthworm	Lumbricidae	Lumbricinae	n/a	<i>Aporrectodea</i>	<i>trapezoides</i>		N	
Night-crawler	Lumbricidae	Lumbricinae	Lumbricini	<i>Lumbricus</i>	<i>terrestris</i>		N	N
Aquatic Worm	Naididae	Naidinae	Derini	<i>Dero</i>	<i>limosa</i>			
Aquatic Worm	Naididae	Naidinae	Derini	<i>Aulophorus</i>	<i>vagus</i>			
Order: Rhynchobdellida = Jawless Leeches								
Freshwater Leech	Glossiphoniidae	Haementeriinae	n/a	<i>Helobdella</i>	<i>triserialis</i>			
Phylum: Arthropoda = Arthropods								
Class: Arachnida = Arachnids = Spiders, Mites, Ticks, Harvestmen, Scorpions, & kin								
Order: Acari = Mites & Ticks								
Acarid Mite	Acaridae	Tyrophaginae	Tyrophagini	<i>Tyrophagus</i>				
Whirligig Mite	Anystidae	Anystinae	Anystini	<i>Anystis</i>				
Whirligig Mite	Anystidae	Anystinae	Anystini	<i>Anystis</i>				
Whirligig Mite	Anystidae	Erythracarinae						
Snout Mite	Bdellidae							
Snout Mite	Bdellidae	Bdellinae	n/a	<i>Bdella</i>				
Snout Mite	Bdellidae	Odontoscirinae						
Snout Mite	Bdellidae	Odontoscirinae	n/a	<i>Bdellodes</i>				
Predatory Mite	Cunaxoidinae							
Parasitic Mite	Digamasellidae	Dendrolaelapinae	Dendrolaelapini	<i>Dendrolaelaps</i>				
Ragweed Gall Mite	Eriophyidae	Eriophyinae	Aceriini	<i>Aceria</i>	<i>boycei</i>			
Clover Mite	Tetranychidae	Bryobiinae	Bryobiini	<i>Bryobia</i>	<i>praetiosa</i>			
Eupodid Mite	Eupodidae	Eupodinae	n/a	<i>Linopodes</i>				
Erythraeid Mite	Erythraeidae	Erythraeinae						
Erythraeid Mite	Erythraeidae	Balaustiinae	n/a	<i>Balaustium</i>				
Erythraeid Mite	Erythraeidae	Balaustiinae	n/a	<i>Balaustium</i>				
predatory Erythraeid Mite	Erythraeidae	Balaustiinae	n/a	<i>Balaustium</i>	<i>aonidophagus</i>			
Mesostigmatid Mite	Parasitidae							N
Blue Oat Mite	Penthaleidae	n/a	n/a	<i>Penthaleus</i>	<i>major</i>			
Sycamore Spider Mite	Tetranychidae	Tetranychinae	Tetranychini	<i>Oligonychus</i>	<i>platani</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night active
	Common Name(s)							
	Velvet Mite	Trombidiidae						
	Velvet Mite	Trombidiidae						
	Mite	Tydeidae						
	Order: Aranea = Spiders							
	Funnel-web Spider	Agelenidae	n/a	n/a	<i>Hololena</i>			
	Hacklemesh Weaver	Amaurobiidae	Amaurobiinae	n/a	<i>Amaurobius</i>	<i>agastus</i>		
	Ghost Spider	Anyphaenidae	Anyphaeninae	n/a	<i>Anyphaena</i>	<i>crebrispina</i>		N
	Orb Weaver	Araneidae	Araneinae	Araneini	<i>Araneus</i>			
	Spotted Orbweaver	Araneidae	Araneinae	Mangorini	<i>Neoscona</i>	<i>crucifera</i>		
	Western Spotted Orbweaver	Araneidae	Araneinae	Mangorini	<i>Neoscona</i>	<i>oaxacensis</i>		
	Orb Weaver	Araneidae	Araneinae	Araneini	<i>Araneus</i>	<i>andrewsi</i>		
	Orb Weaver	Araneidae	Araneinae	Araneini	<i>Araneus</i>	<i>gemma</i>		
	Banded Argiope	Araneidae	Argiopinae	n/a	<i>Argiope</i>	<i>trifasciata</i>		
	Ground Sac Spider	Corinnidae	Castianeirinae	n/a	<i>Castianeira</i>	<i>nr cingulata</i>		
	Australian Gray House Spider	Desidae	n/a	n/a	<i>Badumna</i>	<i>longinqua</i>	N	
	Woodlouse Spider	Dysderidae	Dysderinae	Dysderini	<i>Dysdera</i>	<i>crocata</i>	N	
	Mouse Spider	Gnaphosidae	Herpyllinae	n/a	<i>Scotophaeus</i>	<i>blackwalli</i>	N	N
	Ground Spider	Gnaphosidae	Drassodinae	Drassodini	<i>Drassodes</i>			
	Ground Spider	Gnaphosidae	Drassodinae	Drassodini	<i>Drassyllus</i>			
	Ground Spider	Gnaphosidae	Herpyllinae	n/a	<i>Sergiolus</i>	<i>gertschi</i>		
	Ground Spider	Gnaphosidae	Zelotinae	Zelotini	<i>Trachyzelotes</i>	<i>lyonneti</i>		
	Ground Spider	Gnaphosidae	Zelotinae	Zelotini	<i>Zelotes</i>			
	Sheetweb Spider	Linyphiidae						
	Sheetweb Spider	Linyphiidae	Erigoninae	n/a	<i>Erigone</i>	<i>dentosa</i>		
	Dwarf Spider	Linyphiidae	Erigoninae	n/a	<i>Spirembolus</i>			
	Wolf Spider	Lycosidae	Lycosinae	n/a	<i>Alopecosa</i>	<i>kochii</i>		N
	Wolf Spider	Lycosidae	Lycosinae	n/a	<i>Schizocosa</i>	<i>mccooki</i>		N
	Thinlegged Wolf Spider	Lycosidae	Pardosinae	Pardosini	<i>Pardosa</i>			
	Thinlegged Wolf Spider	Lycosidae	Pardosinae	Pardosini	<i>Pardosa</i>	<i>sternalis</i>		
	Pirate Wolf Spider	Lycosidae	Piratinae	n/a	<i>Pirata</i>	<i>piraticus</i>		
	Longlegged Sac Spider	Miturgidae	Eutichurinae	n/a	<i>Cheiracanthium</i>	<i>inclusum</i>		
	Wall Spider	Oecobiidae	n/a	n/a	<i>Oecobius</i>	<i>navus</i>	N	
	Striped Lynx Spider	Oxyopidae	n/a	n/a	<i>Oxyopes</i>	<i>salticus</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Green Lynx Spider	Oxyopidae	n/a	n/a	<i>Peucetia</i>	<i>viridans</i>		
	Slender Crab Spider	Philodromidae	Philodrominae	Thanatini	<i>Tibellus</i>	<i>chamberlini</i>		
	Cellar Spider	Pholcidae	n/a	n/a	<i>Psilochorus</i>	<i>californiae</i>		
	Cellar Spider	Pholcidae	n/a	n/a	<i>Psilochorus</i>	<i>nr. hesperus</i>		
	Gray Wall Jumper	Salticidae	Heliophaninae	n/a	<i>Menemerus</i>	<i>bivittatus</i>		N
	Jumping Spider	Salticidae	Pelleninae	n/a	<i>Habronattus</i>	<i>americanus</i>		
	Jumping Spider	Salticidae	Pelleninae	n/a	<i>Habronattus</i>	<i>americanus</i>		
	Jumping Spider	Salticidae	Pelleninae	n/a	<i>Habronattus</i>	<i>pyrrithrix</i>		
	Jumping Spider	Salticidae	Pelleninae	n/a	<i>Habronattus</i>	<i>signatus</i>		
	Jumping Spider	Salticidae	Pelleninae	n/a	<i>Habronattus</i>	<i>tarsalis</i>		
	Bold Jumper	Salticidae	Dendryphantinae	n/a	<i>Phidippus</i>	<i>audax</i>		
	Jumping Spider	Salticidae	Dendryphantinae	n/a	<i>Sassacus</i>	<i>vitis</i>		
	Longjawed Orb Weaver	Tetragnathidae	Tetragnathinae	n/a	<i>Tetragnatha</i>	<i>versicolor</i>		
	Cobweb Spider	Theridiidae	Latrodectinae	n/a	<i>Crustulina</i>	<i>sticta</i>		
	Western Black Widow	Theridiidae	Latrodectinae	n/a	<i>Latrodectus</i>	<i>hesperus</i>		
	False Black Widow	Theridiidae	Latrodectinae	n/a	<i>Steatoda</i>	<i>grossa</i>		N
	Cobweb Spider	Theridiidae	Theridiinae	Theridiini	<i>Theridion</i>	<i>melanurum</i>		N
	Cobweb Spider	Theridiidae	Theridiinae	Theridiini	<i>Theridion</i>	<i>murarium</i>		
	Ground Crab Spider	Thomsidae	Thomisinae	Diaeini	<i>Xysticus</i>	<i>californicus</i>		
	Order: Solpugida = Sun Spiders							
	Solpugid = Sun Spider	Eremobatidae	Eremobatinae	n/a	<i>Eremobates</i>	<i>kraepelini</i>		N
	Solpugid = Sun Spider	Eremobatidae	Therobatinae	n/a	<i>Hemerotrecha</i>	<i>californica</i>		
	Class: Branchiopoda = Fairy Shrimp, Waterfleas, & kin							
	Order: Anostraca = Brine Shrimp & Fairy Shrimp							
	Versatile Fairy Shrimp	Branchinectidae	Branchinectinae	n/a	<i>Branchinecta</i>	<i>lindahli</i>		
	hybrid Versatile x San Diego Fairy Shrimp	Branchinectidae	Branchinectinae	n/a	<i>Branchinecta</i>	<i>lindahli x sandiegoensis</i>		
	Order: Cladocera = Waterfleas							
	(rounded) Waterflea	Chydoridae	Chydorinae	n/a	<i>Chydorus</i>			
	(typical) Waterflea	Daphniidae	Daphniinae	n/a	<i>Daphnia</i>	<i>laevis</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
Common Name(s)								
Class: Chilopoda = Centipedes								
Order: Lithobiomorpha = Stone Centipedes								
	Stone Centipede	Henicopidae						
Class: Collembola = Springtails								
Order: Entomobryomorpha = Elongate-bodied Springtails								
	Slender Springtail	Entomobryidae	Entomobryinae	Entomobryini	<i>Entomobrya</i>	<i>atrocincta</i>		N
	Slender Springtail	Entomobryidae	Seirinae	Seirini	<i>Seira</i>	<i>bipunctata</i>		
	Elongate-bodied Springtail	Isotomidae	Proisotominae	n/a	<i>Ballastrura</i>			
	Elongate-bodied Springtail	Isotomidae	Proisotominae	n/a	<i>Folsomia</i>			
Order: Symphyleona = Globular Springtails								
	Globular Springtail	Dicyrtomidae	Dicyrtominae					
	Globular Springtail	Dicyrtomidae	Ptenothricinae	n/a	<i>Ptenothix</i>			
Class: Insecta = Insects								
Order: Coleoptera = Beetles								
	Pine Boring Beetle	Anobiidae	Ernobiinae	Ernobiini	<i>Ernobius</i>			N
	Acorn Anobiid	Anobiidae	Ernobiinae	Ozognathini	<i>Ozognathus</i>	<i>cornutus</i>		
	Death-watch Beetle	Anobiidae	Ptilininae	Ptilinini	<i>Ptilinus</i>	<i>flavipennis</i>		
	Black Polycaon	Bostrichidae	Psoinae	Polycaonini	<i>Polycaon</i>	<i>stoutii</i>		
	Brown Leatherwing Beetle	Cantharidae	Cantharinae	Cantharini	<i>Pacificanthia</i>	<i>consors</i>		
	Common Calosoma	Carabidae	Carabinae	Carabini	<i>Calosoma</i>	<i>semilaeve</i>		
	Ground Beetle	Carabidae	Harpalinae	Harpalini	<i>Harpalus</i>			
	rectangular Ground Beetle	Carabidae	Harpalinae	Harpalini	<i>in Stenolophina-subtribe</i>			
	Ground Beetle	Carabidae	Harpalinae	Lebiini	<i>Apristus</i>			
	Colorful Foliage Ground Beetle	Carabidae	Harpalinae	Lebiini	<i>Axinopalpus</i>	<i>biplagiatus</i>		
	Ground Beetle	Carabidae	Harpalinae	Platynini	<i>Agonum</i>			
	Ground Beetle	Carabidae	Harpalinae	Platynini	<i>Agonum</i>			
	Ground Beetle	Carabidae	Harpalinae	Platynini	<i>Calathus</i>	<i>ruficollis</i>	ruficollis	
	Black Ground Beetle	Carabidae	Harpalinae	Pterostichini	<i>Pristonychus</i>	<i>complanatus</i>		
	Seed-eating Ground Beetle	Carabidae	Harpalinae	Zabrini	<i>Amara</i>			
	Seed-eating Ground Beetle	Carabidae	Harpalinae	Zabrini	<i>Amara</i>	<i>immunda</i>		N
	Minute Ground Beetle	Carabidae	Trechinae	Bembidiini	<i>Bembidion</i>			N

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Eucalyptus Borer	Cerambycidae	Cerambycinae	Phoracanthini	<i>Phoracantha</i>	<i>recurva</i>		N
	Seed Beetle	Chrysomelidae	Bruchinae	n/a	<i>Stator</i>	<i>pruininus</i>		
	Hispine Beetle	Chrysomelidae	Cassidinae	Chalepini	<i>Stenopodius</i>	<i>insularis</i>		
	Australian Tortoise Beetle	Chrysomelidae	Chrysomelinae	Chrysomelini	<i>Trachymela</i>	<i>sloanei</i>		N
	Bronze Leaf Beetle	Chrysomelidae	Cryptocephalinae	Cryptocephalini	<i>Diachus</i>	<i>auratus</i>		
	Case-bearing Leaf Beetle	Chrysomelidae	Cryptocephalinae	Cryptocephalini	<i>Pachybrachis</i>	<i>turbidus</i>		
	Cobalt Milkweed Beetle	Chrysomelidae	Eumolpinae	Eumolpini	<i>Chrysochus</i>	<i>cobaltinus</i>		
	Leaf Beetle	Chrysomelidae	Eumolpinae	Typophorini	<i>Paria</i>			
	Flea Beetle	Chrysomelidae	Galerucinae	Alticini	<i>Crepidodera</i>	<i>opulenta</i>		
	Banded Cucumber Beetle	Chrysomelidae	Galerucinae	Luperini	<i>Diabrotica</i>	<i>balteata</i>	(blue variety)	
	Spotted Cucumber Beetle	Chrysomelidae	Galerucinae	Luperini	<i>Diabrotica</i>	<i>undecimpunctata</i>	howardi	
	Western Spotted Cucumber Beetle	Chrysomelidae	Galerucinae	Luperini	<i>Diabrotica</i>	<i>undecimpunctata</i>	undecimpunctata	
	Lady Beetle	Coccinellidae	Chilocorinae	Chilocorini	<i>Axion</i>	<i>plagiatum</i>		
	Armored Scale Lady Beetle	Coccinellidae	Chilocorinae	Chilocorini	<i>Chilocorus</i>	<i>bipustulatus</i>		
	Seven-spot Ladybird Beetle	Coccinellidae	Coccinellinae	Coccinellini	<i>Coccinella</i>	<i>septempunctata</i>		B
	Spotless Ladybird Beetle	Coccinellidae	Coccinellinae	Coccinellini	<i>Cycloneda</i>	<i>sanguinea</i>		
	Asian Ladybird Beetle	Coccinellidae	Coccinellinae	Coccinellini	<i>Harmonia</i>	<i>axyridis</i>		B
	Convergent Ladybird Beetle	Coccinellidae	Coccinellinae	Coccinellini	<i>Hippodamia</i>	<i>convergens</i>		
	Mildew-eating Lady Beetle	Coccinellidae	Coccinellinae	Psylloborini	<i>Psyllobora</i>	<i>vigintimaculata</i>		
	Mealybug Destroyer	Coccinellidae	Scymninae	Scymnini	<i>Cryptolaemus</i>	<i>montrouzieri</i>		B
	Dusky Lady Beetle	Coccinellidae	Scymninae	Scymnini	<i>Scymnus</i>	<i>loewii</i>		
	Spider Mite Destroyer	Coccinellidae	Scymninae	Stethorini	<i>Stethorus</i>	<i>punctum</i>	picipes	
	Minute Hooded Beetle	Corylophidae	Corylophinae	Sericoderini	<i>Sericoderus</i>	<i>debilis</i>		
	Minute Hooded Beetle	Corylophidae						
	Minute Hooded Beetle	Corylophidae	Corylophinae	Sericoderini	<i>Sericoderus</i>	<i>quadratus</i>		
	Weevil	Curculionidae	Cossoninae	Rhyncolini				
	Weevil	Curculionidae	Curculioninae	Anthonomini	<i>Epimechus</i>	<i>mobilis</i>		
	Wetland Weevil	Curculionidae	Curculioninae	Eirrhinini	<i>Anthonomus</i>	<i>nr tenuis</i>		
	Grey Sunflower Seed Weevil	Curculionidae	Curculioninae	Eirrhinini	<i>Smicronyx</i>	<i>sordidus</i>		
	Weevil	Curculionidae	Curculioninae	Tychiini	<i>Tychius</i>	<i>lineelus</i>		N
	Billbug	Curculionidae	Dryophthorinae	Sphenophorini	<i>Sphenophorus</i>	<i>australis</i>	australis	
	Phoenician Billbug	Curculionidae	Dryophthorinae	Sphenophorini	<i>Sphenophorus</i>	<i>phoeniciensis</i>		
	Billbug	Curculionidae	Dryophthorinae	Sphenophorini	<i>Sphenophorus</i>	<i>simplex</i>		
	Billbug	Curculionidae	Dryophthorinae	Sphenophorini	<i>Sphenophorus</i>	<i>venatus</i>	glyceriae	

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Fuller Rose Beetle	Curculionidae	Entiminae	Naupactini	<i>Naupactus</i>	<i>cervinus</i>	N	
	Broad-nosed Weevil	Curculionidae	Entiminae	Peritelini	<i>Thinoxenus</i>	<i>squalens</i>		N
	Sweetclover Weevil	Curculionidae	Eriirhininae	Sitonini	<i>Sitona</i>	<i>cylindricollis</i>	N	
	Weevil	Curculionidae	Eriirhininae	Stenopelmini	<i>Notiodes</i>	<i>punctatus</i>		
	Azolla Weevil	Curculionidae	Eriirhininae	Stenopelmini	<i>Stenopelmus</i>	<i>rufinatus</i>		N
	Silken Fungus Beetle	Cryptophagidae	Atomariinae	Atomariini	<i>Atomaria</i>	<i>puella</i>		
	Silken Fungus Beetle	Cryptophagidae	Cryptophaginae	Cryptophagini	<i>Cryptophagus</i>			
	Larder Beetle	Dermestidae	Dermestinae	Dermestini	<i>Dermestes</i>	<i>talpinus</i>		
	Predaceous Diving Beetle	Dytiscidae	Agabinae	Agabini	<i>Agabus</i>			
	Predaceous Diving Beetle	Dytiscidae	Colymbetinae					
	Predaceous Diving Beetle	Dytiscidae	Hydroporinae	Bidessini	<i>Liodessus</i>			
	Predaceous Diving Beetle	Dytiscidae	Hydroporinae	Hydroporini	<i>Hygrotus</i>			
	Predaceous Diving Beetle	Dytiscidae	Colymbetinae	Colymbetini	<i>Rhantus</i>	<i>gutticollis</i>		
	Variegated Mud-loving Beetle	Heteroceridae			<i>Lanternarius</i>	<i>brunneus</i>		N
	Clown Beetle	Histeridae	Saprininae	n/a	<i>Xerosaprinus</i>			N
	Water Scavenger Beetle	Hydrophilidae	Hydrophilinae	Hydrophilini	<i>Tropisternus</i>	<i>lateralis</i>		
	Minute Brown Scavenger Beetle	Latridiidae	Corticariinae	Corticariini	<i>Corticaria</i>	<i>serrata</i>		N
	Minute Brown Scavenger Beetle	Latridiidae	Corticariinae	Corticariini	<i>Corticarina</i>	<i>herbivagans</i>		
	Minute Brown Scavenger Beetle	Latridiidae	Latridiinae	Latridiini	<i>Aridius</i>	<i>nodifer</i>		
	Blister Beetle	Meloidae	Meloinae	Epicautini	<i>Epicauta</i>			
	Soft-winged Flower Beetle	Melyridae	Malachiinae	Malachiini	<i>Attalus</i>	<i>unicolor</i>		
	Soft-winged Flower Beetle	Melyridae	Malachiinae	Malachiini	<i>Collops</i>	<i>vittatus</i>		
	Hairy Fungus Beetle	Mycetophagidae	Mycetophaginae	Typhaeini	<i>Typhaea</i>	<i>stercorea</i>		
	Root-eating Beetle	Monotomidae	Monotominae	Monotomini	<i>Monotoma</i>	<i>picipes</i>		
	European Dung Beetle	Scarabaeidae	Aphodiinae	Aphodiini	<i>Aphodius</i>	<i>fimetarius</i>	N	
	Aphodiine Dung Beetle	Scarabaeidae	Aphodiinae	Aphodiini	<i>Aphodius</i>	<i>militaris</i>		
	Dung Beetle	Scarabaeidae	Aphodiinae	Aphodiini	<i>Dellacasiellus</i>	<i>pseudofucosus</i>		
	Green Fruit Beetle	Scarabaeidae	Cetoniinae	Gymnetini	<i>Cotinis</i>	<i>mutabilis</i>		
	Southern Masked Chafer	Scarabaeidae	Dynastinae	Cyclocephalini	<i>Cyclocephala</i>	<i>longula</i>		N
	Chafer	Scarabaeidae	Melolonthinae	Sericini	<i>Serica</i>			N
	Chafer	Scarabaeidae	Melolonthinae	Sericini	<i>Serica</i>			N
	Rove Beetle	Staphylinidae	Aleocharinae					
	Rove Beetle	Staphylinidae	Aleocharinae					
	Rove Beetle	Staphylinidae	Aleocharinae					

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Rove Beetle	Staphylinidae	Aleocharinae	Athetini	<i>Philhygra</i>			
	Rove Beetle	Staphylinidae	Aleocharinae	Lomechusini	<i>Meronera</i>			
	Rove Beetle	Staphylinidae	Oxytelinae					
	Spiny-legged Rove Beetle	Staphylinidae	Oxytelinae	Thinobiini	<i>Carpelimus</i>			N
	Rove Beetle	Staphylinidae	Paederinae	Paederini	<i>Paederus</i>	<i>compotens</i>		
	Rove Beetle	Staphylinidae	Paederinae	Pinophilini	<i>Pinophilus</i>			
	Large Rove Beetle	Staphylinidae	Staphylininae	Staphylinini	<i>Dinothenarus</i>	<i>saphyrinus</i>		
	Devil's Coach Horse	Staphylinidae	Staphylininae	Staphylinini	<i>Ocypus</i>	<i>olens</i>		
	Large Rove Beetle	Staphylinidae	Staphylininae	Staphylinini	<i>Platydracus</i>	<i>tarsalis</i>		
	Darkling Beetle	Tenebrionidae	Opatrinae	Opatrini	<i>Blapstinus</i>	<i>brevicollis</i>		
	Darkling Beetle	Tenebrionidae	Pimeliinae	Cnemeplatiini	<i>Lepidocnemeplatia</i>	<i>sericea</i>		N
	Darkling Beetle	Tenebrionidae	Pimeliinae	Coniontini	<i>Coniontis</i>			
	Darkling Beetle	Tenebrionidae	Pimeliinae	Coniontini	<i>Coniontis</i>			N
	Darkling Beetle	Tenebrionidae	Pimeliinae	Edrotini				
	Darkling Beetle	Tenebrionidae	Pimeliinae	Edrotini				
	Darkling Beetle	Tenebrionidae	Pimeliinae	Nyctoporini	<i>Nyctoporis</i>	<i>carinata</i>		
	Stink Beetle	Tenebrionidae	Tenebrioninae	Amphidorini	<i>Eleodes</i>	<i>acuticaudus</i>		
	Woolly Darkling Beetle	Tenebrionidae	Tenebrioninae	Amphidorini	<i>Eleodes</i>	<i>littoralis</i>		
	Woolly Darkling Beetle	Tenebrionidae	Tenebrioninae	Amphidorini	<i>Eleodus</i>	<i>osculans</i>		
	Darkling Beetle	Tenebrionidae	Tenebrioninae	Ulomini				
	Darkling Beetle	Tenebrionidae	Tenebrioninae	Ulomini	<i>Uloma</i>	<i>longula</i>		
	Order: Dermaptera = Earwigs							
	Ring-legged Earwig	Anisolabididae	Carcinophorinae	n/a	<i>Euborellia</i>	<i>annulipes</i>		
	European Earwig	Forficulidae	Forficulinae	n/a	<i>Forficula</i>	<i>auricularia</i>	N	N
	Order: Diptera = Flies, Mosquitos, & kin							
	Leaf Miner Fly	Agromyzidae	Agromyzinae	Agromyzini	<i>Agromyza</i>			
	Leaf Miner Fly	Agromyzidae	Agromyzinae	Ophiomyiini	<i>Melanagromyza</i>	<i>minimoides</i>		
	Leaf Miner Fly	Agromyzidae	Agromyzinae	Ophiomyiini	<i>Melanagromyza</i>	<i>virides</i>		
	Leaf Miner Fly	Agromyzidae	Phytomyzinae	n/a	<i>Cerodontha</i>			
	Leaf Miner Fly	Agromyzidae	Phytomyzinae	n/a	<i>Liriomyza</i>	<i>pictella</i>		
	Leaf Miner Fly	Agromyzidae	Phytomyzinae	n/a	<i>Phytobia</i>			
	Root-maggot Fly	Antomyiidae						N

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Root-maggot Fly	Antomyiidae						N
	Root-maggot Fly	Antomyiidae						
	Root-maggot Fly	Antomyiidae	Anthomyiinae	Anthomiini				
	Root-maggot Fly	Antomyiidae	Anthomyiinae	Anthomiini				
	Root-maggot Fly	Antomyiidae	Anthomyiinae	Anthomiini	<i>cf. Anthomyia</i>			
	Robber Fly	Asilidae	Asilinae	Asilini	<i>Machimus</i>			
	Bee-killer	Asilidae	Asilinae	Asilini	<i>Mallophora</i>	<i>fautrix</i>		
	Robber Fly	Asilidae	Asilinae	Asilini	<i>Negasilus</i>	<i>astutus</i>		
	Robber Fly	Asilidae	Asilinae	Asilini	<i>Stenopogon</i>			
	Robber Fly	Asilidae	Dasyopogoninae	Dasyopogonini	<i>Saropogon</i>	<i>luteus</i>		
	March Fly	Bibionidae	Bibioninae	n/a	<i>Dilophus</i>	<i>orbatus</i>		
	March Fly ('Love Bug')	Bibionidae	Bibioninae	n/a	<i>Dilophus</i>	<i>strigilatus</i>		
	March Fly ('Love Bug')	Bibionidae	Bibioninae	n/a	<i>Dilophus</i>	<i>tibialis</i>		N
	Bee Fly	Bombyliidae	Anthracinae	Exoprosopini	<i>Ligyra</i>	<i>gazophylax</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Hemipenthes</i>	<i>sinuosa</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Thyridanthrax</i>	<i>atratus</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Thyridanthrax</i>	<i>nugator</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Villa</i>	<i>nr. agrippina</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Villa</i>	<i>agrippina</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Villa</i>	<i>atrata</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Villa</i>	<i>nr. inops</i>		
	Bee Fly	Bombyliidae	Anthracinae	Villini	<i>Villa</i>	<i>lateralis</i>		
	Bee Fly	Bombyliidae	Toxophorinae	Gerontini	<i>Geron</i>	<i>nigripes</i>		
	Green Bottle Fly	Calliphoridae	Calliphorinae	Luciliini	<i>Lucilia</i>	<i>mexicana</i>		
	Green Bottle Fly	Calliphoridae	Calliphorinae	Luciliini	<i>Lucilia</i>	<i>sericata</i>		
	Cluster Fly	Calliphoridae	Polleniinae	Polleniini	<i>Pollenia</i>	<i>rudis</i>		
	Gall Midge	Cecidomyiidae	Cecidomyiinae	Cecidomyiidi				N
	Gall Midge	Cecidomyiidae	Cecidomyiinae	Lasiopteridi	<i>Rhopalomyia</i>			N
	Aphid Fly	Chamaemyiidae	Chamaemyiinae	Leucopini	<i>Leucopis</i>	<i>americana</i>		N
	Midge	Chironomidae						N
	Midge	Chironomidae						N
	Midge	Chironomidae						N
	Midge	Chironomidae	Chironominae	Chironomini				
	Midge	Chironomidae	Chironominae	Chironomini	<i>Axarus</i>			N

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			N
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			N
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			
	Midge	Chironomidae	Chironominae	Chironomini	<i>Chironomus</i>			N
	Midge	Chironomidae	Tanypodinae	Procladiini	<i>Procladius</i>	<i>cf. Holotanypus</i>		N
	Grass Fly	Chloropidae	Chloropinae	n/a	<i>Chlorops</i>			
	Grass Fly	Chloropidae	Chloropinae	n/a	<i>Thaumatomyia</i>			
	Grass Fly	Chloropidae	Chloropinae	n/a	<i>Thaumatomyia</i>			
	Frit Fly	Chloropidae	Oscinellinae	Oscinellini	<i>nr Oscinella</i>			
	Frit Fly	Chloropidae	Siphonellopsinae	n/a	<i>nr Apotropina</i>			
	Southern House Mosquito	Culicidae	Culicinae	Culicini	<i>Culex</i>	<i>pipiens</i>	quinquefasciatus	N
	Western Encephalitis Mosquito	Culicidae	Culicinae	Culicini	<i>Culex</i>	<i>tarsalis</i>		N
	Cool Weather Mosquito	Culicidae	Culicinae	Culicini	<i>Culiseta</i>	<i>incidens</i>		N
	Longlegged Fly	Dolichopodidae	Diaphorinae	n/a	<i>Achrdocera</i>	<i>arcuata</i>		
	Longlegged Fly	Dolichopodidae	Dolichopodinae	Dolichopodini	<i>Dolichopus</i>			
	Longlegged Fly	Dolichopodidae	Dolichopodinae	Dolichopodini	<i>Pelastoneurus</i>	<i>occidentalis</i>		
	Aquatic Long-legged Fly	Dolichopodidae	Hydrophorinae	Hydrophorini	<i>Hydrophorus</i>			
	Longlegged Fly	Dolichopodidae	Medeterinae	Medeterini	<i>Medetera</i>	<i>similis</i>		N
	Longlegged Fly	Dolichopodidae	Medeterinae	Medeterini	<i>Medetera</i>	<i>californiensis</i>		
	Longlegged Fly	Dolichopodidae	Sciapodinae	n/a	<i>Condylostylus</i>			
	Vinagar Fly	Drosophilidae	Drosophilinae	Drosophilini	<i>Drosophila</i>			N
	Shore Fly	Ephydriidae	Ephydrinae	Ephydrini	<i>Ephydra</i>	<i>gracilis</i>		
	white-faced Shore Fly	Ephydriidae	Ephydrinae	Ephydrini	<i>Ephydra</i>	<i>niveiceps</i>		
	Shore Fly	Ephydriidae	Ephydrinae	Scatellini	<i>Paracoenia</i>			
	Shore Fly	Ephydriidae	Ephydrinae	Scatellini	<i>Scatella</i>	<i>stagnalis</i>		
	Shore Fly	Ephydriidae	Hydrelliinae	Hydrelliini	<i>Hydrellia</i>			
	Shore Fly	Ephydriidae	Hydrelliinae	Hydrelliini	<i>Hydrellia</i>			
	Shore Fly	Ephydriidae	Hydrelliinae	llytheini	<i>llythea</i>			
	Shore Fly	Ephydriidae	Hydrelliinae	Notiphilini	<i>Notiphila</i>	<i>nr caudata</i>		N
	Shore Fly	Ephydriidae	Parydrinae	n/a	<i>Brachydeutera</i>	<i>argentata</i>		
	Fanniid Fly	Fanniidae	n/a	n/a	<i>Fannia</i>			
	Fanniid Fly	Fanniidae	n/a	n/a	<i>Fannia</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Heleomyzid Fly	Heleomyzidae	Heleomyzinae	Heleomyzini	<i>Pseudoleria</i>			
	Heliomyzid Fly	Heleomyzidae	Suilliinae	Suilliini	<i>Suillia</i>			N
	Heleomyzid Fly	Heleomyzidae	Trixoscelidinae	Trixoscelidini	<i>Trixoscelis</i>			
	Heleomyzid Fly	Heleomyzidae	Trixoscelidinae	Trixoscelidini	<i>Trixoscelis</i>	<i>nuda</i>		
	Lauxaniid Fly	Lauxaniidae	Homoneurinae	n/a	<i>Homoneura</i>	<i>occidentalis</i>		
	Lauxaniid Fly	Lauxaniidae	Lauxaniinae	n/a	<i>Meiosimyza</i>			
	Lauxaniid Fly	Lauxaniidae	Lauxaniinae	n/a	<i>Minettia</i>	<i>flaveola</i>		
	Crane Fly	Limoniidae	Chioneinae	Eriopterini	<i>Erioptera</i>	<i>caliptera</i>		N
	Limoniid Crane Fly	Limoniidae	Chioneinae	Eriopterini	<i>Erioptera</i>	<i>pilipes</i>		
	Limoniid Crane Fly	Limoniidae	Chioneinae	Eriopterini	<i>Symplecta</i>	<i>cana</i>		N
	Lance Fly	Lonchaeidae	Lonchaeinae	Lonchaeini	<i>Lonchaea</i>	<i>striatifrons</i>		
	Muscid Fly	Muscidae						
	Muscid Fly	Muscidae	Azeliinae	Reinwardtiini	<i>Muscina</i>	<i>dorsilinea</i>		
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>			N
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>			N
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>			
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>	<i>tigrina</i>		
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>	<i>nr. tigrina</i>		N
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>	<i>nr. tigrina</i>		
	Tiger Fly	Muscidae	Coenosiinae	Coenosiini	<i>Coenosia</i>	<i>nr. tigrina</i>		
	Necrophagous Fly	Muscidae	Muscinae	Reinwardtiini	<i>Synthesiomyia</i>	<i>nudiseta</i>		
	Fungus Gnat	Mycetophilidae						
	Fungus Gnat	Mycetophilidae	Mycetophilinae	Mycetophilini	<i>Mycetophila</i>	<i>perita</i>		N
	Fungus Gnat	Mycetophilidae	Sciophilinae	Leiini	<i>Leia</i>	<i>striata</i>	var. a	
	Fungus Gnat	Mycetophilidae	Sciophilinae	Leiini	<i>Leia</i>			
	Humpback Fly	Phoridae	Metopininae	Metopinini	<i>Megaselia</i>	<i>scalaris</i>		
	Flat-footed Fly	Platypezidae	Platypezidae	n/a	<i>Plesioclythia</i>	<i>agarici</i>		
	Moth Fly	Psychodidae	Psychodinae	Psychodini	<i>Psychoda</i>			N
	Snipe Fly	Rhagionidae	Rhagioninae	n/a	<i>Chrysopilus</i>			
	Sattelite Fly	Sarcophagidae	Miltogramminae	Miltogrammini	<i>Senotainia</i>	<i>nana</i>		N
	Flesh Fly	Sarcophagidae	Sarcophaginae					
	Flesh Fly	Sarcophagidae	Sarcophaginae					
	Flesh Fly	Sarcophagidae	Sarcophaginae	Raviniini	<i>Ravinia</i>			
	Flesh Fly	Sarcophagidae	Sarcophaginae	Raviniini	<i>Ravinia</i>	<i>stimulans</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Minute Black Scavenger Fly	Scatopsidae	Scatopsinae	Rhegmoclematini	<i>Rhegmoclemina</i>	<i>melanderi</i>		
	Dark-winged Fungus Gnat	Sciaridae						N
	Dark-winged Fungus Gnat	Sciaridae	Sciarinae	Sciarini	<i>Sciara</i>			
	Dark-winged Fungus Gnat	Sciaridae	Sciarinae	Bradysiini	<i>Bradysia</i>			N
	Marsh Fly	Sciomyzidae	Sciomyzinae	Sciomyzini	<i>Pherbellia</i>	<i>vitalis</i>		
	March Fly	Sciomyzidae	Sciomyzinae	Tetanocerini	<i>Sepedon</i>	<i>pacifica</i>		
	Marsh Fly	Sciomyzidae	Tetanocerinae	n/a	<i>Dictya</i>	<i>montana</i>	S. Cal. clinal form	
	Black Scavenger Fly	Sepsidae	Sepsinae	Sepsini	<i>Themira</i>	<i>putris</i>		N
	Soldier Fly	Stratiomyidae						
	Black Soldier Fly	Stratiomyidae	Hermetiinae	Hermetiini	<i>Hermetia</i>	<i>illucens</i>		
	Drone Fly	Syrphidae	Eristalinae	Eristalini	<i>Eristalis</i>			
	Drone Fly	Syrphidae	Eristalinae	Eristalini	<i>Eristalis</i>	<i>nemorum</i>		
	Hover Fly	Syrphidae	Eristalinae	Eristalini	<i>Lejops</i>	<i>polygrammus</i>		N
	Hover Fly	Syrphidae	Eristalinae	Eristalini	<i>Palpada</i>	<i>alhambra</i>		
	Hover Fly	Syrphidae	Eristalinae	Eristalini	<i>Palpada</i>	<i>mexicana</i>		
	Hover Fly	Syrphidae	Eristalinae	Xylotini	<i>Syritta</i>	<i>pipiens</i>		
	Hover Fly	Syrphidae	Syrphinae	Paragini	<i>Paragus</i>	<i>haemorrhous</i>		
	Chevroned Hover Fly	Syrphidae	Syrphinae	Syrphini	<i>Allograptia</i>	<i>obliqua</i>		
	Bird Hover Fly	Syrphidae	Syrphinae	Syrphini	<i>Eupeodes</i>	<i>volucris</i>		
	Hover Fly	Syrphidae	Syrphinae	Syrphini	<i>Scaeva</i>	<i>pyrastris</i>		
	Hover Fly	Syrphidae	Syrphinae	Syrphini	<i>Sphaerophoria</i>	<i>contigua</i>		
	Hover Fly	Syrphidae	Syrphinae	Toxomerini	<i>Toxomerus</i>	<i>marginatus</i>		
	Hover Fly	Syrphidae	Syrphinae	Toxomerini	<i>Toxomerus</i>	<i>occidentalis</i>		
	Bristle Fly	Tachinidae	Dexiinae	Dexiini	<i>Ptilodexia</i>			
	Bristle Fly	Tachinidae	Dexiinae	Voriini				
	Bristle Fly	Tachinidae	Dexiinae	Zeliini	<i>Zelia</i>			
	Bristle Fly	Tachinidae	Exoristinae					
	Bristle Fly	Tachinidae	Phasiinae	Gymnosomatini	<i>Gymnosoma</i>	<i>occidentale</i>		
	Bristle Fly	Tachinidae	Phasiinae	Phasiini	<i>Phasia</i>	<i>aldrichii</i>		
	Bristle Fly	Tachinidae	Tachininae	Dejeaniini	<i>Archytas</i>	<i>apicifer</i>		
	Bristle Fly	Tachinidae	Tachininae	Tachinini	<i>Peleteria</i>			
	Fruit Fly	Tephritidae	Tephritinae	Eutretini	<i>Paracantha</i>	<i>cultaris</i>		
	Fruit Fly	Tephritidae	Tephritinae	Tephrellini	<i>Trupanea</i>	<i>femoralis</i>		
	Fruit Fly	Tephritidae	Tephritinae	Tephrellini	<i>Trupanea</i>	<i>wheeleri</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Fruit Fly	Tephritidae	Tephritinae	Tephritini	<i>Euaresta</i>	<i>aequalis</i>		
	Fruit Fly	Tephritidae	Tephritinae	Tephritini	<i>Euaresta</i>	<i>stigmatica</i>		
	Sunflower Seed Fruit Fly	Tephritidae	Tephritinae	Tephritini	<i>Neotephritis</i>	<i>finalis</i>		
	Fruit Fly	Tephritidae	Tephritinae	Tephritini	<i>Dioxyna</i>	<i>picciola</i>		
	Mulefat Fruit Fly	Tephritidae	Tephritinae	Tephritini	<i>Tephritis</i>	<i>baccharis</i>		
	Fruit Fly	Tephritidae	Tephritinae	Terelliini	<i>Neaspilota</i>	<i>brunneostigmata</i>		
	Stiletto Fly	Therevidae	Therevinae	Cyclotelini	<i>Ozodiceromyia</i>	<i>cf. signatipennis</i>		
	Stiletto Fly	Therevidae	Therevinae	Therevini	<i>Thereva</i>			
	Stiletto Fly	Therevidae	Therevinae	Therevini	<i>Thereva</i>	<i>comata</i>		
	Tiger Crane Fly	Tipulidae	Tipulinae	Tipulini	<i>Nephrotoma</i>	<i>suturalis</i>	wulpiana	
	Marsh Crane Fly	Tipulidae	Tipulinae	Tipulini	<i>Tipula</i>	<i>oleracea</i>		N
	Crane Fly	Tipulidae	Tipulinae	Tipulini	<i>Tipula</i>	<i>planicornis</i>		
	Order: Embiidina = Webspinners							
	Webspinner	Oligotomidae	n/a	n/a	<i>Haploembia</i>	<i>solieri</i>		N
	Order: Ephemeroptera = Mayflies							
	Small Minnow Mayfly	Baetidae	Baetinae	Baetini	<i>Callibaetis</i>	<i>pictus</i>		
	Order: Hemiptera = True Bugs, Cicadas, Hoppers, Aphids, & kin							
	Iris Whitefly	Aleyrodidae	Aleyrodinae	Aleyrodini	<i>Aleyrodes</i>	<i>spiroeoides</i>		
	Kellogg's Whitefly	Aleyrodidae	Aleyrodinae	Aleyrodini	<i>Pealius</i>	<i>kelloggi</i>		
	Broad-headed Bug	Alydidae	Alydinae	n/a	<i>Alydus</i>	<i>conspersus</i>		
	Broad-headed Bug	Alydidae	Alydinae	n/a	<i>Alydus</i>	<i>eurinus</i>		
	Minute Pirate Bug	Anthocoridae	Anthocorinae	Anthocorini	<i>Anthocoris</i>	<i>antevolens</i>		
	Minute Pirate Bug	Anthocoridae	Anthocorinae	Oriini	<i>Orius</i>	<i>tricolor</i>		B
	Bulrush Aphid	Aphididae						
	Erigeron Aphid	Aphididae	Aphidinae	Macrosiphini	<i>Uroleucon</i>			
	Aphid	Aphididae	Aphidinae	Aphidini	<i>Aphis</i>			
	Sunflower Aphid	Aphididae	Aphidinae	Aphidini	<i>Aphis</i>	<i>cornifoliae</i>		
	Cotton Aphid	Aphididae	Aphidinae	Aphidini	<i>Aphis</i>	<i>gossypii</i>		
	Aphid	Aphididae	Aphidinae	Macrosiphini				
	Aphid	Aphididae	Aphidinae	Macrosiphini				
	Pea Aphid	Aphididae	Aphidinae	Macrosiphini	<i>Acyrtosiphon</i>	<i>pisum</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
		Common Name(s)						
		Aphid	Aphididae	Aphidinae	Macrosiphini	<i>Sitobion</i>		
		Aphid	Aphididae	Aphidinae	Macrosiphini	<i>Uroleucon</i>	<i>cf. lambersius</i>	
		Aphid	Aphididae	Aphidinae	Macrosiphini	<i>Uroleucon</i>	<i>sonchellum</i>	
		Chaitophorine Aphid	Aphididae	Chaitophorinae	Siphini	<i>Sipha</i>	<i>maydis</i>	N
		Woolly Aphid	Aphididae	Eriosomatinae				N
		Flat Bug	Aradidae	Aradinae	n/a	<i>Aradus</i>		
		Stilt Bug	Berytidae	Metacanthinae	Metacanthini	<i>Jalysus</i>	<i>wickhami</i>	
		Spittlebug	Cercopidae	Clastopterinae	Clastopterini	<i>Clastoptera</i>	<i>juniperina</i>	
		Grass Sharpshooter	Cicadellidae	Cicadellinae	Cicadellini	<i>Draeculacephala</i>	<i>minerva</i>	
		Leafhopper	Cicadellidae	Cicadellinae	Cicadellini	<i>Giprus</i>		
		Leafhopper	Cicadellidae	Deltocephalinae				N
		Leafhopper	Cicadellidae	Deltocephalinae	Acinopterini	<i>Acinopterus</i>	<i>angulatus</i>	N
		Leafhopper	Cicadellidae	Deltocephalinae	Athysanini	<i>Colladonus</i>	<i>reductus</i>	
		Leafhopper	Cicadellidae	Deltocephalinae	Athysanini	<i>Texananus</i>	<i>latipex</i>	N
		Leafhopper	Cicadellidae	Deltocephalinae	Deltocephalini	<i>Deltocephalus</i>	<i>grex</i>	
		Leafhopper	Cicadellidae	Deltocephalinae	Deltocephalini	<i>Polyamia</i>		N
		Aster Leafhopper	Cicadellidae	Deltocephalinae	Macrostelini	<i>Macrosteles</i>	<i>quadrilineatus</i>	
		Leafhopper	Cicadellidae	Deltocephalinae	Macrostelini	<i>Macrosteles</i>	<i>cf. severini</i>	
		Leafhopper	Cicadellidae	Deltocephalinae	Pendarini	<i>Paraphlepsius</i>		
		Ladder Leafhopper	Cicadellidae	Deltocephalinae	Scaphoideini	<i>Osbornellus</i>	<i>nr. borealis</i>	
		Leafhopper	Cicadellidae	Deltocephalinae	Scaphytopiini	<i>Scaphytopius</i>	<i>irroratus</i>	
		Leafhopper	Cicadellidae	Idiocerinae	Idiocerini	<i>Idiocerus</i>	<i>nr. pallidus</i>	
		Leafhopper	Cicadellidae	Ledrinae	Xerophloeini	<i>Xerophloea</i>		
		Leafhopper	Cicadellidae	Megophthalminae	Agalliini	<i>Ceretagallia</i>		N
		Sycamore Leafhopper	Cicadellidae	Typhlocybiniae	Dikraneurini	<i>Alconeura</i>	<i>quadrifaculata</i>	
		Leafhopper	Cicadellidae	Typhlocybiniae	Dikraneurini	<i>Dikraneura</i>		N
		Potato Leafhopper	Cicadellidae	Typhlocybiniae	Empoascini	<i>Empoasca</i>	<i>fabae</i>	N
		Leafhopper	Cicadellidae	Typhlocybiniae	Empoascini	<i>Empoasca</i>	<i>elongella</i>	
		Western Leaf-footed Bug	Coreidae	Coreinae	n/a	<i>Leptoglossus</i>	<i>clypealis</i>	
		Water Boatman	Corixidae	Corixinae	n/a	<i>Corisella</i>	<i>decolor</i>	
		Planthopper	Delphacidae	Delphacinae	Delphacini	<i>Delphacodes</i>	<i>nr. puella</i>	
		Planthopper	Delphacidae	Delphacinae	Delphacini	<i>Javesella</i>		N
		Planthopper	Delphacidae	Delphacinae	Delphacini	<i>Stobaera</i>	<i>concinna</i>	
		Big-eyed Bug	Geocoridae	Geocorinae	n/a	<i>Geocoris</i>	<i>uliginosus</i>	

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Big-eyed Bug	Geocoridae	Geocorinae	n/a	<i>Isthmocoris</i>	<i>imperialis</i>		
	Water Strider	Gerridae	Gerrinae	Gerrini	<i>Gerris</i>			
	Seed Bug	Lygaeidae	Lygaeinae	n/a	<i>Melanopleurus</i>	<i>belfragei</i>		
	False Chinch Bug	Lygaeidae	Orsillinae	Nysiini	<i>Nysius</i>	<i>raphanus</i>		
	Treehopper	Membracidae	Smiliinae	Smiliini	<i>Telamona</i>			
	Plant Bug	Miridae	Bryocorinae	Dicyphini	<i>Tupiocoris</i>	<i>californicus</i>		
	Potato Bug	Miridae	Mirinae	Mirini	<i>Closterotomus</i>	<i>norvegicus</i>	N	
	Lygus Plant Bug	Miridae	Mirinae	Mirini	<i>Lygus</i>			
	Lygus Plant Bug	Miridae	Mirinae	Mirini	<i>Lygus</i>	<i>elusus</i>		
	Brokenbacked Bug	Miridae	Mirinae	Mirini	<i>Taylorilygus</i>	<i>apicalis</i>	N	
	Plant Bug	Miridae	Philinae	Philini				N
	Plant Bug	Miridae	Philinae	Philini	<i>Spanagonicus</i>	<i>albofasciatus</i>		
	Western Damsel Bug	Nabidae	Nabinae	Nabini	<i>Nabis</i>	<i>alternatus</i>		
	Redshouldered Stink Bug	Pentatomidae	Pentatominae	Antestiini	<i>Thyanta</i>	<i>pallidovirens</i>	<i>spinosa</i>	
	Say's Stink Bug	Pentatomidae	Pentatominae	Pentatomini	<i>Chlorochroa</i>	<i>sayi</i>		
	Harlequin Bug	Pentatomidae	Pentatominae	Pentatomini	<i>Murgantia</i>	<i>histrionica</i>	N	
	Bagrada Bug	Pentatomidae	Pentatominae	Strachiini	<i>Bagrada</i>	<i>hilaris</i>	N	
	Psyllid	Psyllidae						
	Psyllid	Psyllidae						
	Psyllid	Psyllidae						
	Red Gum Lerp Psyllid	Psyllidae	Spondylaspidinae	Spondylaspidini	<i>Glycaspis</i>	<i>brimblecombei</i>	N	
	Assassin Bug	Reduviidae	Harpactorinae	n/a	<i>Rhynocoris</i>	<i>ventralis</i>	var. femoralis	
	Spined Assassin Bug	Reduviidae	Harpactorinae	n/a	<i>Sinea</i>	<i>diadema</i>		
	Assassin Bug	Reduviidae	Harpactorinae	n/a	<i>Zelus</i>	<i>tetracanthus</i>		
	Scentless Plant Bug	Rhopalidae	Rhopalinae	Harmostini	<i>Harmostes</i>	<i>reflexulus</i>		
	Scentless Plant Bug	Rhopalidae	Rhopalinae	Niesthrini	<i>Arhyssus</i>			
	Hyaline Grass Bug	Rhopalidae	Rhopalinae	Rhopalini	<i>Liorhyssus</i>	<i>hyalinus</i>		N
	Scentless Plant Bug	Rhopalidae	Rhopalinae	Rhopalini	<i>Stictopleurus</i>	<i>punctiventris</i>		
	Dirt-colored Seed Bug	Rhyparochromidae	Rhyparochrominae	Megalonotini	<i>Megalonotus</i>	<i>sabulicola</i>	N	
	Mediterranean Seed Bug	Rhyparochromidae	Rhyparochrominae	Rhyparochromini	<i>Xanthochilus</i>	<i>saturnius</i>	N	
	Shore Bug	Saldidae	Saldinae	Saldooidini	<i>Saldula</i>			
	Lace Bug	Tingidae	Tinginae	Tingini	<i>Corythucha</i>	<i>marmorata</i>		
	Triozid Jumping Plant Louse	Triozidae	Triozinae	Triozini	<i>Triozia</i>			N
	Triozid Jumping Plant Louse	Triozidae	Triozinae	Triozini	<i>Triozia</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Order: Hymenoptera = Wasps, Ants, Bees, Sawflies, & kin							
	Mining Bee	Andrenidae	Panurginae	Calliopsini	<i>Calliopsis</i>	<i>Nomadopsis s.l.</i>		
	Valley Carpenter Bee	Anthophoridae	Xylocopinae	Xylocopini	<i>Xylocopa</i>	<i>varipuncta</i>		
	Anthophorine Bee	Apidae	Apinae	Anthophorini	<i>Anthophora</i>	<i>californica</i>		
	Anthophorine Bee	Apidae	Apinae	Anthophorini	<i>Anthophora</i>	<i>squamulosa</i>		
	European Honey Bee	Apidae	Apinae	Apini	<i>Apis</i>	<i>mellifera</i>	N	
	Digger Bee	Apidae	Apinae	Emphorini	<i>Diadasia</i>	<i>enavata</i>		
	Long-horned Bee	Apidae	Apinae	Eucerini	<i>Eumelissodes</i>			
	Long-horned Bee	Apidae	Apinae	Eucerini	<i>Melissodes</i>			
	Long-horned Bee	Apidae	Apinae	Eucerini	<i>Melissodes</i>			
	Long-horned Bee	Apidae	Apinae	Eucerini	<i>Melissodes</i>	<i>pallidisignata</i>		
	Sonoran Bumble Bee	Apidae	Bombinae	Bombini	<i>Bombus</i>	<i>sonorus</i>		
	Vosnesenski's Bumble Bee	Apidae	Bombinae	Bombini	<i>Bombus</i>	<i>vosnesenskii</i>		
	Cuckoo Bee	Apidae	Nomadinae	Epeolini	<i>Epeolus</i>			
	Cuckoo Bee	Apidae	Nomadinae	Epeolini	<i>Triepeolus</i>	<i>helianthi</i>		
	Braconid Wasp	Braconidae						
	Braconid Wasp	Braconidae						
	Braconid Wasp	Braconidae						
	Braconid Wasp	Braconidae						
	Braconid Wasp	Braconidae	Agathidinae					
	Braconid Wasp	Braconidae	Agathidinae	Agathidini	<i>Bassus</i>			
	Braconid Wasp	Braconidae	Aphidiinae	Aphidini	<i>Diaeretiella</i>			
	Braconid Wasp	Braconidae	Meteorinae	Meteorini	<i>Meteorus</i>			
	Braconid Wasp	Braconidae	Microgastrinae					
	Braconid Wasp	Braconidae	Microgastrinae	Cotesini	<i>Cotesia</i>			N
	Braconid Wasp	Braconidae	Opiinae					
	Bradynobaenid Wasp	Bradynobaenidae	Typhoctinae	Typhoctini	<i>Typhoctes</i>	<i>peculiaris</i>	<i>peculiaris</i>	
	Cellophane Bee	Colletidae	Colletinae	Colletini	<i>Colletes</i>			
	Square-headed Wasp	Crabronidae	Astatinae	Astatini	<i>Astata</i>			
	Square-headed Wasp	Crabronidae	Crabroninae	Crabronini	<i>Ectemnius</i>			
	Square-headed Wasp	Crabronidae	Crabroninae	Larrini	<i>Liris</i>	<i>argentatus</i>		
	Square-headed Wasp	Crabronidae	Crabroninae	Larrini	<i>Tachysphex</i>			
	Square-headed Wasp	Crabronidae	Crabroninae	Larrini	<i>Tachysphex</i>			
	Square-headed Wasp	Crabronidae	Crabroninae	Larrini	<i>Tachysphex</i>	<i>terminatus-group</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Aphid Wasp	Crabronidae	Pemphredoninae	Pemphredonini	<i>Diodontus</i>			
	Aphid Wasp	Crabronidae	Pemphredoninae	Pemphredonini	<i>Pemphredon</i>			
	Beewolf	Crabronidae	Philanthinae	Philanthini	<i>Philanthus</i>	<i>multimaculatus</i>		
	Gall Wasp	Cynipidae						
	Gouty Stem Gall Wasp	Cynipidae	Cynipinae	Cynipini	<i>Andricus</i>	<i>quercussuttoni</i>		
	Pumpkin Gall Wasp	Cynipidae	Cynipinae	Cynipini	<i>Dryocosmus</i>	<i>minusculus</i>		
	Diapriid Wasp	Diapriidae	Diapriinae	Diapriini	<i>Trichopria</i>			
	Ant-mimic Parasitoid Wasp	Encyrtidae						
	Red Gum Lerp Psyllid Wasp	Encyrtidae	Encyrtinae	Trechnitini	<i>Psyllaephagus</i>	<i>bliteus</i>	B	N
	Eulophid Wasp	Eulophidae	Eulophinae					
	Seed Chalcid Wasp	Eurytomidae						
	Figitid Wasp	Figitidae	Eucoilinae					
	Argentine Ant	Formicidae	Dolichoderinae	Tapinomini	<i>Linepithema</i>	<i>humilis</i>	N	
	Ant	Formicidae	Myrmicinae	Formicoxenini	<i>Cardiocondyla</i>	<i>mauritanica</i>	(ectopia)	N
	California Harvester Ant	Formicidae	Myrmicinae	Myrmicini	<i>Pogonomyrmex</i>	<i>anzensis</i>		
	Metallic Sweat Bee	Halictidae	Halictinae	Augochlorini	<i>Augochlorella</i>	<i>pomoniella</i>		
	Metallic Sweat Bee	Halictidae	Halictinae	Halictini				
	Metallic Sweat Bee	Halictidae	Halictinae	Halictini	<i>Agapostemon</i>	<i>virescens</i>		
	Sweat Bee	Halictidae	Halictinae	Halictini	<i>Halictus</i>			
	Sweat Bee	Halictidae	Halictinae	Halictini	<i>Halictus</i>	<i>rubicundus</i>		
	Sweat Bee	Halictidae	Halictinae	Halictini	<i>Lasioglossum</i>			
	Sweat Bee	Halictidae	Halictinae	Halictini	<i>Lasioglossum</i>	<i>actinosum</i>		
	Sweat Bee	Halictidae	Halictinae	Halictini	<i>Lasioglossum</i>	<i>incompletum</i>		
	Ichneumonoid Wasp	Ichneumonidae						
	Ichneumon Wasp	Ichneumonidae	Anomaloninae	Anomalonini	<i>Anomalon</i>			
	Ichneumon Wasp	Ichneumonidae	Campopleginae					
	Ichneumon Wasp	Ichneumonidae	Campopleginae	Lathrostizus				
	Ichneumon Wasp	Ichneumonidae	Cremastinae	Cremastini	<i>Temelucha</i>	<i>cf. grapholithae</i>		
	Ichneumon Wasp	Ichneumonidae	Cryptinae	Cryptini	<i>Idiolispa</i>	<i>analisis</i>	igneae	
	Ichneumon Wasp	Ichneumonidae	Ichneumoninae					
	Ichneumon Wasp	Ichneumonidae	Mesochorinae	Mesochorini	<i>Mesochorus</i>			N
	Ichneumon Wasp	Ichneumonidae	Ophioninae	Ophionini	<i>Enicospilus</i>	<i>merdarius</i>		N
	Short-Tailed Ichneumon Wasp	Ichneumonidae	Ophioninae	Ophionini	<i>Ophion</i>			N
	Ichneumon Wasp	Ichneumonidae	Pimplinae	Pimplini	<i>Pimpla</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Ichneumon Wasp	Ichneumonidae	Pimplinae	Pimplini	<i>Pimpla</i>			
	Ichneumon Wasp	Ichneumonidae	Triphoninae	Phytodietini	<i>Netelia</i>			
	Leafcutter Bee	Megachillidae	Megachillinae					
	Megaspilid Wasp	Megaspilidae						
	Velvet Ant	Mutillidae	Sphaerophthalminae	Pseudomethocini	<i>Pseudomethoca</i>	<i>anthracina</i>		
	Velvet Ant	Mutillidae	Sphaerophthalminae	Pseudomethocini	<i>Pseudomethoca</i>	<i>anthracina</i>		
	Red-haired Velvet Ant	Mutillidae	Sphaerophthalminae	Dasymutillini	<i>Dasymutilla</i>			
	Perilampid Wasp	Perilampidae	Perilampinae	Perilampini	<i>Perilampus</i>	<i>hyalinus</i>		
	Platygastrid Wasp	Platygastridae	Platygastrinae	Platygastrini	<i>Synopeas</i>			
	Spider Wasp	Pompilidae	Pepsinae	Ageniellini	<i>Ageniella</i>	<i>coronata</i>		
	Pteromalid Wasp	Pteromalidae						
	Pteromalid Wasp	Pteromalidae						
	Pteromalid Wasp	Pteromalidae						
	Pteromalid Wasp	Pteromalidae						
	Yellow Scarab Hunter	Scoliidae	Campsomerinae	Campsomerini	<i>Campsomeris</i>	<i>pilipes</i>		
	Tarantula Hawk	Pompilidae	Pepsinae	Pepsini	<i>Pepsis</i>	<i>thisbe</i>		
	Spider Wasp	Pompilidae	Pompilinae	Pompilini	<i>Episyron</i>	<i>conterminus</i>	<i>posterus</i>	
	Spider Wasp	Pompilidae	Pompilinae	Pompilini	<i>Perissopompilus</i>	<i>phoenix</i>		
	Thread-waisted Digger Wasp	Sphecidae	Ammophilinae	Ammophilini	<i>Ammophila</i>	<i>nigricans</i>		
	Cutworm Wasp	Sphecidae	Ammophilinae	Ammophilini	<i>Podalonia</i>	<i>luctuosa</i>		
	Blue Mud Wasp	Sphecidae	Sphecinae	Sceliphryni	<i>Chalybion</i>	<i>californicum</i>		
	Blue Mud Wasp	Sphecidae	Sphecinae	Sceliphryni	<i>Chalybion</i>	<i>californicum</i>		
	Black and Yellow Mud Dauber	Sphecidae	Sphecinae	Sceliphryni	<i>Sceliphron</i>	<i>caementarium</i>		
	Thread-waisted Wasp	Sphecidae	Sphecinae	Sphecini	<i>Prionyx</i>	<i>thomae</i>		
	Great Golden Digger Wasp	Sphecidae	Sphecinae	Sphecini	<i>Sphex</i>	<i>ichneumoneus</i>		
	Euurina Willow Gall Sawfly	Tenthredinidae	Selandriinae	Nematini	<i>Euura</i>			
	Willow Apple Gall Sawfly	Tenthredinidae	Selandriinae	Nematini	<i>Pontania</i>	<i>pacifica</i>		
	Mason Wasp	Vespidae	Eumeninae	Alticini	<i>Ancistrocerus</i>	<i>albophaleratus</i>		
	Mason Wasp	Vespidae	Eumeninae	Alticini	<i>Ancistrocerus</i>	<i>cf. spilopterus</i>		
	Potter Wasp	Vespidae	Eumeninae	Eumenini	<i>Eumenes</i>	<i>crucifera</i>	<i>crucifera</i>	
	Mason Wasp	Vespidae	Eumeninae	Eumenini	<i>Stenodynerus</i>			
	Mason Wasp	Vespidae	Eumeninae	Eumenini	<i>Euodynerus</i>	<i>hidalgo</i>	<i>hidalgo</i>	
	Paper Wasp	Vespidae	Polistinae	Polistini	<i>Polistes</i>	<i>apachus</i>		
	European Paper Wasp	Vespidae	Polistinae	Polistini	<i>Polistes</i>	<i>dominula</i>		N

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Order: Isoptera = Termites							
	Western Drywood Termite	Kalotermitidae	Incisitermitinae	Incisitermitini	<i>Incisitermes</i>	<i>minor</i>		
	Order: Lepidoptera = Butterflies & Moths							
	Casebearer Moth	Coleophoridae	Coleophorinae	Coleophorini	<i>Coleophora</i>	<i>accordella</i>		N
	Casebearer Moth	Coleophoridae	Coleophorinae	Coleophorini	<i>Coleophora</i>	<i>atriplicivora</i>		N
	Leach's Grass-veneer	Crambidae	Crambinae	Crambini	<i>Crambus</i>	<i>leachellus</i>		
	Necklace Veneer	Crambidae	Crambinae	Crambini	<i>Euchromius</i>	<i>ocelleus</i>	N	
	Snout Moth	Crambidae	Evergestinae	Evergestini	<i>Evergestis</i>	<i>rimosalis</i>		N
	Lupine Snout Moth	Crambidae	Glaphyriinae	n/a	<i>Dicymolomia</i>	<i>metalliferalis</i>		N
	Snout Moth	Crambidae	Glaphyriinae	n/a	<i>Stegea</i>			N
	Snout Moth	Crambidae	Glaphyriinae	n/a	<i>Stegea</i>	<i>salutalis</i>	<i>riparialis</i>	N
	Cabbage Webworm Moth	Crambidae	Nymphulinae	Nymphulini	<i>Hellula</i>	<i>rogatalis</i>		
	Genista Moth	Crambidae	Pyraustinae	Pyraustini	<i>Uresiphita</i>	<i>reversalis</i>		
	Eight-barred Lygropia	Crambidae	Pyraustinae	Spilomelini	<i>Lygropia</i>	<i>octonalis</i>		
	Lucerne Moth	Crambidae	Pyraustinae	Spilomelini	<i>Nomophila</i>	<i>nearctica</i>		
	Crambid Moth	Crambidae	Pyraustinae	Spilomelini	<i>Glyphodes</i>	<i>onychinalis</i>	N	
	Grass Miner Moth	Elachistidae	Elachistinae	Elachistini	<i>Elachista</i>			
	Salt Marsh Moth	Erebidae	Arctiinae	Arctiini	<i>Estigmene</i>	<i>acrea</i>	<i>acrea</i>	
	Underwing Moth	Erebidae	Erebinae	Catocalini	<i>Catocala</i>	<i>californica</i>		
	Underwing Moth	Erebidae	Erebinae	Catocalini	<i>Catocala</i>	<i>faustina</i>	<i>cleopatra</i>	
	Looper Moth	Erebidae	Erebinae	Euclidiini	<i>Caenurgia</i>	<i>togataria</i>		
	Litter Moth	Erebidae	Hermiinae	n/a	<i>Tetanolita</i>	<i>palligera</i>		N
	Gelechiid Moth	Gelechiidae	Gelechiinae	Gelechiini	<i>Aristotelia</i>	<i>adenostomae</i>		
	Twirler Moth	Gelechiidae	Gelechiinae	Gelechiini	<i>Aroga</i>	<i>unifasciella</i>		N
	Twirler Moth	Gelechiidae	Gelechiinae	Gelechiini	<i>Chionodes</i>	<i>popa</i>		N
	Geometer Moth	Geometridae	Ennominae	Ourapterygini	<i>Prochoerodes</i>	<i>forficaria</i>	<i>forficaria</i>	
	Geometer Moth	Geometridae	Ennominae	Semiothisini	<i>Digrammia</i>	<i>californiaria</i>		
	Angle Moth	Geometridae	Ennominae	Semiothisini	<i>Digrammia</i>	<i>irrorata</i>		
	Common Eupithecia Moth	Geometridae	Larentiinae	Eupitheciini	<i>Eupithecia</i>	<i>miserulata</i>		
	Dwarf Tawny Wave Moth	Geometridae	Sterrhinae	Cosymbiini	<i>Cyclophora</i>	<i>nanaria</i>		N
	Shield-Bearer Moth	Heliozelidae	Heliozelinae	Heliozelini	<i>Coptodisca</i>	<i>powellella</i>		
	Fiery Skipper	Hesperiidae	Hesperiinae	Hesperiini	<i>Hylephila</i>	<i>phyleus</i>		
	Umber Skipper	Hesperiidae	Hesperiinae	Hesperiini	<i>Poanes</i>	<i>melane</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active	
		Common Name(s)							
		Sandhill Skipper	Hesperiidae	Hesperiinae	Hesperiini	<i>Polites</i>	<i>sabuleti</i>		
		Eufala Skipper	Hesperiidae	Hesperiinae	Moncini	<i>Lerodea</i>	<i>eufala</i>		
		Funereal Duskywing	Hesperiidae	Pyrginae	Erynnini	<i>Erynnis</i>	<i>funeralis</i>		
		Northern White-skipper	Hesperiidae	Pyrginae	Pyrgini	<i>Heliopetes</i>	<i>ericetorum</i>		
		White Checkered-skipper	Hesperiidae	Pyrginae	Pyrgini	<i>Pyrgus</i>	<i>albescens</i>		
		Marine Blue	Lycaenidae	Polyommatainae	Lampidini	<i>Leptotes</i>	<i>marina</i>		
		Western Pygmy-blue	Lycaenidae	Polyommatainae	Polyommataini	<i>Brephidium</i>	<i>exile</i>		
		Reakirt's Blue	Lycaenidae	Polyommatainae	Polyommataini	<i>Echinargus</i>	<i>isola</i>		
		Western Tailed-blue	Lycaenidae	Polyommatainae	Polyommataini	<i>Everes</i>	<i>amyntula</i>		
		Acmon Blue	Lycaenidae	Polyommatainae	Polyommataini	<i>Plebejus</i>	<i>acmon</i>		
		Gray Hairstreak	Lycaenidae	Theclinae	Eumaeini	<i>Strymon</i>	<i>melinus</i>		
		Corn Earworm Moth	Noctuidae	Heliothinae	n/a	<i>Helicoverpa</i>	<i>zea</i>		
		Flower Moth	Noctuidae	Heliothinae	n/a	<i>Schinia</i>	<i>pulchripennis</i>		
		Dart Moth	Noctuidae	Noctuinae	Eriopygini	<i>Lacinipolia</i>	<i>circumcincta</i>		N
		Quaker Moth	Noctuidae	Noctuinae	Eriopygini	<i>Protorthodes</i>	<i>rufula</i>		N
		Armyworm Moth	Noctuidae	Noctuinae	Leucaniini	<i>Mythimna</i>	<i>unipuncta</i>		N
		Cutworm Moth	Noctuidae	Noctuinae	Noctuiini	<i>Abagrotis</i>	<i>forbesi</i>		N
		Small Mottled Willow Moth	Noctuidae	Noctuinae	Prodeniini	<i>Spodoptera</i>	<i>exigua</i>		N
		Yellow-striped Armyworm Moth	Noctuidae	Noctuinae	Prodeniini	<i>Spodoptera</i>	<i>ornithogalli</i>	M	
		Alfalfa Looper	Noctuidae	Plusiinae	Plusiini	<i>Autographa</i>	<i>californica</i>		
		Bilobed Looper	Noctuidae	Plusiinae	Plusiini	<i>Megalographa</i>	<i>biloba</i>		
		Queen	Nymphalidae	Danainae	Danaini	<i>Danaus</i>	<i>gillippus</i>		
		Monarch	Nymphalidae	Danainae	Danaini	<i>Danaus</i>	<i>plexippus</i>		
		Gulf Fritillary	Nymphalidae	Heliconiinae	Heliconiini	<i>Agraulis</i>	<i>vanillae</i>	M	
		Mourning Cloak	Nymphalidae	Nymphalinae	Nymphalini	<i>Nymphalis</i>	<i>antiopa</i>		
		West Coast Lady	Nymphalidae	Nymphalinae	Nymphalini	<i>Vanessa</i>	<i>annabella</i>		
		Red Admiral	Nymphalidae	Nymphalinae	Nymphalini	<i>Vanessa</i>	<i>atalanta</i>		
		Painted Lady	Nymphalidae	Nymphalinae	Nymphalini	<i>Vanessa</i>	<i>cardui</i>		
		American Lady	Nymphalidae	Nymphalinae	Nymphalini	<i>Vanessa</i>	<i>virginiensis</i>		
		Western Tiger Swallowtail	Papilionidae	Papilioninae	Papilionini	<i>Papilio</i>	<i>rutulus</i>		
		Anise Swallowtail	Papilionidae	Papilioninae	Papilionini	<i>Papilio</i>	<i>zelicaon</i>		
		Dainty Sulphur	Pieridae	Coliadinae	Coliadini	<i>Nathalis</i>	<i>iole</i>		
		Orange Sulphur	Pieridae	Coliadinae	Coliadini	<i>Colias</i>	<i>eurytheme</i>		
		Cabbage White	Pieridae	Pierinae	Pierini	<i>Pieris</i>	<i>rapae</i>	N	

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
	Common Name(s)							
	Diamondback Moth	Plutellidae	Plutellinae	Plutellini	<i>Plutella</i>	<i>dammersi</i>		N
	Diamondback Moth	Plutellidae	Plutellinae	Plutellini	<i>Plutella</i>	<i>xylostella</i>	N	
	Ambrosia Plume Moth	Pterophoridae	Pterophorinae	Pterophorini	<i>Adaina</i>	<i>ambrosiae</i>		
	Lesser Cornstalk Borer	Pyralidae	Phycitinae	Phycitini	<i>Elasmopalpus</i>	<i>lignosellus</i>		
	Pyralid Moth	Pyralidae	Phycitinae	Phycitini	<i>Ephesiodes</i>	<i>gilvescentella</i>		
	Pyralid Moth	Pyralidae	Phycitinae	Phycitini	<i>Homoeosoma</i>	<i>electella</i>		N
	Western Poplar Clearwing	Sesiidae	Tinithiinae	Paranthrenini	<i>Paranthrene</i>	<i>robiniae</i>	palescens	
	White-lined Sphinx	Sphingidae	Macroglossinae	Macroglossini	<i>Hyles</i>	<i>lineata</i>		N
	Burrowing Webworm Moth	Tineidae	Acrolophinae	n/a	<i>Ptilopsaltis</i>	<i>confusella</i>		N
	Caribbean Scavenger Moth	Tineidae	Erechthiinae	Erechthiini	<i>Erechthias</i>	<i>minuscula</i>		
	Ragweed Borer	Tortricidae	Olethreutinae	Eucosmini	<i>Epiblema</i>	<i>nr strenuana</i>		N
	Tortricid Moth	Tortricidae	Olethreutinae	Eucosmini	<i>Epinotia</i>	<i>subviridis</i>		N
	Tortricid Moth	Tortricidae	Olethreutinae	Eucosmini	<i>Eucosma</i>	<i>atomosana</i>		N
	European Poplar Shoot Borer	Tortricidae	Olethreutinae	Eucosmini	<i>Gypsonoma</i>	<i>aceriana</i>	N	
	Tortricid Moth	Tortricidae	Olethreutinae	Eucosmini	<i>Notocelia</i>	<i>illotana</i>		
	Sunflower Bud Moth	Tortricidae	Olethreutinae	Eucosmini	<i>Suleima</i>	<i>helianthana</i>		
	Tortricid Moth	Tortricidae	Olethreutinae	Eucosmini	<i>Suleima</i>	<i>lagopana</i>		N
	Garden Tortrix	Tortricidae	Tortricinae	Archipini	<i>Clepsis</i>	<i>peritana</i>		N
	Tortricid Moth	Tortricidae	Tortricinae	Cochylini	<i>Platphalonidia</i>	<i>felix</i>		N
	Omnivorous Leafroller	Tortricidae	Tortricinae	Sparganothidini	<i>Platynota</i>	<i>sultana</i>		N
	Order: Microcoryphia = Bristletails							
	Rock Bristletail	Meinertellidae	Meinertellinae	n/a	<i>Machilinus</i>	<i>aurantiacus</i>		
	Order: Neuroptera = Lacewings, Antlions, & kin							
	Common Green Lacewing	Chrysopidae	Chrysopinae	n/a	<i>Chrysoperla</i>	<i>adamsi</i>		
	Brown Lacewing	Hemerobiidae	Hemerobiinae	n/a	<i>Wesmaelius</i>			N
	Antlion	Myrmeleontidae	Myrmeleontinae	Myrmeleontini	<i>Myrmeleon</i>			
	Order: Odonata = Dragonflies & Damselflies							
	Green Darner	Aeshnidae	Aeshninae	Anactini	<i>Anax</i>	<i>junius</i>		
	Blue-Eyed Darner	Aeshnidae	Aeshninae	Aeschnini	<i>Rhionaeschna</i>	<i>multicolor</i>		
	Flame Skimmer	Libellulidae	Libellulinae	Libellulini	<i>Libellula</i>	<i>saturata</i>		
	Mexican Amberwing	Libellulidae	Palpopleurinae	Palpopleurini	<i>Perithemis</i>	<i>intensa</i>		

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
Common Name(s)								
Order: Thysanoptera = Thrips								
Predatory Thrips	Aeolothripidae	Aeolothripinae	Aeolothripini	<i>Aeolothrips</i>				
Common Thrips	Thripidae	Thripinae	Thripini	<i>Thrips</i>				
Tube-tailed Thrips	Phlaeothripidae							
Order: Zygentoma = Silverfish								
Lineated Silverfish	Lepismatidae	Lepismatinae	n/a	<i>Ctenolepisma</i>	<i>lineata</i>	<i>pilifera</i>	N	
Class: Malacostraca = Malacostracans = Crayfish, Amphipods, Isopods, & kin								
Order: Amphipoda = Scuds & Sideswimmers								
Freshwater Scud	Gammaridae	Gammarinae	Gammarini	<i>Gammarus</i>				
Freshwater Scud	Gammaridae	Gammarinae	Gammarini	<i>Gammarus</i>				
Sideswimmer	Dogielinotidae	Hyalellinae	n/a	<i>Hyalella</i>	<i>azteca</i>			
Order: Decapoda = Decapods = Crayfish, Crabs, Lobsters, Prawns, Shrimp, & kin								
Red Swamp Crawfish	Cambaridae	Cambarinae	Cambarini	<i>Procambarus</i>	<i>clarkii</i>		N	
Order: Isopoda = Isopods								
Roly-poly	Armadillidiidae	Armadillidiinae	n/a	<i>Armadillidium</i>	<i>vulgare</i>		N	
Rough Woodlouse	Porcellionidae	Porcellioninae	n/a	<i>Porcellio</i>	<i>scaber</i>		N	
Class: Maxillopoda = Copepods, Barnacles, & kin								
Order: Eucopepoda = freeliving Copepods								
Cyclops Copepod	Cyclopidae	Cyclopinae	n/a	<i>Cyclops</i>				
Class: Ostracoda = Seed Shrimp								
Order: Podocopida = (ten-legged) Seed Shrimp								
Freshwater Seed Shrimp	Cyprididae	Cypridinae	n/a	<i>Cypris</i>	<i>pubera</i>			
Freshwater Seed Shrimp	Cyprididae	Cyprinotinae	n/a	<i>Heterocypris</i>	<i>incongruens</i>			
Freshwater Seed Shrimp	Cyprididae	Eucypridinae	n/a	<i>Eucypris</i>	<i>virens</i>			
Freshwater Seed Shrimp	Cyprididae	Herpetocypridinae	n/a	<i>Herpetocypris</i>	<i>reptans</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
Common Name(s)								
Phylum: Cnidaria = Jellies, Corals, Hydroids, & kin								
Class: Hydrozoa = Hydroids								
Order: Anthomedusae = Athecate Hydroids								
Freshwater Hydra	Hydridae	n/a	n/a	<i>Hydra</i>	<i>americana</i>			
Phylum: Mollusca = Molluscs								
Class: Gastropoda = Snails & Slugs								
Order: Stylommatophora = Terrestrial Snails & Slugs								
Longneck Field Slug	Agriolimacidae	Agriolimacinae	n/a	<i>Deroceras</i>	<i>panormitanum</i>		N	
Three Band Garden Slug	Agriolimacidae	Agriolimacinae	n/a	<i>Lehmannia</i>	<i>valentiana</i>		N	
Decollate Snail	Subulinidae	Rumininae	Ruminini	<i>Rumina</i>	<i>decollata</i>		B	
Amber Snail	Succineidae	Catinellinae	n/a	<i>Catinella</i>	<i>rehderi</i>			
Excentric Vallonia	Valloniidae	Valloniinae	n/a	<i>Vallonia</i>	<i>excentrica</i>		N	
Vertigo	Vertiginidae	Vertigininae	Vertiginini	<i>Nearctula</i>	<i>hemphilli</i>			
Order: Basommatophora = Air-breathing Freshwater Snails								
Freshwater Snail	Physidae	Physinae	Physellini	<i>Physella</i>	<i>virgata</i>			
Ramshorn Pond Snail	Planorbidae	Planorbinae	Planorbini	<i>Planorbella</i>	<i>tenuis</i>			
Phylum: Nematoda = Roundworms								
Class: Adenophorea = Roundworms								
Order: Gordea = (Soil) Roundworms								
Predaceous Roundworm	Mononchidae							
Class: Secernentea = Caudal Papillae Roundworms								
Order: Rhabditida = (Freeliving Soil) Roundworms [placement uncertain]								
Soil Roundworm	Rhabditidae							
Phylum: Platyhelminthes = Flatworms								
Class: Turbellaria = (free-living) Flatworms								
Order: Tricladida = (freshwater+terrestrial) Flatworms								
Freshwater Flatworm	Dugesiiidae	n/a	n/a	<i>Dugesia</i>	<i>tigrina</i>			
Freshwater Flatworm	Planariidae	n/a	n/a	<i>Phagocata</i>	<i>morgani</i>			

Higher taxa (Phylum, Class, Order)	Family	Subfamily	Tribe	Genus	Species	Sub-species / variant / form	Non-Native	Night-active
Common Name(s)								
Phylum: Rotifera = Rotifers = Wheel Animals								
Class: Monogononta = (single-gonad) Wheel Animals								
Order: Plioma = Freshwater Wheel Animals + kin								
Freshwater Wheel Animal	Brachionidae	Brachioninae	n/a	<i>Brachionus</i>				
Phylum: Tardigrada = Tardigrades = Water Bears								
Class: Heterotardigrada = Water Bears (with head appendages)								
Order: Echiniscoidea = (Clawed) Water Bears								
Freshwater Water Bear	Echiniscidae	n/a	n/a	<i>Echiniscus</i>				

Appendix E. Plant lists

We used the following sources to develop our plant lists for Madrona Marsh Preserve:

- “Consortium”: [CCH 2010]; Consortium of California herbaria database, using inland locations between Playa del Rey/Inglewood and the base of the Palos Verdes Peninsula.
- “L.A. Coastal Prairie”: [Mattoni and Longcore 1997]
- “Palos Verdes”: [Brinkman-Busi 1992] (only species listed as occurring in “grassland” or “marsh” were included).
- “Sepulveda/Rosecrans”: [El Segundo 2004]

Note: If species are known from the Los Angeles area but not from the South Bay (between Playa del Rey/Inglewood and Palos Verdes), we consider them "non-native to South Bay". Species listed as simply "non-native" are generally not native to California. Those listed as native could be considered candidates for use in restoration.

Table E1. Comprehensive flora of Madrona Marsh Preserve. Specimens vouchered at either University of California, Riverside Herbarium (“UCR”, this study) or at the herbarium at California State University, Long Beach (“LBH”, from [Zemba 1976]). Plants for which no specimen is known are included if they have been credibly reported in previous lists (e.g., [Zemba 1976]), and are known to occur naturally as native/naturalized populations in the interior South Bay region (various sources; see text).

Note: “Non-native to South Bay” refers to plants unknown in a naturally-occurring state in the interior portion of the South Bay, exclusive of the Palos Verdes Peninsula or El Segundo Dunes, both of which support a fauna different from what would have occurred inland at Madrona Marsh. “Non-native” refers to plants that are not native to California and/or the U.S. “Natural/Introduced” refers to plants that were occurring naturally but have also been planted by staff and volunteers, generally from local cuttings.

All non-native (to California) and non-native to South Bay species are listed in italics.

Blue = Naturally-occurring and native; extant at MMP (this study)

Pink = Naturally-occurring and native; extirpated at MMP (known from specimens at Cal State Long Beach Herbarium)

Olive = Introduced but native to region; extant at MMP

Light green = Non-native; either naturalized or deliberately introduced; extant at MMP

Orange = Naturalized/non-native; extirpated at MMP

Gray = Identified in error; see Table E3 (below).

Yellow = Status unclear; more research needed.

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Aizoaceae	<i>Sesuvium verrucosum</i>	Sea-purslane	Natural/ Extirpated	Native	Yes	Yes	Yes	Yes	LBH	
Alismataceae	<i>Alisma plantago-aquatica</i>	Water plantain	Natural	Native	Yes	Yes	Yes	Yes	RSA287985 (as <i>A. triviale</i>)	
Alismataceae	<i>Alisma triviale</i>	Synonym for <i>A. plantago-aquatica</i>								
<i>Amaranthaceae</i>	<i>Amaranthus albus</i>	<i>Tumbling pigweed</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>UCR214669</i>	
Anacardiaceae	<i>Rhus integrifolia</i>	Lemonadeberry	Introduced	Native	No	No	No	Yes	UCR214670	
Anacardiaceae	<i>Schinus terebinthifolius</i>	<i>Brazilian pepper</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>UCR214646</i>	
<i>Apiaceae</i>	<i>Apium leptophyllum</i>	<i>Synonym for Ciclospermum l.</i>								
<i>Apiaceae</i>	<i>Ciclospermum leptophyllum</i>	<i>Marsh parsley</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>UCR217700</i>	
<i>Apiaceae</i>	<i>Foeniculum vulgare</i>	<i>Fennel</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>UCR218002</i>	<i>NEW</i>
<i>Arecaceae</i>	<i>Washingtonia robusta</i>	<i>Mexican fan palm</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>UCR218015</i>	
Asteraceae	<i>Ambrosia acanthicarpa</i>	Sand-bur, Annual bur-ragweed, Annual bursage	Natural	Native	Yes	No	Yes	Yes	UCR213376	
Asteraceae	<i>Ambrosia psilostachya</i>	Western ragweed	Natural	Native	No	No	Yes	Yes	UCR210067	
Asteraceae	<i>Artemisia californica</i>	California sagebrush	Introduced	Native	No	No	No	No	UCR218003	NEW
Asteraceae	<i>Artemisia douglasiana</i>	Mugwort	Introduced	Native	No	No	No	No	UCR218005	NEW
Asteraceae	<i>Baccharis glutinosa</i>	Synonym for <i>B. salicifolia</i>								
Asteraceae	<i>Baccharis pilularis</i>	Coyotebush	Natural/ Introduced	Native	No	No	No	Yes	UCR217691	
Asteraceae	<i>Baccharis salicifolia</i>	Mulefat	Natural/ Introduced	Native	Yes	Yes	Yes	Yes	UCR209304	
Asteraceae	<i>Bidens frondosa</i>	Devil's beggar's ticks	Natural	Native	No	No	Yes	No	UCR218022	NEW
Asteraceae	<i>Centromadia parryi</i> var. <i>australis</i>	Synonym for <i>H. parryi</i> ssp. <i>australis</i>								
<i>Asteraceae</i>	<i>Chamomilla suaveolens</i>	<i>Pineapple weed</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>UCR214628</i> (as <i>Matricaria matricarioides</i>)	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Asteraceae	<i>Chrysanthemum coronarium</i>	Garland chrysanthemum	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214630	
Asteraceae	<i>Conyza bonariensis</i>	Hairy fleabane, flax-leaved horseweed	Naturalized	Non-native	Yes	Yes	No	Yes	UCR217708	
Asteraceae	<i>Conyza canadensis</i>	Horseweed, mare's-tail	Natural	Native	Yes	No	Yes	Yes	UCR210070	
Asteraceae	<i>Conyza floribunda</i>	Tropical horseweed	Naturalized	Non-native	No	No	No	No	UCR209320	NEW
Asteraceae	<i>Cotula australis</i>	Australian cotula	Naturalized	Non-native	Yes	Yes	No	Yes	UCR213417	
Asteraceae	<i>Cotula coronopifolia</i>	Brass buttons	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR213578	
Asteraceae	<i>Deinandra fasciculata</i>	Synonym for <i>Hemizonia fasciculata</i>								
Asteraceae	<i>Eclipta prostrata</i>	False daisy	Natural	Native	No	No	No	No	UCR209314	NEW
Asteraceae	<i>Encelia californica</i>	Bush sunflower	Introduced	Native	No	No	No	Yes	UCR214615	
Asteraceae	<i>Encelia farinosa</i>	Brittlebush	Introduced	Non-native to South Bay	No	No	No	No	Need to collect	New
Asteraceae	<i>Ericameria ericoides</i>	Mock heather	Introduced	Non-native to South Bay	No	No	No	Yes	UCR213436	
Asteraceae	<i>Ericameria pinifolia</i>	Pine goldenbush	Introduced	Non-native to South Bay	No	No	No	No	Need to collect	NEW
Asteraceae	<i>Gamochaeta pensylvanica</i>	Pennsylvania everlasting	Naturalized	Non-native	No	No	No	No	UCR214672	NEW
Asteraceae	<i>Gazania longiscapa</i>	Synonym for <i>G. linearis</i>								
Asteraceae	<i>Gnaphalium pensylvanica</i>	Synonym for <i>Gamochaeta p.</i>								
Asteraceae	<i>Gnaphalium canescens</i> ssp. <i>microcephalum</i>	White everlasting	Natural	Native	Yes	No	No	Yes	UCR214664	
Asteraceae	<i>Gnaphalium chilense</i>	Synonym for <i>G. stramineum</i>								
Asteraceae	<i>Gnaphalium luteo-album</i>	Everlasting cudweed	Naturalized	Non-native	No	No	No	No	UCR213411	NEW
Asteraceae	<i>Gnaphalium microcephalum</i>	Synonym for <i>G. canescens</i> ssp. <i>m.</i>								
Asteraceae	<i>Gnaphalium palustre</i>	Lowland cudweed	Natural	Native	Yes	Yes	Yes	Yes	UCR214667	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Asteraceae	<i>Gnaphalium stramineum</i>	Cotton-batting plant	Natural	Native	Yes	No	No	Yes	UCR218014	
Asteraceae	<i>Hazardia squarrosa</i>	Sawtooth goldenbush	Introduced	Non-native to South Bay	No	No	No	Yes	UCR210068 (as <i>Haplopappus s.</i>)	
Asteraceae	<i>Hedynois cretica</i>	Crete weed	Naturalized	Non-native	No	No	No	No	UCR214594	NEW
Asteraceae	<i>Helianthus annuus</i>	Common sunflower	Natural	Native	Yes	Yes	Yes	Yes	UCR209319	
Asteraceae	<i>Hemizonia australis</i>	Synonym for <i>H. parryi</i> ssp. <i>australis</i>								
Asteraceae	<i>Hemizonia fasciculata</i>	Fascicled tarplant	Natural	Native	Yes	Yes	Yes	Yes	UCR218028	
Asteraceae	<i>Hemizonia parryi</i> ssp. <i>australis</i>	Southern tarplant	Natural	Native	Yes	Yes	Yes	Yes	UCR209310	
Asteraceae	<i>Hemizonia ramosissima</i>	Synonym for <i>H. fasciculata</i>								
Asteraceae	<i>Heterotheca grandiflora</i>	Telegraph weed	Natural	Native	Yes	Yes	Yes	Yes	UCR213415	
Asteraceae	<i>Hypochaeris glabra</i>	Smooth catsear	Naturalized	Non-native	Yes	Yes	No	Yes	UCR214641	
Asteraceae	<i>Hypochaeris radicata</i>	Spotted catsear	Naturalized (briefly?)	Non-native	Yes	No	No	Yes	LBH	
Asteraceae	<i>Isocoma menziesii</i>	Coast goldenbush	Introduced	Native	No	No	No	Yes	UCR218010 (as <i>Haplopappus venetus</i>)	
Asteraceae	<i>Lactuca serriola</i>	Prickly lettuce	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR217694	
Asteraceae	<i>Matricaria matricarioides</i>	Synonym for <i>Chamomilla suaveolens</i>								
Asteraceae	<i>Picris echioides</i>	Bristly ox-tongue	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214600	
Asteraceae	<i>Psilocarphus brevissimus</i>	Wooly-heads	Natural	Native	Yes	Yes	No	Yes	UCR214653	
Asteraceae	<i>Senecio vulgaris</i>	Common groundsel	Naturalized	Non-native	Yes	Yes	No	Yes	UCR214631	
Asteraceae	<i>Sonchus oleraceus</i>	(sow thistle)	Naturalized	Non-native	No	No	No	Yes	UCR213420	
Asteraceae	<i>Stephanomeria diegensis</i>	San Diego wreathplant	Natural	Native	No	No	No	No	UCR209307	NEW
Asteraceae	<i>Taraxacum officinale</i>	Dandelion	Naturalized	Non-native	Yes	No	No	Yes	UCR214639	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Asteraceae	Xanthium strumarium	Rough cocklebur	Natural	Native	Yes	Yes	Yes	Yes	UCR209317	
Azollaceae	Azolla filiculoides	Duckweed	Natural	Native	Yes	No	No	Yes	UCR214668	
Betulaceae	<i>Alnus rhombifolia</i>	White alder	Introduced	Non-native to South Bay	No	No	No	No	UCR218013	NEW
Boraginaceae	Amsinckia menziesii	Fiddleneck	Natural/ Introduced	Native	Yes	No	No	Yes	UCR229503	
Boraginaceae	Heliotropium curassavicum	Seaside heliotrope	Natural	Native	Yes	Yes	Yes	Yes	UCR214652	
Brassicaceae	<i>Brassica geniculata</i>	<i>Synonym for Hirschfeldia incana</i>								
Brassicaceae	<i>Capsella bursa-pastoris</i>	Shepherd's-purse	Naturalized	Non-native	Yes	No	No	Yes	UCR214617	
Brassicaceae	<i>Cardamine sp. (C. flexuosa?)</i>		Naturalized	Non-native	No	No	No	No	UCR214663	NEW
Brassicaceae	Descurainia pinnata	Western/ yellow tansy mustard	Introduced	Native	No	No	No	Yes	UCR213382	
Brassicaceae	Erysimum insulare ssp. suffrutescens	Dune wallflower	Introduced	Native	No	No	No	Yes	UCR214606	
Brassicaceae	<i>Hirschfeldia incana</i>	Wild mustard, Shortpod mustard	Naturalized	Non-native	Yes	Yes	Yes	No	UCR218018 (as <i>Brassica geniculata</i>)	NEW
Brassicaceae	<i>Lepidium didymum</i>	Wart-cress	Naturalized	Non-native	Yes	No	No	Yes	UCR214665 (as <i>Coronopus didymus</i>)	
Brassicaceae	<i>Raphanus sativus</i>	Wild radish	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR213438	
Brassicaceae	<i>Sisymbrium irio</i>	London rocket	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214621	
Callitricheaceae	Callitriche marginata	Winged callitriche/ water-starwort	Natural	Native	No	Yes	No	Yes	UCR214620 (as "Callitriche (sp.)"	
Capparaceae	Isomeris arborea	Bladderpod	Introduced	Native	No	No	No	Yes	UCR213405	
Caprifoliaceae	Sambucus mexicana	Mexican/ blue elderberry	Introduced	Native	No	No	No	Yes	UCR213413	
Caryophyllaceae	<i>Polycarpon tetraphyllum</i>	Fourleaf allseed	Naturalized	Non-native	No	No	No	No	UCR213419	NEW
Caryophyllaceae	<i>Silene gallica</i>	Windmill pink	Naturalized	Non-native	Yes	No	No	Yes	UCR213422	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Caryophyllaceae	<i>Spergula arvensis</i>	Corn spurry	Naturalized	Non-native	Yes	No	No	Yes	UCR213427	
Caryophyllaceae	<i>Spergularia bocconei</i>	Boccone's sand spurrey	Naturalized	Non-native	Yes	No	No	Yes	UCR214654	
Caryophyllaceae	<i>Spergularia marina</i>	Synonym for <i>S. salina</i>								
Caryophyllaceae	<i>Spergularia rubra</i>	Sand-spurrey	Naturalized	Non-native	No	No	No	No	UCR214626	NEW
Caryophyllaceae	<i>Spergularia salina</i>	Saltmarsh sand-spurrey	Natural/ Extirpated	Native	Yes	Yes	No	Yes	LBH (probably this sp.)	
Caryophyllaceae	<i>Spergularia villosa</i>	Sand-spurrey	Naturalized	Non-native	Yes	No	Yes	Yes	UCR210073	
Caryophyllaceae	<i>Stellaria media</i>	Common chickweed	Naturalized	Non-native	Yes	No	No	Yes	UCR229523	
Chenopodiaceae	<i>Atriplex lentiformis</i>	Quailbush	Introduced	Native	No	No	No	No	UCR214603	NEW
Chenopodiaceae	<i>Atriplex semibaccata</i>	Australian saltbush	Naturalized	Non-native	Yes	Yes	No	Yes	UCR209318	
Chenopodiaceae	<i>Bassia hyssopifolia</i>	Five-booked bassia	Naturalized	Non-native	No	No	No	Yes	UCR230270	
Chenopodiaceae	<i>Chenopodium album</i>	Lamb's quarters	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214611	
Chenopodiaceae	<i>Chenopodium ambrosioides</i>	Mexican-tea, Epazote	Naturalized	Non-native	Yes	No	Yes	Yes	UCRXX	
Chenopodiaceae	<i>Chenopodium berlandieri</i>	Berlandier's goosefoot	Natural	Native	No	No	No	No	UCR214601	NEW
Chenopodiaceae	<i>Chenopodium murale</i>	Nettleleaf goosefoot	Naturalized	Non-native	No	No	No	Yes	UCR214637	
Chenopodiaceae	<i>Dysphania multifida</i>	Cutleaf goosefoot	Naturalized	Non-native	No	No	No	No	UCR217826	NEW
Chenopodiaceae	<i>Salsola iberica</i>	Synonym for <i>S. tragus</i>								
Chenopodiaceae	<i>Salsola tragus</i>	Russian thistle, Tumbleweed	Naturalized	Non-native	Yes	No	No	Yes	UCR218017 (as " <i>Salsola</i> ")	
Chenopodiaceae	<i>Suaeda depressa</i> var. <i>erecta</i>	Synonym for <i>S. calceoliformis</i>								
Convolvulaceae	<i>Convolvulus arvensis</i>	Bindweed	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR218011	
Convolvulaceae	<i>Cuscuta pentagona</i>	Western field dodder	Natural	Native	Yes	No	Yes	No	UCR38533	
Convolvulaceae	<i>Dichondra micrantha</i>	Dichondra	Naturalized	Non-native	No	No	No	Yes	UCR214599	
Crassulaceae	<i>Crassula aquatica</i>	Water pygmy-weed	Natural	Native	Yes	No	No	Yes	UCR216370	
Crassulaceae	<i>Crassula connata</i>	Sand pygmy-weed	Natural	Native	No	No	No	Yes	UCR220953	
Cucurbitaceae	<i>Cucurbita foetidissima</i>	Calabazilla	Introduced	Native	No	No	No	Yes	UCR217690	
Cyperaceae	<i>Cyperus eragrostis</i>	Umbrella-sedge	Natural	Native	Yes	Yes	Yes	Yes	UCR209316	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Cyperaceae	<i>Cyperus odoratus</i>	Fragrant flatsedge	Natural	Native	No	No	No	No	UCR218021	NEW
Cyperaceae	<i>Eleocharis acicularis</i>	Needle spikerush	Natural/ Extirpated	Native	Yes	Yes	No	Yes	LBH	
Cyperaceae	<i>Eleocharis macrostachya</i>	Common spikerush	Natural	Native	Yes	Yes	Yes	Yes	UCR214610	
Cyperaceae	<i>Schoenoplectus californicus</i>	Synonym for <i>Scirpus c.</i>								
Cyperaceae	<i>Scirpus californicus</i>	California bulrush	Natural	Native	Yes	Yes	Yes	Yes	UCR214661	
Cyperaceae	<i>Scirpus maritimus</i>	Prairie bulrush	Natural	Native	Yes	Yes	Yes	Yes	UCR209315	
Cyperaceae	<i>Scirpus robustus</i>	Synonym for <i>S. maritimus</i>								
Elatinaceae	<i>Elatine californica</i>	California waterwort	Natural	Native	Yes	Yes	No	Yes	UCR213450	
Elatinaceae	<i>Elatine rubella</i>	Southwestern waterwort	Natural/ Extirpated	Native	Yes	Yes	No	Yes	LBH	
Euphorbiaceae	<i>Chamaesyce albomarginata</i>	Synonym for <i>Euphorbia a.</i>								
<i>Euphorbiaceae</i>	<i>Chamaesyce maculata</i>	<i>Synonym for Euphorbia maculata</i>								
Euphorbiaceae	<i>Chamaesyce serpens</i>	Synonym for <i>Euphorbia s.</i>								
Euphorbiaceae	<i>Croton californicus</i>	California croton	Natural/ Introduced	Native	Yes	No	No	Yes	UCR213407	
Euphorbiaceae	<i>Croton setigerus</i>	Dove weed, Turkey mullein	Natural	Native	Yes	Yes	Yes	Yes	UCR217702	
Euphorbiaceae	<i>Euphorbia albomarginata</i>	Rattlesnake spurge/ weed	Natural	Native	Yes	No	No	Yes	UCRXX	
<i>Euphorbiaceae</i>	<i>Euphorbia maculata</i>	<i>Spotted spurge</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>UCR209308</i>	
<i>Euphorbiaceae</i>	<i>Euphorbia pepus</i>	<i>Petty spurge</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Need to collect</i>	
Euphorbiaceae	<i>Euphorbia serpens</i>	Sandmat spurge	Natural	Native	No	No	No	No	UCR214598	NEW
Euphorbiaceae	<i>Euphorbia serpyllifolia</i>	Thymeleaf spurge	Natural	Native	No	No	No	No	UCR209309	NEW
Fabaceae	<i>Astragalus trichopodus</i> var. <i>lonchus</i>	Rattleweed/ Coastal locoweed	Introduced	Native	No	No	No	Yes	UCR214618	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Fabaceae	<i>Lotus humistratus</i>	Hill lotus	Natural	Native	No	No	No	No	UCR213577	NEW
Fabaceae	<i>Lotus purshianus</i>	Spanish-clover	Natural	Native	Yes	Yes	Yes	Yes	UCR218020	
Fabaceae	<i>Lotus scoparius</i> ssp. <i>scoparius</i>	Deerweed	Natural/ Introduced	Native	Yes	Yes	No	Yes	UCR214613	
Fabaceae	<i>Lotus strigosus</i>	<i>Bishop lotus</i>	Natural	Native	No	No	No	Yes	UCR213242	
Fabaceae	<i>Lupinus bicolor</i>	Miniature lupine	Natural	Native	Yes	No	Yes	Yes	UCR213406	
Fabaceae	<i>Lupinus chamissonis</i>	Dune bush lupine, Dune lupine	Introduced	Native	No	No	No	Yes	UCR213435 (as <i>L.</i> <i>excubitus</i>)	
Fabaceae	<i>Lupinus polycarpus</i>	Synonym for <i>L.</i> <i>bicolor</i>								
Fabaceae	<i>Lupinus succulentus</i>	Arroyo lupine	Natural/ Introduced	Native	Yes	No	No	Yes	UCR214590	
Fabaceae	<i>Lupinus truncatus</i>	Collar lupine	Natural/ Introduced	Native	Yes	No	No	Yes	UCR214596	
Fabaceae	<i>Medicago polymorpha</i>	<i>Bur-clover</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	UCR213437	
Fabaceae	<i>Melilotus albus</i>	<i>White sweet-clover</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>?</i>	<i>see note</i>	<i>Yes</i>	<i>Yes</i>	UCR217710	
Fabaceae	<i>Melilotus indicus</i>	<i>Yellow sweet-clover</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	UCR214627	
Fabaceae	<i>Trifolium hirtum</i>	<i>Pink clover</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	UCR229143	NEW
Fabaceae	<i>Vicia sativa</i>	<i>Common vetch</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	UCR214632	
Fagaceae	<i>Quercus agrifolia</i>	<i>Coast live oak</i>	<i>Introduced</i>	<i>Non-native to South Bay</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	UCR213408	
Fagaceae	<i>Quercus ilex</i>	<i>Holly oak</i>	<i>Introduced</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	UCR214602	NEW
Geraniaceae	<i>Erodium botrys</i>	<i>Broadleaf/ longleaf filaree/ stork's bill</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	UCRXX	
Geraniaceae	<i>Erodium brachycarpum</i>	<i>Whitestem filaree</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	UCR213416	NEW
Geraniaceae	<i>Erodium cicutarium</i>	<i>Redstem filaree/ stork's bill</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	UCR223412	
Geraniaceae	<i>Erodium moschatum</i>	<i>Whitestem filaree</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	UCR213414	
Hamamelidaceae	<i>Liquidambar styraciflua</i>	<i>American sweet gum</i>	<i>Introduced</i>	<i>Non-native</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Need to collect</i>	
Hydrophyllaceae	<i>Phacelia ramosissima</i>	Strand phacelia	Introduced	Native	No	No	No	Yes	UCR218006	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Juglandaceae	<i>Juglans californica</i>	<i>Southern California black walnut</i>	Introduced	Non-native to South Bay	No	No	No	No	UCR217689	NEW
Juncaceae	<i>Juncus bufonius</i>	Toad rush	Natural	Native	Yes	Yes	Yes	Yes	UCR214648	
Lamiaceae	<i>Salvia columbariae</i>	Chia	Introduced	Native	No	No	No	No	UCR213381	NEW
Lamiaceae	<i>Salvia leucophylla</i>	Purple sage	Introduced	Non-native to South Bay	No	No	No	No	UCR217697	NEW
Lamiaceae	<i>Salvia mellifera</i>	Black sage	Introduced	Non-native to South Bay	No	No	No	No	UCR220952	NEW
Lemnaceae	<i>Lemna minima</i>	Synonym for <i>L. minor</i>								
Lemnaceae	<i>Lemna minuta</i>	(duckweed)	Natural	Native	Yes	Yes	Yes	No	UCR230150 (as <i>L. miniscula</i>)	
Liliaceae	<i>Asparagus densiflorus</i>	<i>Asparagus fern</i>	Naturalized	Non-native	No	No	No	Yes	UCR213421	
Liliaceae	<i>Asparagus officinalis</i>	<i>Garden asparagus</i>	Naturalized	Non-native	Yes	No	Yes	Yes	UCR229172	
Liliaceae	<i>Bloomeria crocea</i>	Goldenstars	Introduced	Native	No	No	No	No	UCR214593	NEW
Liliaceae	<i>Dichelostemma capitatum</i>	Blue dicks	Introduced	Native	No	No	No	No	UCR213371	NEW
Linaceae	<i>Linum usitatissimum</i>	<i>Common flax</i>	Naturalized (briefly?)	Non-native	Yes	No	No	Yes	LBH	
Lythraceae	<i>Lythrum hyssopifolia</i>	<i>hyssop loosestrife</i>	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214655	
Malvaceae	<i>Lavatera cretica</i>	<i>Cornish mallow</i>	Naturalized	Non-native	No	No	No	No	UCR214634	NEW
Malvaceae	<i>Malva parviflora</i>	<i>Cheeseweed</i>	Naturalized	Non-native	Yes	No	No	Yes	UCR213409	
Malvaceae	<i>Malvella leprosa</i>	Alkali mallow	Natural	Native	Yes	Yes	Yes	Yes	UCR38582	
Malvaceae	<i>Sida leprosa</i>	Synonym for <i>Malvella leprosa</i>								
Marsileaceae	<i>Marsilea vestita</i>	Hairy pepperwort	Natural	Native	Yes	Yes	No	Yes	UCR209311	
Molluginaceae	<i>Mollugo verticillata</i>	<i>Green carpetweed</i>	Naturalized	Non-native	No	No	No	No	UCR28534	NEW
Myrtaceae	<i>Eucalyptus camaldulensis</i> var. <i>camaldulensis</i>	<i>Red River gum; creek gum</i>	Introduced/ naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214595	
Myrtaceae	<i>Eucalyptus globulus</i>	<i>Blue gum</i>	Introduced/ naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214608	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
<i>Myrtaceae</i>	<i>Eucalyptus rostrata</i>	<i>Synonym for E. camaldulensis var. c.</i>								
<i>Oleaceae</i>	<i>Olea europaea</i>	Olive	Naturalized	Non-native	No	No	No	Yes	UCR217701	
<i>Onagraceae</i>	<i>Camissonia cheiranthifolia</i>	Beach evening-primrose	Introduced	Native	No	No	No	Yes	UCR214643	
<i>Onagraceae</i>	<i>Camissonia micrantha</i>	Small-flowered evening-primrose	Natural	Native	No	No	No	No	UCR220951	NEW
<i>Onagraceae</i>	<i>Clarkia purpurea</i>	Purple clarkia	Introduced	Native	No	No	No	No	UCR214659	NEW
<i>Onagraceae</i>	<i>Epilobium adenocaulon</i>	Synonym for <i>E. ciliatum</i>								
<i>Onagraceae</i>	<i>Epilobium canum</i>	California fuchsia	Introduced	Non-native to South Bay	No	No	No	No	Need to collect	NEW
<i>Onagraceae</i>	<i>Epilobium ciliatum</i>	Willow herb	Natural	Native	No	No	No	Yes	UCR213251	
<i>Onagraceae</i>	<i>Epilobium pygmaeum</i>	Smooth boisduvalia	Natural	Native	No	No	No	No	UCR214656	NEW
<i>Onagraceae</i>	<i>Oenothera elata</i>	Hooker's evening-primrose	Natural	Native	No	No	Yes	Yes	UCR38578	
<i>Onagraceae</i>	<i>Oenothera laciniata</i>	Southern/ cutleaf evening-primrose	Naturalized	Non-native	No	No	No	Yes	UCR210054	
<i>Oxalidaceae</i>	<i>Oxalis corniculata</i>	Creeping woodsorrel	Naturalized	Non-native	No	No	No	No	UCR217699	NEW
<i>Oxalidaceae</i>	<i>Oxalis pes-caprae</i>	Bermuda buttercup	Naturalized	Non-native	No	No	No	No	(need to collect)	NEW
<i>Papaveraceae</i>	<i>Eschscholzia californica</i>	California poppy	Natural/ Introduced	Native	Yes	No	No	Yes	UCR214640	
<i>Papaveraceae</i>	<i>Romneya trichocalyx</i>	Matillija poppy	Introduced	Non-native to South Bay	No	No	No	No	UCR217695	NEW
<i>Plantaginaceae</i>	<i>Plantago erecta</i>	California plantain	Natural	Non-native to South Bay	No	No	No	Yes	UCR229525	
<i>Plantaginaceae</i>	<i>Plantago lanceolata</i>	English plantain	Naturalized	Non-native	Yes	No	No	Yes	UCR214645	
<i>Plantaginaceae</i>	<i>Plantago major</i>	Common plantain	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR210056	
<i>Plantaginaceae</i>	<i>Plantago ovata</i>	Desert plantain	Introduced	Non-native to South Bay	No	No	No	No	UCR214592	NEW
<i>Platanaceae</i>	<i>Platanus racemosa</i>	Western sycamore	Introduced	Non-native to South Bay	No	No	Yes	Yes	UCR214605	

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Poaceae	<i>Agrostis stolonifera</i>	Redtop	Naturalized (briefly?)	Non-native	Yes	No	No	Yes	LBH (probably this sp.)	
Poaceae	<i>Avena barbata</i>	Slender wild oat	Naturalized	Non-native	Yes	Yes	No	Yes	UCR214671	
Poaceae	<i>Avena fatua</i>	Wild oat	Naturalized	Non-native	Yes	No	Yes	Yes	UCR213404	
Poaceae	<i>Bromus carinatus</i>	California brome	Natural	Native	Yes	Yes	No	Yes	UCR213412	
Poaceae	<i>Bromus catharticus</i>	Rescuegrass	Naturalized	Non-native	No	No	No	No	UCR214662	NEW
Poaceae	<i>Bromus diandrus</i>	Ripgut brome/ grass	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR213391	
Poaceae	<i>Bromus mollis</i>	Synonym for <i>B. hordeaceus</i>								
Poaceae	<i>Bromus rubens</i>	Synonym for <i>B. madritensis</i> ssp. <i>r.</i>								
Poaceae	<i>Cortaderia atacamensis</i>	Synonym for <i>C. selloana</i>								
Poaceae	<i>Crypsis schoenoides</i>	Swamp grass; Pricklegrass	Naturalized	Non-native	No	No	No	No	UCR218026	NEW
Poaceae	<i>Cynodon dactylon</i>	Bermuda grass	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214650	
Poaceae	<i>Digitaria sanguinalis</i>	Crabgrass	Naturalized	Non-native	No	No	No	Yes	UCR218023	
Poaceae	<i>Distichlis spicata</i>	Saltgrass	Natural	Native	Yes	Yes	Yes	Yes	UCR218009	
Poaceae	<i>Echinochloa crus-galli</i>	Barnyard grass	Naturalized	Non-native	Yes	No	Yes	Yes	UCR209313	
Poaceae	<i>Ehrharta erecta</i>	Erect veldtgrass	Naturalized	Non-native	No	No	No	No	UCR229524	NEW
Poaceae	<i>Elymus condensatus</i>	Giant wild-rye	Introduced	Non-native to South Bay	No	No	No	No	Need to collect	NEW
Poaceae	<i>Eragrostis barrelieri</i>	Mediterranean lovegrass	Naturalized	Non-native	No	No	No	No	UCR210069 (as <i>Eragrostis</i> sp.)	NEW
Poaceae	<i>Eragrostis mexicana</i> ssp. <i>virescens</i>	Mexican lovegrass, Orcutt's eragrostis	Natural/ Extirpated	Native	Yes	No	Yes	Yes	LBH (probably this sp.)	
Poaceae	<i>Eragrostis orcuttiana</i>	Synonym for <i>E. mexicana</i> ssp. <i>virescens</i>								
Poaceae	<i>Festuca dertonensis</i>	Synonym for <i>Vulpia bromoides</i>								

Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?
Poaceae	<i>Festuca megalura</i>	Synonym for <i>Vulpia microstachys</i>								
Poaceae	<i>Festuca microstachys</i>	Synonym for <i>Vulpia m.</i>								
Poaceae	<i>Festuca myuros</i>	Foxtail fescue	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214612	
Poaceae	<i>Hordeum leporinum</i>	Synonym for <i>H. murinum</i>								
Poaceae	<i>Hordeum marinum</i>	Mediterranean barley	Naturalized	Non-native	No	No	No	No	UCR214622	NEW
Poaceae	<i>Hordeum murinum</i>	Foxtail	Naturalized	Non-native	Yes	Yes	Yes	No	UCR213426	
Poaceae	<i>Leptochloa uninervia</i>	Sprangletop	Natural/ Extirpated	Native	Yes	Yes	Yes	Yes	LBH	
Poaceae	<i>Lolium perenne</i> ssp. <i>multiflorum</i>	Perennial ryegrass	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214629	
Poaceae	<i>Melica imperfecta</i>	California melic	Introduced	Native	No	No	No	No	UCR229133	NEW
Poaceae	<i>Panicum dichotomiflorum</i> ssp. <i>dichotomiflorum</i>	Smooth witchgrass, fall panicum	Naturalized	Non-native	No	No	No	Yes	UCR210066	
Poaceae	<i>Paspalum dilatatum</i>	Dallisgrass	Naturalized	Non-native	No	No	No	No	UCR217712	NEW
Poaceae	<i>Paspalum distichum</i>	Knotgrass	Natural	Native	Yes	Yes	Yes	Yes	UCR217709	
Poaceae	<i>Piptatherum miliaceum</i>	Smilo grass	Naturalized	Non-native	No	No	No	No	UCR229132	NEW
Poaceae	<i>Poa annua</i>	Wintergrass, annual bluegrass	Naturalized	Non-native	Yes	No	No	Yes	UCR214633	
Poaceae	<i>Polypogon monspeliensis</i>	Rabbit's-foot grass	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214647	
Poaceae	<i>Setaria lutescens</i>	Synonym for <i>S. pumila</i>								
Poaceae	<i>Setaria parviflora</i>	Marsh bristlegrass	Natural	Native	No	No	No	No	UCR210072	NEW
Poaceae	<i>Stipa pulchra</i>	Purple needlegrass	Introduced	Native	No	No	No	No	UCR214591	NEW
Poaceae	<i>Vulpia myuros</i>	Synonym for <i>Festuca myuros</i>								
Polygonaceae	<i>Eriogonum cinereum</i>	Ashy-leaved buckwheat	Introduced	Non-native to South Bay	No	No	No	No	UCR217692	NEW
Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/ collected 2009-2011	New to list?

Polygonaceae	<i>Eriogonum fasciculatum</i> ssp. <i>foliosum</i>	California buckwheat	Introduced	Native	No	No	No	Yes	UCR214649	
Polygonaceae	<i>Eriogonum gracile</i>	Annual buckwheat	Natural	Native	No	No	No	No	Coll. 2011	NEW
Polygonaceae	<i>Eriogonum parvifolium</i>	Dune buckwheat	Introduced	Non-native to South Bay	No	No	No	Yes	UCR213403	
Polygonaceae	<i>Polygonum argyrocoleon</i>	Silver-sheathed knotweed	Naturalized	Non-native	No	No	No	No	UCR229132	NEW
Polygonaceae	<i>Polygonum aviculare</i>	Prostrate knotweed	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR213576	
Polygonaceae	<i>Polygonum hydro-piperoides</i>	water smartweed	Natural	Native	No	No	No	Yes	UCR209312	
Polygonaceae	<i>Rumex crispus</i>	Curly dock	Naturalized	Non-native	Yes	Yes	No	Yes	UCR214625	
Portulacaceae	<i>Portulaca oleracea</i>	Common purslane	Naturalized	Non-native	No	No	No	Yes	UCR214660	
Potamogetonaceae	<i>Potamogeton pectinatus</i>	Pondweed	Natural/ Extirpated	Native	Yes	No	No	Yes	LBH (probably this sp.)	
Potamogetonaceae	<i>Stuckenia pectinata</i>	Synonym for <i>Potamogeton pectinatus</i>								
Primulaceae	<i>Anagallis arvensis</i>	Scarlet pimpernel	Naturalized	Non-native	Yes	Yes	Yes	Yes	UCR214623	
Rosaceae	<i>Heteromeles arbutifolia</i>	Toyon	Introduced	Native	No	No	No	Yes	UCR218004	
Rosaceae	<i>Prunus lyonii</i>	Catalina cherry	Introduced	Non-native to South Bay	No	No	No	Yes	UCR214642	
Rosaceae	<i>Pyracantha coccinea</i>	Firethorn	Naturalized	Non-native	No	No	No	Yes	UCRXX	
Rosaceae	<i>Rosa californica</i>	California rose	Introduced	Non-native to South Bay	No	No	No	Yes	UCR218016	
Salicaceae	<i>Populus fremontii</i>	Fremont cottonwood	Natural/ Introduced	Native	Yes	No	Yes	Yes	UCR214657	
Salicaceae	<i>Populus nigra</i>	Black poplar	Introduced	Non-native to South Bay	No	No	No	No	Need to collect	NEW
Salicaceae	<i>Salix babylonica</i>	Weeping willow	Introduced	Non-native	No	No	No	No	UCR218001	NEW
Salicaceae	<i>Salix exigua</i>	Sandbar willow	Introduced	Native	No	No	No	Yes	UCR214658	
Family	Latin name	English name	Likely origin	Native-ness	Zemba 1976	Envicom 1982	Wright 1990	Drake 2005	Observed/collected 2009-2011	New to list?

Salicaceae	<i>Salix gooddingii</i>	Black willow	Natural/ Introduced	Native	Yes	Yes	Yes	Yes	UCR214597	
Salicaceae	<i>Salix lasiolepis</i>	Arroyo willow	Natural/ Introduced	Native	Yes	Yes	Yes	Yes	UCR214614	
Scrophulariaceae	<i>Collinsia heterophylla</i>	Chinese houses	Introduced	Native	No	No	No	No	UCR213372	NEW
Scrophulariaceae	<i>Linaria canadensis</i> var. <i>texana</i>	Toadflax	Natural/ Introduced	Native	Yes	No	No	Yes	UCR213418	
Scrophulariaceae	<i>Mimulus aurantiacus</i> var. <i>pubescens</i>	Sticky monkeyflower	Introduced	Non-native to South Bay	No	No	No	No	UCR213383	NEW
Scrophulariaceae	<i>Verbascum virgatum</i>	Wand mullein	Naturalized	Non-native	No	No	Yes	Yes	UCR229140	
Scrophulariaceae	<i>Veronica peregrina</i> ssp. <i>xalapensis</i>	Purslane speedwell	Natural	Native	No	No	No	No	UCR214666	NEW
Solanaceae	<i>Solanum americanum</i>	White nightshade	Naturalized	Non-native	Yes	No	Yes	Yes	UCR210057	
Solanaceae	<i>Solanum nodiflorum</i>	Synonym for <i>S.</i> <i>americanum</i>								
Typhaceae	<i>Typha latifolia</i>	Broadleaf cattail	Natural	Native	Yes	Yes	Yes	Yes	UCR229173 (as "Typha")	
Verbenaceae	<i>Verbena bracteata</i>	Bracted verbena	Natural/ Extirpated	Native	Yes	Yes	Yes	Yes	LBH	
Verbenaceae	<i>Verbena lasiostachys</i>	Prostrate vervain	Introduced	Native	No	No	Yes	No	UCR217698	NEW
Vitaceae	<i>Vitis girdiana</i>	Desert wild grape	Introduced	Native	No	No	No	No	UCR217704	NEW
Vitaceae	<i>Vitis vinifera</i>	Wine grape	Naturalized	Non-native	No	No	No	No	UCR210055	NEW
Zygophyllaceae	<i>Tribulus terrestris</i>	Puncture-weed, puncture vine	Naturalized	Non-native	Yes	No	Yes	Yes	UCR229150	

Table E2 Plant species added to MMP list with 2009-11 surveys

These are “new” plant species confirmed for Madrona Marsh Preserve with this study. See text for discussion on origin and native-ness. Some of these species may have appeared on prior plant lists (e.g., [Zemba 1976]) but were omitted in the most recent species list available to us [Drake 2005]. Specimen numbers for UCR herbarium (where vouchered) are listed, or if the plant has been observed or photographed, but not collected, this is noted as “need to collect”. Species not native to California or to the interior South Bay area that includes Madrona Marsh Preserve are listed below in italics.

Family	Latin name	English name	Likely origin	Native-ness	Notes
<i>Apiaceae</i>	<i>Foeniculum vulgare</i>	Fennel	<i>Naturalized</i>	<i>Non-native</i>	<i>Several in sump Aug. 5, 2010</i>
Asteraceae	<i>Artemisia californica</i>	California sagebrush	Introduced	Native	Several plants in sump, in median of Madrona Ave.; elsewhere?
Asteraceae	<i>Artemisia douglasiana</i>	Mugwort	Introduced	Native	Observed (sterile) on sw slope of sump 22 Mar. 2010
Asteraceae	<i>Bidens frondosa</i>	Devil's beggar's ticks	Natural	Native	Appears to be the common Bidens on the site (per ACS)
<i>Asteraceae</i>	<i>Conyza floribunda</i>	<i>Tropical horseweed</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Common weed, esp. on wet soil at edge of pools</i>
Asteraceae	<i>Eclipta prostrata</i>	False daisy	Natural	Native	Overlooked or more likely, a recent invader (obvious plant)
<i>Asteraceae</i>	<i>Encelia farinosa</i>	<i>Brittlebush</i>	<i>Introduced</i>	<i>Non-native to South Bay</i>	<i>Single plant inside main entrance gate</i>
<i>Asteraceae</i>	<i>Ericameria pinifolia</i>	<i>Pine goldenbush</i>	<i>Introduced</i>	<i>Non-native to South Bay</i>	<i>Several individuals noted on so. slope of sump Apr. 2010</i>
<i>Asteraceae</i>	<i>Gamochaeta pensylvanica</i>	<i>Pennsylvania everlasting</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Aka Gnaphalium p.; possibly native (per ACS)</i>
<i>Asteraceae</i>	<i>Gnaphalium luteoalbum</i>	<i>Everlasting cudweed</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Likely mis-id'd as another Gnaphalium</i>
<i>Asteraceae</i>	<i>Hedypnois cretica</i>	<i>Crete weed</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Common weed, probably overlooked or mistaken for Taraxicum, etc.</i>
Asteraceae	<i>Stephanomeria diegensis</i>	San Diego wreathplant	Natural	Native	Blooming widely by Aug. (2010); At least one of the other Stephanomerias recorded by other authors ref. to this sp.; Reports of <i>S. virgata</i> probably referable to this sp. (fide ACS); Small Steph. emerging 26 June 2010 on sand just inside main gate
<i>Betulaceae</i>	<i>Alnus rhombifolia</i>	<i>White alder</i>	<i>Introduced</i>	<i>Non-native to South Bay</i>	<i>At least two planted on so. slope of sump (Mar. 2010)</i>
<i>Brassicaceae</i>	<i>Cardamine sp. (C. flexuosa?)</i>		<i>Naturalized</i>	<i>Non-native</i>	<i>In sump; need to determine sp.</i>
<i>Brassicaceae</i>	<i>Hirschfeldia incana</i>	<i>Wild mustard, Shortpod mustard</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Listed by Envicom 1982, Wright 1990 as "Brassica geniculata"</i>
Brassicaceae	<i>Rorippa sp.</i>	Watercress	N/A	See note	In sump; need to determine sp.

Family	Latin name	English name	Likely origin	Native-ness	Notes
Caryophyllaceae	<i>Polycarpon tetraphyllum</i>	Fourleaf allseed	Naturalized	Non-native	Abundant weed on roads; overlooked previously??
Caryophyllaceae	<i>Spergularia rubra</i>	Sand-spurrey	Naturalized	Non-native	Common along roadsides, Mar. 2010 (fide ACS)
Chenopodiaceae	<i>Atriplex lentiformis</i>	Quailbush	Introduced	Native	Overlooked? Commonly planted by landscapers as "screen", so should be investigated
Chenopodiaceae	<i>Chenopodium berlandieri</i>	Berlandier's goosefoot	Natural	Native	Overlooked/mis-id'd?
Chenopodiaceae	<i>Dysphania multifida</i>	Cutleaf goosefoot	Naturalized	Non-native	Coll. 7 July 2010 near entrance kiosk (DSC); just 1 plant found
Cyperaceae	<i>Cyperus odoratus</i>	Fragrant flatsedge	Natural	Native	Scarce in drying pool (main)
Euphorbiaceae	<i>Euphorbia serpens</i>	Sandmat spurge	Natural	Native	aka Chamaesyce s.; probably confused w/ other Euphorbia
Euphorbiaceae	<i>Euphorbia serpyllifolia</i>	Thymeleaf spurge	Natural	Native	Mis-id'd or confused w/ other Euphorbia?
Fabaceae	<i>Lotus humistratus</i>	Hill lotus	Natural	Native	Overlooked, or confused with other Lotus, which are similar
Fabaceae	<i>Trifolium hirtum</i>	Pink clover	Naturalized	Non-native	Recent invader? Possibly confused with other Trifolium
Fagaceae	<i>Quercus ilex</i>	Holly oak	Introduced	Non-native	Apparently confused with <i>Q. dumosa</i> by volunteers (per T. Drake) and still being planted
Geraniaceae	<i>Erodium brachycarpum</i>	Whitestem filaree	Naturalized	Non-native	Resembles other Erodium
Juglandaceae	<i>Juglans californica</i>	Southern California black walnut	Introduced	Non-native to South Bay	Several small plants on east slope of sump (22 Mar. 2010)
Laminaceae	<i>Salvia columbariae</i>	Chia	Introduced	Native	Recent introduction (AB), near entrance gate
Laminaceae	<i>Salvia leucophylla</i>	Purple sage	Introduced	Non-native to South Bay	Several planted on so. slope of sump (Mar. 2010, DSC)
Laminaceae	<i>Salvia mellifera</i>	Black sage	Introduced	Non-native to South Bay	Several planted on w. slope of sump
Liliaceae	<i>Bloomeria crocea</i>	Goldenstars	Introduced	Native	At least 20 plants near Maple gate (May 2010)
Liliaceae	<i>Dichelostemma capitatum</i>	Blue dicks	Introduced	Native	Blooming late Feb. 2010 near Maple gate
Malvaceae	<i>Lavatera cretica</i>	Cornish mallow	Naturalized	Non-native	Possibly mis-id'd (as another mallow?) by previous authors
Molluginaceae	<i>Mollugo verticillata</i>	Green carpetweed	Naturalized	Non-native	ACS considers this potentially native
Onagraceae	<i>Camissonia micrantha</i>	Small-flowered evening-primrose	Natural	Native	North slope of sump
Onagraceae	<i>Clarkia purpurea</i>	Purple clarkia	Introduced	Native	Recent introduction (AB)
Onagraceae	<i>Epilobium canum</i>	California fuchsia	Introduced	Non-native to South Bay	Apparent <i>E. canum</i> found planted on so. slope of sump 22 Mar. 2010 (DSC)

Family	Latin name	English name	Likely origin	Native-ness	Notes
Onagraceae	<i>Epilobium pygmaeum</i>	Smooth boisduvalia	Natural	Native	Found in several vernal pools, esp. in one btwn entrance and nursery; east of Kelt (blooming June 2010)
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping woodsorrel	Naturalized	Non-native	Blooming Aug. 2010 along w. fence/line
Oxalidaceae	<i>Oxalis pes-caprae</i>	Bermuda buttercup	Naturalized	Non-native	Confused with native <i>Oxalis</i> ?
Papaveraceae	<i>Romneya trichocalyx</i>	Matillija poppy	Introduced	Non-native to South Bay	Listed as <i>R. coulteri</i> by TD
Plantaginaceae	<i>Plantago ovata</i>	Desert plantain	Introduced	Non-native to South Bay	Confused with <i>P. erecta</i> , which it closely resembles
Poaceae	<i>Bromus catharticus</i>	Rescuegrass	Naturalized	Non-native	Confused with other species of <i>Bromus</i>
Poaceae	<i>Crypsis schoenoides</i>	Swamp grass; Pricklegrass	Naturalized	Non-native	Recent invader?
Poaceae	<i>Ehrharta erecta</i>	Erect veldtgrass	Naturalized	Non-native	Recent invader
Poaceae	<i>Elymus condensatus</i>	Giant wild-rye	Introduced	Non-native to South Bay	Recent introduction (on sump)
Poaceae	<i>Eragrostis barrelieri</i>	Mediterranean lovegrass	Naturalized	Non-native	Confused with other species of <i>Eragrostis</i>
Poaceae	<i>Hordeum marinum</i>	Mediterranean barley	Naturalized	Non-native	Confused with <i>H. murinum</i> ?
Poaceae	<i>Melica imperfecta</i>	California melic	Introduced	Native	Recent introduction
Poaceae	<i>Paspalum dilatatum</i>	Dallisgrass	Naturalized	Non-native	Recent invader?
Poaceae	<i>Piptatherum miliaceum</i>	Smilo grass	Naturalized	Non-native	Recent invader?
Poaceae	<i>Setaria parviflora</i>	Marsh bristlegrass	Natural	Native	Overlooked?
Poaceae	<i>Stipa pulchra</i>	Purple needlegrass	Introduced	Native	Recent introduction
Polygonaceae	<i>Eriogonum cinereum</i>	Ashy-leaved buckwheat	Introduced	Non-native to South Bay	Recent introduction (to sump)
Polygonaceae	<i>Eriogonum gracile</i>	Annual buckwheat	Natural	Native	A. Baker reports seeing presumably wild individuals on nature center site prior to construction; possibly "re-extirpated"...
Polygonaceae	<i>Polygonum argyrocoleon</i>	Silver-sheatbed knotweed	Naturalized	Non-native	Recent invader (sump)
Salicaceae	<i>Populus nigra</i>	Black poplar	Introduced	Non-native to South Bay	WW/ or someone else planted 1990s
Salicaceae	<i>Salix babylonica</i>	Weeping willow	Introduced	Non-native	Several planted no. edge of main vernal pool
Scrophulariaceae	<i>Collinsia heterophylla</i>	Chinese houses	Introduced	Native	Recent introduction

Family	Latin name	English name	Likely origin	Native-ness	Notes
<i>Scrophulariaceae</i>	<i>Mimulus aurantiacus</i> var. <i>pubescens</i>	<i>Sticky monkeyflower</i>	<i>Introduced</i>	<i>Non-native to South Bay</i>	<i>Recent introduction</i>
Scrophulariaceae	Veronica peregrina ssp. xalapensis	Purslane speedwell	Natural	Native	Overlooked? Can be inconspicuous
Verbenaceae	Verbena lasiostachys	Prostrate vervain	Introduced	Native	Several plants in bloom upper portion of south slope of sump (Aug. 2010)
Vitaceae	Vitis girdiana	Desert wild grape	Introduced	Native	
<i>Vitaceae</i>	<i>Vitis vinifera</i>	<i>Wine grape</i>	<i>Naturalized</i>	<i>Non-native</i>	<i>Check that this wasn't recorded by prev. authors</i>

Table E3. Plant species to be deleted.

These species were included on previous lists, most likely due to confusion with extant species (see Table E1, above). Most are not expected to occur in the South Bay, either naturally or as introductions, and none could be confirmed by photo or specimen during this study. "ID?" = Identification questioned by A.C. Sanders (UC Herbarium) due to unlikelihood of occurrence and/or confusion with more common species. AB = Anthony Baker, a long-time volunteer at Madrona Marsh Preserve.

Family	Latin name	English name	Notes
<i>Aizoaceae</i>	<i>Carpobrotus chilensis</i>	Sea-fig	Listed by Zembal 1976 as " <i>C. aequilaterus</i> "
<i>Aizoaceae</i>	<i>Carpobrotus edulis</i>	Hottentot-fig	
<i>Amaranthaceae</i>	<i>Amaranthus powelli</i>	Powell's amaranth	Mis-id (per ACS)? Not listed as native by Drake 2005
<i>Apiaceae</i>	<i>Apiastrum angustifolium</i>	Wild carrot	TD feels it colonized sump (naturally); we couldn't find it and it's very unlikely to have occurred.; Possibly mis-id'd <i>Cichlospermum</i> ?
<i>Apiaceae</i>	<i>Daucus carota</i>	Queen Anne's lace	Possibly confused with <i>Cichlospermum</i> ?
<i>Araceae</i>	<i>Eichbornia crassipes</i>	Water hyacinth	Very obvious plant; where was this?
<i>Arecaceae</i>	<i>Phoenix dactylifera</i>	Date palm	Both family and species are mis-spelled in Drake 2005; Eradicated by TD?
<i>Asteraceae</i>	<i>Aster subulatus</i> var. <i>ligulatus</i>	Slender aster	Needs confirmation; at Harbor Park (AB); not noted by any prev. authors; Called <i>A. exilis</i> (in PV flora)
<i>Asteraceae</i>	<i>Bellis perennis</i>	English daisy	Probably a lawn weed @ nature center; seems unlikely on reserve proper
<i>Asteraceae</i>	<i>Bidens cernua</i>	Nodding beggar's ticks	Probably a mis-id (for <i>B. frondosa</i>); listed as non-native by Drake 2005; native to NorCal (per Jepson); Considered "Undesireable" in MMP hand-out (2010),
<i>Asteraceae</i>	<i>Centaurea melitensis</i>	Tocalote, Malta star thistle	Listed as "yellow star thistle" by Drake 2005, which is referable to <i>C. sostitalis</i>
<i>Asteraceae</i>	<i>Chaenactis glabriuscula</i>	Yellow pincushion	Not known to occur now; possibly introduced and now extirpated; listed by Wright (1990) as recommended for planting, so possibly was an introduction attempt; <i>C. g.</i> var. <i>orcuttii</i> is a CNPS-rare plant, but apparently not the type found here
<i>Asteraceae</i>	<i>Gazania linearis</i>	<i>Gazania</i>	Listed by Zembal 1976 as <i>G. longiscapa</i>
<i>Asteraceae</i>	<i>Gnaphalium bicolor</i>	Two-toned everlasting	TD feels it's naturally occurring (not planted); Probably a mis-id for other <i>Gnaph.</i>
<i>Asteraceae</i>	<i>Hemizonia pungens</i>	Spikeweed	Misidentified (TD); Considered "Undesireable" in MMP hand-out (2010), clearly a mis-identification w/ <i>H. australis</i> var. <i>parryi</i> (!); Mis-spelled " <i>Helianthus p.</i> " by Drake 2005
<i>Asteraceae</i>	<i>Holocarpha virgata</i>	(tarweed/ tarplant)	Misidentified (TD); Possibly misidentified by Drake 2005 and referable to <i>Hemizonia fasciculata</i>

Family	Latin name	English name	Notes
Asteraceae	<i>Sonchus arvensis</i>	(sow thistle)	mis-id (for <i>S. oleraceus</i>)
Asteraceae	<i>Sonchus asper</i>	(sow thistle)	mis-id (for <i>S. oleraceus</i>)
Asteraceae	<i>Stephanomeria exigua</i>	Wreath-plant, Small wreathflower	
Asteraceae	<i>Stephanomeria virgata</i>	Virgate wreath- plant, Tall wreathflower	See note under <i>S. diegensis</i> ; Mis-spelled as "vigata" by Zembal 1976
Boraginaceae	<i>Cryptantha intermedia</i>	Intermediate popcorn-flower	May occur; TD can't confirm; listed by Wright (1990) as recommended for planting so possibly seeded
Brassicaceae	<i>Brassica nigra</i>	Black mustard	Mis-id for <i>Hirschfeldia</i> ?
Brassicaceae	<i>Brassica rapa</i>	Field mustard	Mis-id for <i>Hirschfeldia</i> ?
Brassicaceae	<i>Lepidium lasiocarpum</i>	Hairy-pod pepperweed	Listed by Drake 2005 as "L. l. ssp. lasiocarpum"
Brassicaceae	<i>Lepidium nitidum</i>	Shiny peppergrass	May occur; TD can't confirm; Listed by Drake 2005 as "L. n. ssp. nitidum"
Brassicaceae	<i>Lobularia maritima</i>	Sweet alyssum	Mis-spelled " <i>Lebularia</i> " by Zembal 1976
Brassicaceae	<i>Rorippa</i> sp.	Watercress	Coll. in sump; need to determine sp.
Brassicaceae	<i>Sisymbrium altissimum</i>	Tumble mustard	Mis-id'd <i>S. irio</i> ?
Brassicaceae	<i>Sisymbrium orientale</i>	Oriental <i>sisymbrium</i>	Hard to id; mis-id'd?
Chenopodiaceae	<i>Atriplex patula</i>	Spear saltbush	Possibly planted by WW
Chenopodiaceae	<i>Chenopodium botrys</i>	Jerusalem oak goosefoot	Mis-id?
Chenopodiaceae	<i>Suaeda calceoliformis</i>	Sea-blite	Listed by Envicom (1982), Wright 1990 as " <i>Suaeda depressa</i> var. <i>erecta</i> "
Convolvulaceae	<i>Cressa truxillensis</i>	Alkali weed	Possibly mis-id? Listed by Wright (1990) as recommended for planting;
Cucurbitaceae	<i>Cucurbita pepo</i>	Field pumpkin	Mis-spelled by Zembal 1976 as " <i>Curcurbita</i> "; possibly mis-id for above species?
Cyperaceae	<i>Cyperus esculentus</i>	Yellow nutgrass	Possibly recommended for planting, mis-id'd, etc.
Cyperaceae	<i>Scirpus americanus</i>	American tule	May simply be a name confusion/issue w/ <i>S. californicus</i> ; more study needed.
Fabaceae	<i>Acacia longifolia</i>	Golden wattle	Possibly eradicated by TD
Fabaceae	<i>Lotus corniculatus</i>	Bird's foot trefoil	Confused w/ other species?
Fabaceae	<i>Lotus wrangelianus</i>	Calf lotus	Listed by Envicom (1982) as " <i>Lotus</i> <i>subpinnatus</i> ", which is listed by Drake 2005 as non-native (in error); probably a mis-id of <i>L. humistratus</i> , which is not listed in earlier studies but which is fairly common today.
Fabaceae	<i>Lupinus nanus</i> ssp. <i>latifolius</i>	Sky lupine, dove lupine	Listed by Zembal 1976 as " <i>L. n. ssp.</i> <i>latifolius</i> "; noted in 1980 binder (by whom?) as occurring in that year; listed by Drake 2005 as <i>L. nanus</i> . Neither <i>L. nanus</i> nor <i>L.</i> <i>latifolius</i> should occur here, possibly in error for <i>L. bicolor</i> ?
Fabaceae	<i>Medicago lupulina</i>	Black medick	mis-id'd?
Fabaceae	<i>Trifolium gracilentum</i>	Pin point clover	Photo (TD) shows <i>T. hirtum</i> .

Family	Latin name	English name	Notes
Fabaceae	Trifolium microcephalum	Small head clover	Mis-id'd?
Fagaceae	Quercus dumosa	Nuttall's scrub-oak	Misidentified <i>Q. ilex</i> (per T. Drake); delete
Lemnaceae	Lemna minor	(duckweed)	
Malvaceae	Malva neglecta	Dwarf mallow	mis-id'd
Malvaceae	Malva nicaeensis	Bull mallow, common mallow	Briefly occurring?
Myoporaceae	Myoporum laetum	(myoporum)	Possibly eradicated by TD
Nyctaginaceae	Abronia macrocarpa	Large-flowered sand-verbena	Native to TX?
Nyctaginaceae	Abronia umbellata	Pink sand verbena	WW; AB couldn't get to grow here so volunteers started planting, but didn't thrive (TD); Mis-spelled "A. umbellata" by Drake 2005;
Nyctaginaceae	Mirabilis californica	Four o'clock	Apparently not persisting. Planted by AB at entrance from seed taken in PV (AB), specifically at Portuguese Bend; San Pedro populations (e.g., fuel depot) have purple stems
Oleaceae	Fraxinus velutina	Velvet ash	Misidentified (per T. Drake); delete, but udebei may be in sump?
Onagraceae	Camissonia bistorta	Southern sun-cup	WW lists as non-native (typo?); photo (TD) shows Oenothera laciniata, so inclusion likely based on mis-identification with this or other Camissonia sp.
Onagraceae	Camissonia lewisii	Lewis's evening-primrose	Mis-identified? TD can't confirm
Onagraceae	Camissonia strigulosa	Strigulose evening-primrose	WW lists as non-native (typo?); Coll. 2010 in RR right-of-way nr. Old Torrance (DSC)
Onagraceae	Clarkia unguiculata	Elegant clarkia	Called "farewell-to-spring" in Drake 2005, usually referable to different Clarkia spp.; this may only occur in the native plant garden (and not on preserve proper); Planted by AB from seed in garden; Wright (1990) recommended planting
Onagraceae	Oenothera berlandieri	Mexican evening-primrose	Mis-id'd, or restricted to garden @ MMP nature center
Oxalidaceae	Oxalis albicans	California wood sorrel	Listed by Zembal 1976 and Drake 2005 as "O. a. ssp. californica"; almost certainly a mis-id for O. corniculata
Papaveraceae	Romneya coulteri	Matillija poppy	Mis-id for R. coulteri
Plantaginaceae	Plantago bigelovii	Coast plantain	This is an old name for P. erecta (per ACS)
Platanaceae	Platanus acerifolia	London plane (hybrid?)	Parking lot only?
Platanaceae	Platanus wrightii	Arizona sycamore	Mis-id?
Plumbaginaceae	Limonium sinuatum	Sea-lavender, winged sea-lavender	L. californicum coll. 1882 in Wilmington "saltmarshes"
Poaceae	Alopecurus saccatus	Pacific foxtail	Misidentified? (TD); needs confirmation, as several native "foxtails" are expected
Poaceae	Bromus arizonicus	Arizona brome	Without a specimen, cannot confirm; easily confused with other Bromus

Family	Latin name	English name	Notes
Poaceae	<i>Bromus hordeaceus</i>	Soft brome/ chess	Called "B. mollis" in Envicom 1982/Wright 1990
Poaceae	<i>Bromus madritensis ssp. rubens</i>	Foxtail brome/ chess	Called "B. rubens" in Envicom 1982/Wright 1990
Poaceae	<i>Cortaderia selloana</i>	Pampas grass	Called "C. atacemensis" in Envicom 1982; eradicated by TD?
Poaceae	<i>Hordeum depressum</i>	Alkali barley	Listed as non-native in Drake 2005, and not confirmed; Possibly planted by WW
Poaceae	<i>Hordeum jubatum</i>	Foxtail barley	Mis-id?
Poaceae	<i>Hordeum vulgare</i>	Common barley	Mis-id?
Poaceae	<i>Phalaris minor</i>	Canary grass	
Poaceae	<i>Schismus barbatus</i>	Mediterranean grass	
Poaceae	<i>Setaria pumila</i>	Yellow bristlegrass	Listed by Zembal 1976 as "S. lutescens"
Poaceae	<i>Sorghum halepense</i>	Johnsongrass	
Poaceae	<i>Stipa lepida</i>	Foothill needlegrass	Planted from seed, along with N. pulchra (per TD), but apparently did not persist.
Poaceae	<i>Vulpia bromoides</i>	Brome fescue, Foxtail fescue	Called "Festuca dertonensis" in Envicom 1982
Poaceae	<i>Vulpia microstachys</i>	Rat-tail fescue	Aka "Festuca megalura", "F. microstachys"; May occur; TD can't confirm (shares a common name w/ other grasses)
Polygonaceae	<i>Polygonum arenastrum</i>	Common knotweed	Mis-id?
Polygonaceae	<i>Polygonum lapathifolium</i>	Willow weed	Need to confirm that this wasn't planted by WW
Polygonaceae	<i>Polygonum punctatum</i>	(water smartweed)	Listed as non-native by Drake 2005; May occur; TD can't confirm
Polygonaceae	<i>Rumex hymenosepalus</i>	Sand dock	A. Baker reports (to DSC/ACS, Nov. 2009) transporting individuals from Malaga Cove area to Madrona Marsh; photo found (TD), but unclear where taken.
Potamogetonaceae	<i>Potamogeton pusillus</i>	Pondweed	Listed as a dicot by Drake 2005; specimen could not be located, but it is possible this once occurred and is now extirpated.
Ranunculaceae	<i>Ranunculus californicus</i>	California buttercup	Planted in garden (AB)
Rosaceae	<i>Raphiolepis indica</i>	Indian hawthorne	Nature ctr only?
Salicaceae	<i>Populus balsamifera</i>	Black cottonwood	Misidentified (per T. Drake); see P. nigra
Salicaceae	<i>Salix laevigata</i>	Red willow	Introduced from cuttings taken at Harbor Park (TD); Can't locate; mis-ID'd?
Scrophulariaceae	<i>Castilleja exserta</i>	Purple owl's-clover	Listed by Zembal 1976 as "Orthocarpus purpurascens"
Solanaceae	<i>Datura wrightii</i>	False jimson-weed	Mis-id'd Cucurbita?; Listed by Drake 2005 as non-native; need to determine whether this was brought in; species is native to CA
Solanaceae	<i>Lycopersicon esculentum</i>	Tomato	Briefly occurring?

Family	Latin name	English name	Notes
<i>Solanaceae</i>	<i>Nicotiana clevelandii</i>	<i>Cleveland's tobacco</i>	<i>Listed by Wright (1990) as recommended for planting; TD can't confirm (mis-ID); delete</i>
<i>Solanaceae</i>	<i>Nicotiana glauca</i>	<i>Tree tobacco</i>	<i>Listed by Drake 2005 as native</i>
<i>Solanaceae</i>	<i>Solanum nigrum</i>	<i>Black nightshade</i>	<i>Mis-id</i>
Typhaceae	<i>Typha angustifolia</i>	Narrowleaf cattail	Confused with <i>T. dominigensis</i> ?

Table E4 Additional plant taxa known from interior South Bay region of southwestern Los Angeles County, but unrecorded at Madrona Marsh Preserve. Sources: L.A. Coastal Prairie [Mattoni 1997]; Palos Verdes [Brinkmann-Busi 1992]; Sepulveda/Rosecrans (El Segundo 2004)

Family	Latin name	Consortium recs from LA Prairie/sloughs (see file)	L.A. Coastal Prairie	Palos Verdes	Sepulveda/Rosecrans
Alismataceae	<i>Sagittaria sp.</i>			Yes	
Anacardiaceae	<i>Rhus laurina</i>	Carson (landfill site, 05 Oct. 2005)			
Apiaceae	<i>Sanicula arguta</i>	Inglewood; POM3419 (L.R. Abrams, Apr. 1901)		Yes	
Apiaceae	<i>Eryngium aristulatum var. parishii</i>	Old collection from Redondo	Yes		
Apiaceae	<i>Lomatium utriculatum</i>	Wilmington			
Apiaceae	<i>Daucus pusillus</i>			Yes	
Apiaceae	<i>Sanicula crassicaulis</i>			Yes	
Ascepiadaceae	<i>Asclepias fascicularis</i>	"N--- Slough"; UC56831 (E. Braunton, 30 June 1902)		Yes	
Ascepiadaceae	<i>Asclepias eriocarpa</i>			Yes	
Asteraceae	<i>Bidens pilosa</i>	"Inglewood"; POM156340 (L.R. Abrams, 31 May 1902)			
Asteraceae	<i>Blennosperma nanum</i>	"Near Wilmington"; UC30587 (J.H. Barbor, 3 Feb. 1897)	Yes		
Asteraceae	<i>Layia platyglossa</i>	"N--- Slough"; POM4831 (I.M. Johnston, 11 Apr. 1917)	Yes		
Asteraceae	<i>Lasthenica glabrata</i>	"N--- Slough"; UCR70758 (I.M. Johnston, 11 Apr. 1917)/Gardena 1902	Yes		
Asteraceae	<i>Cirsium brevistylum</i>	"sink at Inglewood"; RSA94916 (F.W. Peirson, n.d.)			
Asteraceae	<i>Xanthium spinosum</i>	Carson (landfill site; 05 Oct. 2005)			
Asteraceae	<i>Achyraea mollis</i>		Yes		
Asteraceae	<i>Lasthenia californica</i>		Yes	Yes	
Asteraceae	<i>Microseris lindleyi</i>			Yes	
Asteraceae	<i>Ericameria palmeri</i>	"East of El Segundo"/"Dry mesa, Inglewood" (1902, 1933)		Yes	

Family	Latin name	Consortium recs from LA Prairie/sloughs (see file)	L.A. Coastal Prairie	Palos Verdes	Sepulveda/Rosecrans
Asteraceae	<i>Baccharis emoryi</i>	"N--- Slough"; POM350333 (F.R. Fosberg, 18 Oct. 1930)	Yes		
Asteraceae	<i>Baccharis douglasii</i>	"N--- Slough"; RSA418213 (F.R. Fosberg, 18 Oct. 1930)			
Asteraceae	<i>Artemisia dracunculus</i>			Yes	
Asteraceae	<i>Malacothrix saxatilis</i>	"Crenshaw and Rodeo Blvd." (Inglewood); POM362379 (W. Martin, 14 July 1971)	Yes		
Asteraceae	<i>Grindelia hirsutula</i>	"Near Inglewood"; UC68924 (H.M. Hall, 01 July 1905)			
Asteraceae	<i>Euthamia occidentalis</i>	"N--- Slough"; RSA473723 (F.R. Fosberg, 18 Oct. 1919)			
Asteraceae	<i>Grindelia camporum</i>	"W of Inglewood on road toward Hermosa Beach"; RSA80716 (F.W. Peirson, 05 Jan. 1922); Dominguez Hills (1976)	Yes	Yes	
Asteraceae	<i>Corethrogyne filaginifolia</i>		Yes	Yes	
Asteraceae	<i>Gutierrezia californica</i>			Yes	
Asteraceae	<i>Pluchea purpurascens</i>			Yes	
Boraginaceae	<i>Pectocarya linearis</i>	"Inglewood"; POM50670 (L.R. Abrams, Apr. 1899)	Yes		
Boraginaceae	<i>Plagiobothrys collinus</i> var. <i>californicus</i>	Wilmington (1897)			
Boraginaceae	<i>Cryptantha clevelandii</i>		Yes	Yes	
Brassicaceae	<i>Rorripa palustris</i>	"Sink near Inglewood"; RSA66060 (F.W. Peirson, n.d.)			
Brassicaceae	<i>Sibara virginica</i>	Inglewood/Gardena (1901, 1921)	Yes		
Brassicaceae	<i>Caulanthus lasiophyllus</i>			Yes	
Caryophyllaceae	<i>Cardionema ramosissimum</i>	"Sepulveda Blvd. near west (railroad), Manhattan Beach"; UC917792 (F.W. Gould, 15 Apr. 1944)	Yes		
Caryophyllaceae	<i>Spergularia platensis</i>	Inglewood; POM217 (L.R. Abrams, 10 Apr. 1901)			
Caryophyllaceae	<i>Spergularia macrotheca</i>	Inglewood; SBBG69979 (M.N. Ackley, June 1927)			

Family	Latin name	Consortium recs from LA Prairie/sloughs (see file)	L.A. Coastal Prairie	Palos Verdes	Sepulveda/Rosecrans
Chenopodiaceae	<i>Bassia americana</i>	Compton, in vacant lot; SD72852 (F.R. Fosberg, 19 Aug. 1931)			
Chenopodiaceae	<i>Chenopodium californicus</i>	"Grassy hills, near Inglewood"; POM156659 (L.R. Abrams, 10 Apr. 1903)		Yes	
Chenopodiaceae	<i>Atriplex serenana</i>	"Inglewood"; SBBG65394 (M.N. Ackley, Aug. 1927)			
Chenopodiaceae	<i>Chenopodium leptophyllum</i>	"SE of Alameda St. & San Diego Fwy, between Sepulveda & 233rd St.. [L. A. Harbor Dept., Classification Yard, E of Dominguez Flood Control Channel.]" ; RSA607502 (L.C. Wheeler, 08 June 1973)			
Chenopodiaceae	<i>Salicornia virginica</i>	Gardena; RSA478887 (G. Cook, July 1926)			
Convolvulaceae	<i>Convolvulus simulans</i>			Yes	
Convolvulaceae	<i>Calystegia macrostegia</i>	"Hills near Inglewood"; POM66004 (L.R. Abrams, 08 Mar. 1903)	Yes		
Cyperaceae	<i>Scirpus acutus</i>	Compton; UC116276 (June 1919)			
Cyperaceae	<i>Eleocharis montevidensis</i>	Dominguez Hills, near Victoria St. and Dominguez Ave.; POM1369 (L.C. Wheeler, 04 Aug. 1976)			Yes
Cyperaceae	<i>Eleocharis coloradoensis</i>			Yes	
Elatinaceae	<i>Elatine brachysperma</i>	"Inglewood"; POM50778 (L.R. Abrams 10 Apr. 1901)			
Equisetaceae	<i>Equisetum laevigatum</i>	Compton; UC122506 (June 1919)			
Euphorbiaceae	<i>Euphorbia polycarpa</i>			Yes	
Fabaceae	<i>Trifolium willdenovii</i>			Yes	
Fabaceae	<i>Lupinus sparsiflorus</i>	"In vacant lot at 136th St. and Hawthorne Blvd.;" ; RSA652480 (V. Langford, 29 Mar. 1948)			
Fabaceae	<i>Lupinus albifrons</i>	"Sandy area along Ballona Ave. just east of town of El Segundo"; SD39017 (E.A. Purer, 18 Mar. 1931)			
Fabaceae	<i>Trifolium ciliolatum</i>	Gardena/"near Inglewood"; 1903, 1917			
Fabaceae	<i>Lupinus longifolius</i>				Yes

Family	Latin name	Consortium recs from LA Prairie/sloughs (see file)	L.A. Coastal Prairie	Palos Verdes	Sepulveda/Rosecrans
Frankeniaceae	<i>Frankenia salina</i>	Gardena/"N--- Slough" (1902)	Yes	Yes	
Hydrophyllaceae	<i>Phacelia cicutaria</i>			Yes	
Hydrophyllaceae	<i>Pholistoma auritum</i>			Yes	
Juncaceae	<i>Juncus mexicanus</i>	Wilmington (consortium)	Yes		
Juncaceae	<i>Juncus balticus</i>		Yes		
Liliaceae	<i>Calochortus catalinae</i>		Yes	Yes	
Limnanthaceae	<i>Limnanthus douglasii</i> ¹		Yes		
Loasaceae	<i>Mentzelia affinis</i>		Yes	Yes	
Malvaceae	<i>Sidalcea malviflora</i>	Inglewood; RSA95386 (F.W. Peirson, 26 Feb. 1951)	Yes		
Malvaceae	<i>Sidalcea neomexicana</i>		Yes		
Onagraceae	<i>Ludwigia peploides</i>	Compton (I.J. condit, 24 July 1908)			
Papaveraceae	<i>Platystemon californicus</i>		Yes		
Plantaginaceae	<i>Plantago hirtella</i>	"sink at Inglewood"; RSA68978 (F.W. Peirson, n.d.)			
Poaceae	<i>Phalaris lemmonii</i>	"Inglewood", "N--- Slough" (several)	Yes		
Poaceae	<i>Alopecurus carolinianus</i>	"Inglewood"; POM50706 (L.R. Abrams, April 1901)			
Poaceae	<i>Poa secunda</i>	"near Inglewood"; POM156174 (L.R. Abrams, 08 Mar. 1903)		Yes	
Poaceae	<i>Deschampsia danthonioides</i>	"N--- Slough"; UC817049 (I.M. Johnston, 11 Apr. 1917)	Yes		
Poaceae	<i>Elymus triticoides</i>	Compton (Imperial Hwy. and Firestone; 3 mi. w. of Compton on Compton Blvd.); RSA (F.W. Gould, 07 May 1944)	Yes		
Poaceae	<i>Orcuttia californica</i>	Many; Gardena	Yes		
Poaceae	<i>Sporobolus airoides</i>	Wilmington (1933)			
Polemoniaceae	<i>Gilia angelensis</i>	"Grassy hills, near Inglewood"; POM156660 (L.R. Abrams, 10 Apr. 1903)		Yes	

¹ Included by Mattoni and Longcore [Mattoni 1997], but no specimen known from Los Angeles Co., per [CCH 2010].

Family	Latin name	Consortium recs from LA Prairie/sloughs (see file)	L.A. Coastal Prairie	Palos Verdes	Sepulveda/Rosecrans
Polemoniaceae	<i>Linanthus dianthiflorus</i>	"Grassy Hills, near Inglewood"; POM65844 (L.R. Abrams, 10 Apr. 1903)	Yes		
Polemoniaceae	<i>Gilia splendens</i>	"Inglewood"; JEPS69711 (Mrs. E.S. Fuller, July 1933)			
Polemoniaceae	<i>Navarretia fossalis</i>	"sink near Inglewood"; RSA73116 (F.W. Peirson, 19 July 1906)			
Polemoniaceae	<i>Navarretia prostrata</i>	Many specimens; Gardena, Compton, Inglewood, Manhattan Beach	Yes		
Polemoniaceae	<i>Gilia capitata</i>		Yes	Yes	
Polygonaceae	<i>Rumex salicifolius</i>			Yes	
Portulacaceae	<i>Calandrinia ciliata</i>	"Manchester Ave. near Western Ave. (Inglewood); UCR17995 (E.A. Purer, 19 Mar. 1931)	Yes	Yes	
Portulacaceae	<i>Claytonia perfoliata</i>			Yes	
Saururaceae	<i>Anemopsis californica</i>	Compton Creek near Dominguez; POM9877 (I.M. Johnston, 11 Apr. 1917)			
Scrophulariaceae	<i>Antirrhinum coulterianum</i>			Yes	
Solanaceae	<i>Solanum xanti</i>	"Sink at Inglewood"; RSA803070 (F.W. Peirson, n.d.)			
Solanaceae	<i>Datura innoxia</i>			Yes	
Typhaceae	<i>Typha dominigensis</i>			Yes	Yes
Verbenaceae	<i>Phyla lanceolata</i>	"N--- Slough"; UC56841 (E. Braunton, 30 June 1902); Compton 1905			
Violaceae	<i>Viola pedunculata</i>	"Hills near Inglewood"; UC153889 (08 Mar. 1903)		Yes	

Appendix F Historical (1934) maps

Figure F1. 1934 topographical map showing South Bay region, including future site of Madrona Marsh Preserve (red box). Slough channels marked by blue arrows (including former Bixby Slough, now Machado Lake/Ken Malloy Harbor Regional Park, southeast of Preserve). Normandie Ave. (see Fig. F2) is located just off eastern edge of map.

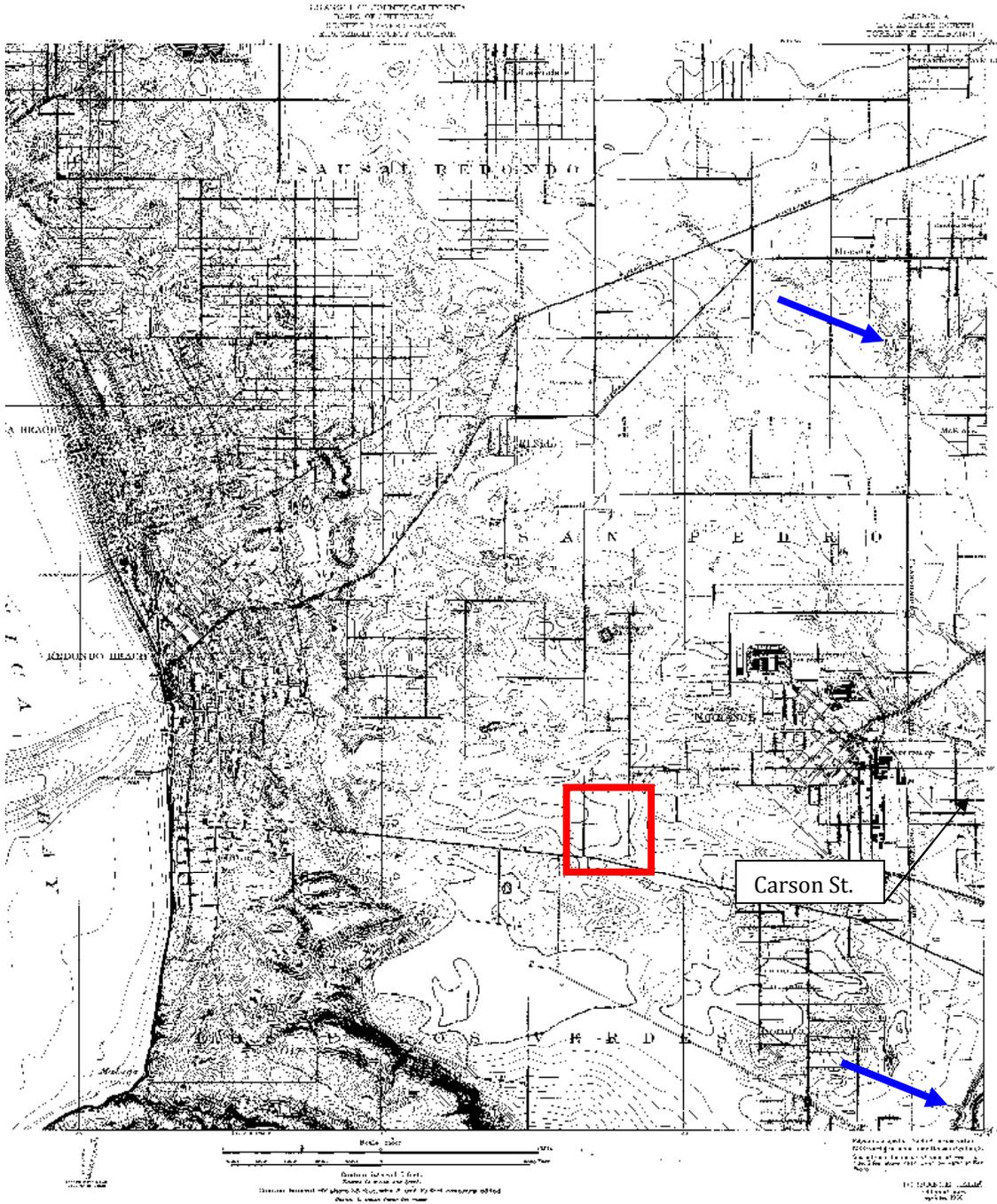


Figure F2 1934 map showing Dominguez Hills area east of that shown in Figure F1. Permanent sloughs marked by blue arrows, located well east of Madrona Marsh Preserve.

