
CRUZAN MESA VERNAL POOLS SIGNIFICANT ECOLOGICAL AREA

General

The Cruzan Mesa Vernal Pools Significant Ecological Area (SEA) lies in the southeastern end of the Liebre Mountains, north of the Santa Clara River, and southeast of Bouquet Canyon. The SEA boundaries encompass the watershed and drainages of the Cruzan Mesa and Plum Canyon vernal pools, considered as a single ecosystem within the SEA. The SEA is located within an unincorporated portion of Los Angeles County and lies entirely within the United States Geological Survey (USGS) California Mint Canyon Quadrangle.

Description

The Cruzan Mesa Vernal Pools SEA includes mesas, canyons and interior slopes, with Plum Canyon creek running east-west through the southern portion of the overall SEA. The extent of the SEA encompasses the watershed supporting both of these regionally unique vernal pools, including the immediate watershed surrounding both systems and the corridor in between. Plum Canyon forms the major drainage running east-west through the southern portion of the SEA, draining west toward Bouquet Canyon. Uplands within the SEA are comprised of slopes and canyons supporting coastal sage scrub or scrub-chaparral vegetation. The Cruzan Mesa vernal pool complex lies within an elevated, topographically enclosed basin atop an eroded foothill between Mint and Bouquet canyons. The Plum Canyon vernal pool, situated in a landslide depression on a hillside terrace, is smaller than the Cruzan Mesa pools, but possesses the same essential vernal pool characteristics as the larger system, and the two areas together form an ecologically functional unit.

The seasonally wet vernal pools and surrounding open coastal sage scrub and chaparral slopes support a wide variety of migrant and resident birds and other native sage scrub vertebrate species. The steep cliffs which surround Cruzan Mesa, especially along the southeast and north margins, provide protected sites for perching, roosting and nesting by a variety of birds of prey.

The SEA supports several regional biological values. These values include: sensitive plant species unique to seasonal pools on heavy clay soils, several of which are at the northernmost point in their overall ranges; seasonal surface water, providing breeding sites for sensitive amphibians, including western spadefoot and Riverside fairy shrimp; vernal pools, found nowhere else in Los Angeles County, and their coastal sage scrub watershed serving as a hydrological filter; seasonal ponds and surrounding mesic vegetation providing essential foraging and wintering sites for migrating birds otherwise uncommon in the southern Liebre

Mountains; steep cliffs surrounding the mesa tops and their crevices and cavities providing roosting and nesting sites in the otherwise brush-covered hillsides. These pools are also the only three or four such pools in this portion of Southern California. The sensitive resources they support are unique locally and regionally, and biologists consider these to be among most sensitive habitat types in Southern California.

Vegetation

The SEA encompasses formations of coastal sage scrub, vernal pool and non-native grassland. The vernal pool margins support limited densities of native grasses, but these do not form separate communities and are included within the vernal pool floral matrix. Sensitive plant species occurring or potentially occurring within the SEA are discussed below in the Sensitive Biological Resources section.

Plant communities within the SEA were classified using standard methodology and terminology. The communities discussed correspond directly with those listed in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). Descriptions and general locations of the each plant community present within the SEA are given below.

Vernal pool sites occur in the SEA within the southern end of the Cruzan Mesa basin and on a landslide terrace on the northern slope of upper Plum Canyon, about one and one-half aerial miles southwest of the Cruzan Mesa pool system. True vernal pools, which are rare in Southern California and extremely rare in Los Angeles County, form seasonally in shallow, closed basins, usually where a lens of heavy clay soil holds surface water following rainfall events. Agency-listed sensitive plant species occurring within both of the SEA pool systems include California Orcutt grass and spreading navarretia, along with other vernal pool endemics such as hairgrass, woolly-marbles, waterwort, *Mimulus latidens* and water-starwort.

Coastal sage scrub occurs throughout the slopes and ridges of most of the SEA, in places intermixed with chaparral elements. To some extent, the mosaic of coastal sage and chaparral reflects the fire history of any given portion of the site, with scrub formations generally occurring on sites which have more recently burned. However, some slopes within upper Plum and Mint canyons, where no fires have occurred for over 30 years, still support "pure" coastal sage scrub, suggesting that the formation is a climax community on those sites.

Dominant species on most slopes within the SEA are California sagebrush, woolly bluecurls, chaparral yucca, black sage, Acton encelia, white sage, and chamise. A variety of less dominant associated species are also present, including lance-leaved live-forever, common tarplant, California buckwheat, beavertail cactus, turkish rugging, and Peirson's morning-glory.

Disced or cleared areas have regrown with a dense cover of oats and bromes, California poppy, fiddleneck, several species of lupines, popcorn flower, comb-bur and other disturbance-favored native annuals. Less-frequently disturbed portions of the upper watershed basin support dense stands of chamise – California scrub oak chaparral, with yerba santa abundant along dirt roads and other disturbed areas. In the lower portions of canyons and along Plum Canyon creek, where ground-water levels permit, giant rye grass, Mexican elderberry, acourtia, redberry, toyon, holly-leaved cherry, Fremont cottonwood, western sycamore, and arroyo willow occur.

Non-native grassland generally consists of invasive annual grasses which are primarily of Mediterranean origin, and which have become the dominant ground cover formation on disturbed sites throughout the western states. Common species within this “community,” which is a ruderal formation and not a true habitat or community, include oats, bromes, foxtail chess, and other grasses, along with wild mustards, yellow star thistle, wire lettuce, sow thistle, milk thistle, and other disturbance-favored “weedy” taxa. Non-native ruderal formations occur over most of the Mesa around the vernal pools, where coastal sage scrub has been disturbed or removed, in small strips and patches throughout the SEA primarily along disturbed dirt road edges and where grading or other substrate disturbances have not regrown to native species.

Mainland cherry forest is not well described but is typically composed of tall stands of hollyleaf cherry on rocky, dry slopes. Within the SEA, this community is not well developed and inter-mingles with chaparral. It can be found in a single narrow patch on a slope in the southwest portion of the SEA.

Wildlife

Wildlife diversity and abundance within the SEA are moderate, commensurate with the relative homogeneity of the natural open space habitat types. A number of local wildlife species are more-or-less dependent upon coastal sage scrub or scrub-chaparral formations, while other species are strictly limited to seasonal pool habitats. The two vernal pool systems in the SEA, along with the coastal sage scrub-chaparral uplands surrounding and connecting them constitutes a single, integrated functional ecosystem for wildlife species, both within the SEA boundaries and as a part of the larger regional scrub-chaparral ecosystem.

Analysis of invertebrates on any particular site usually is limited by a lack of specific data, but the fact that the SEA contains only two primary natural habitat types insures that there is sufficient acreage to support healthy populations of whatever invertebrate species are present, probably several hundred terrestrial species. The vernal pools, when ponded, form aquatic habitats for a moderately diverse fauna of freshwater arthropods and other invertebrates, including native fairy shrimp, aquatic flies, diving beetles, water scavengers, ostracods, and snails. The only insect order presently known to have a vernal pool endemic within the SEA is Coleoptera, with one vernal pool ground beetle species thus far having been found.

Amphibians generally are relatively common in coastal sage scrub habitats with persistent surface hydrology during the breeding season, and the SEA supports abundant populations of Pacific chorus frog, western toad, and western spadefoot toad. At least two species of salamander also may be present within more mesic portions of the surrounding canyons and chaparral.

Reptile populations in the SEA would include numerous lizard species, including San Diego banded gecko, yucca night lizard, side-blotched lizard, western fence lizard, western skink, San Diego alligator lizard, coastal western whiptail, San Diego horned lizard, and silvery legless lizard. A robust snake fauna also would be expected within the SEA, including western blind snake, coachwhip (“red racer”), chaparral whipsnake, coastal patch-nosed snake, California rosy boa, San Diego gopher snake, California kingsnake, California mountain kingsnake, night snake, and southern Pacific rattlesnake.

Bird diversity within the SEA is related to habitat opportunities for year-round residents, seasonal residents, migrating raptors and song birds. Open coastal sage scrub hosts a suite of birds typical of such sites at lower elevations over most of the coastal slopes of Southern California. The most productive sites for resident coastal sage scrub and chaparral birds are around riparian and freshwater systems, which also attract large numbers of migrants during Spring and Fall. The vernal pools attract moderate numbers of migrating waders and waterfowl, and provide important winter foraging areas for resident and migratory birds of prey. Coastal sage and chaparral birds resident or breeding within the SEA include ashly rufous-crowned sparrow, Bell’s sparrow, black-chinned sparrow, lark sparrow, California thrasher, spotted towhee, California towhee, phainopepla, northern mockingbird, lazuli bunting, and several species of hummingbird, with additional species (western meadowlark, California horned lark, and perhaps also savannah and grasshopper sparrows) nesting and foraging in the grassland and ruderal habitats surrounding the vernal pools. Birds of prey observed around the vernal pools include red-tailed hawk, northern harrier, white-tailed kite, prairie falcon, and golden eagle. Barn owl, great horned owl, and common raven all nest in the cliffs surrounding Cruzan Mesa.

Wildlife Movement

The vernal pools situated within this SEA serve as isolated, high resource quality habitat linkage sites for migratory waterfowl. The vernal pools teem with arthropod and amphibian activity, and so provide essential feeding grounds for long-distance migrants, as well as for resident species of reptiles, birds and mammals. The ponds do not lie within any identified terrestrial movement routes for wildlife, but may serve as important seasonal watering sites for species moving through and across the Plum Canyon divide between Mint and Bouquet canyons. The Plum Canyon stream channel undoubtedly serves as a movement pathway for more mobile species of terrestrial mammals, but it no longer links any larger habitat areas directly, due to land conversion in Mint and Bouquet Canyon.

Sensitive Biological Resources

Sensitive biological resources are habitats or individual species which have been accorded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern, principally due to the species' declining or limited distribution or population sizes, usually resulting from habitat loss. Watch lists of such resources are maintained by the California Department of Fish and Game (CDFG), the United States Fish and Wildlife Service (USFWS), and special groups such as the California Native Plant Society (CNPS). The following indicates the habitats as well as plant and animal species present, or potentially present within the SEA, that have been afforded special recognition.

Sensitive Plant Communities/Habitats

This description supports several habitat types considered sensitive by resource agencies, namely the CDFG [California Natural Diversity Data Base (CNDDDB)], because of their scarcity and support of a number of state and federally listed endangered, threatened, and rare vascular plants, as well as sensitive bird and reptile species. These communities include **coastal sage scrub**, **mainland cherry forest**, and **vernal pool**. These communities or closely related designations are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes.

Sensitive Species

Sensitive species include those listed, or candidates for listing by the USFWS, CDFG, and CNPS. These sensitive species include, but are not limited to, spreading navarretia, California Orcutt grass, Vernal pool fairy shrimp, San Diego fairy shrimp, Riverside fairy shrimp, golden eagle, California gnatcatcher, San Diego black-tailed jackrabbit, San Diego desert woodrat, and southern grasshopper mouse. In addition, the SEA identifies species observed, recorded in the CNDDDB, or reported in previous documentation as observed within or in the immediate vicinity of the SEA.

Ecological Transition Areas (ETAs)

There are no ETAs designated within this SEA.