



**Parks
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Fairview Park

What are Vernal Pools?

Vernal pools are a type of seasonal wetland, and are some of the most ecologically important and distinctive ecosystems in California. Vernal pools are depressions in areas where a hard underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime the water gradually evaporates away, until the pools become completely dry in the summer and fall.

The vernal pools that remain in California support special plant and animal species, including many that are designated by the federal and state government as rare, threatened, or endangered. These plants and animals are specifically adapted to living within the vernal pool habitat of very wet winter and spring conditions, followed by very dry summer and fall conditions.

Many vernal pool plant species have seeds that can remain dormant for several years, an adaptation that allows them to survive through periods of drought. Many specially-adapted crustaceans, amphibians, and insects also occur only in vernal pools. Life supported by these unique ecosystems provides important food resources for many species of waterfowl and other birds, and vernal pools are important parts of the connective wetland habitat along the Pacific Flyway.

A vernal pool complex is a series of seasonal wetlands that are only connected during the rainiest periods, providing necessary temporary ponding connections for species that live within the pools. Complexes can include between 5 and 50 pools. Vernal pool within a complex are generally hydrologically connected by water flowing over the ground surface from one pool to another.

In the spring, when many specially-adapted flowering plants are in full bloom, and following the initial evaporation of surface water, the pools are ablaze with wildflowers.



Vernal pool viewing from boardwalk at Fairview Park

Vernal pools provide rare and endangered habitats. In 2005 the U.S. Fish and Wildlife Service finalized its Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon that addresses 33 plant and animal species of interest common to vernal pools, including 15 plants that are listed as threatened or endangered under the California Endangered Species Act.

Fairview Park is included in the Recovery Plan report as “one of five remaining vernal pool complexes in Southern Coastal California”. The park supports seven vernal pool basins and one vernal marsh. Of the seven pools identified in the park, five are known to be occupied by the San Diego fairy shrimp, a federally endangered species. The Riverside fairy shrimp, a federally listed endangered species has been found in two pools within the park.

Fairy shrimp eggs of both types are tough – they lie dormant in dried-out vernal pools for several years and hatch in shallow vernal pools during the rainy season. In that time, they mate and lay more eggs – or cysts. Their quick life cycle is an adaptation to the extreme irregularity of the pools’ filling.

The San Diego fairy shrimp was listed as endangered in 1997 by the U.S. Fish and Wildlife Service. The Service determined that the continued survival of the species was threatened by a high degree of habitat destruction, but had a high potential for recovery in the remaining areas of habitat.

The Riverside fairy shrimp was listed as endangered in 1993 by the U.S. Fish and Wildlife Service. The Service determined that the species is facing a high degree of threat and has a low potential for recovery.

Fairview Parks’ vernal pool habitat is the northern most extent of the San Diego Fairy Shrimp species in Southern California, representing the historical distribution of coastal terrace vernal pools with a specific soil type essential for recovery of the species. The Fairview Park complex, and the Newport-Banning Ranch complex, represent the only remaining examples of coastal vernal pools in Orange County, and in the State, north of San Diego County.



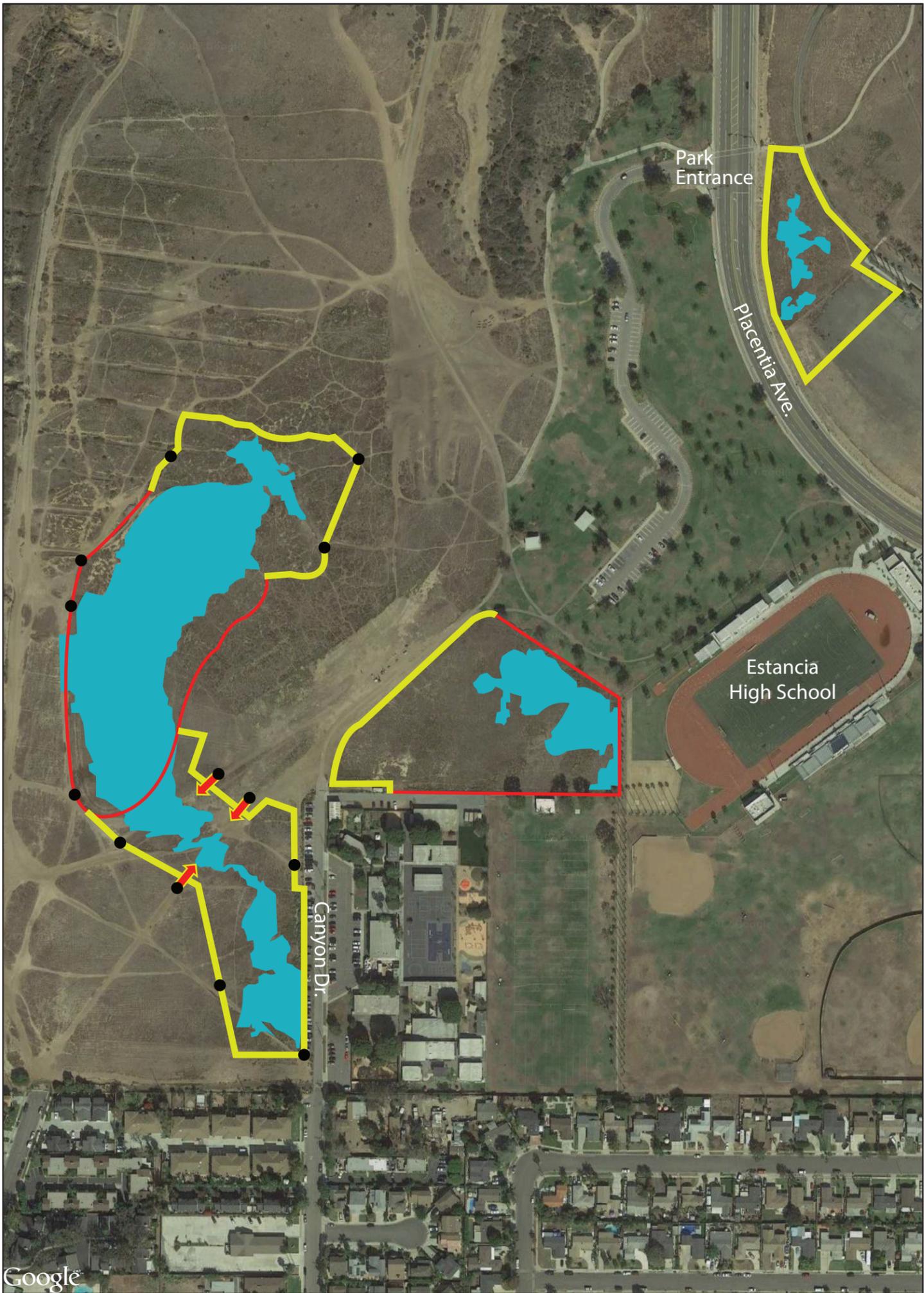
The image above illustrates the extent of ponding and connections that occurred during the heavy rains of years 2011-2015.

Photo by Jim Hansen, Harbor Soaring Society

MAP OF TRAIL CLOSURES AND VERNAL POOL FENCING

Beginning in December of 2017, you will notice new fencing around special ecosystem areas called "VERNAL POOLS." With this fencing comes the necessary closure of several trails to protect these rare and endangered habitats.

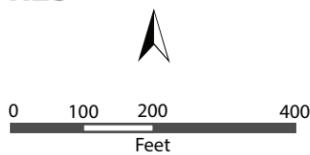
The Fairview Park Master Plan calls for habitat restoration and management of the Vernal Pool ecosystem and associated species. This new fencing is an effort by the City of Costa Mesa to implement the Master Plan and protect the environment of Fairview Park.



Legend

● TRAIL CLOSURES

- Existing Fence
- Proposed Fence
- 2017 Max Ponding
- ➔ Restricted Access Gates to be Closed when the Ground is Wet



FARIVIEW PARK

2017 Wet Season Fairy Shrimp Survey Area

GLENN LUKOS ASSOCIATES



Exhibit 3

Please do your part to protect the vernal pools.

Maintaining the natural beauty of Fairview Park is a community priority!

Staying off the closed trails and habitat is DOING YOUR PART in the restoration and preservation of this unique ecosystem.

Thanks for your help!



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