

## Vernal Pools

Vernal pools are a unique combination of climatic, topographic and geologic factors that result in a shallow, seasonal wetland. A subsurface clay layer causing water to pond on the surface is the all-important factor in the formation of these wetlands. These “pools” of water are inhabited with a set of plants and animals that only live in such ephemeral pools and saturated soils.



Photos: Brent Helm, May Consulting



The pools' appearance changes with the seasons. In Summer, the pools are dry and look like dirt or clay depressions with dried vegetation and cracks along the pool floor. A distinctive grayish colored forb called coyote thistle may grow in the bottom of the pool. In Winter the pools are full of water and support aquatic grasses and forbs and, in Spring as these --

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-pools dry up, a series of different plants develop and bloom. Vernal pools and fairy shrimp are most easily damaged during the rainy season. Once the bottom dirt of a pool is wet, care must be taken to not disturb the soil. During the Summer, the hard dry pool bottom is not damaged by human or animal trampling.

Vernal Pools used to be very common throughout California but due to development, the majority of vernal pools in California have been lost. Vernal pools are important for their own sake, but also because they provide nutrition to resident waterfowl, as well as a resting place for waterfowl on their migration to and from southern wintering grounds. Now that so few of California's natural wetlands remain, vernal pools provide critical extra food and energy to migratory birds. Vernal pools are also important in maintaining native Californian grass species. Foreign plants such as Star Thistle and Medusahead have overrun California grasslands, and vernal pools represent one of the last places where native California plant species survive and flourish.

### Ecology

In California, vernal pools pond each Winter with water from rain and snowmelt. The water collects in depressions over soils which have an impervious layer, and thus prevent complete drainage. A number of shrimp species occur within these vernal pools, and the composition of species can vary from pool to pool.

**Approximately 1.5 in.**



Fairy Shrimp