**Natural History**

**The Water Under the Sand**

The Sunset watershed lies atop the Westside Basin aquifer system, the largest groundwater basin on the peninsula. Groundwater levels in the Westside Basin have declined due to groundwater pumping in northern San Mateo County. The City of San Francisco is working with our partner agencies in northern San Mateo County to manage the Westside Basin with multiple objectives: to maintain water levels in Lake Merced and Pine Lake, to develop groundwater as a municipal water supply for San Francisco, and to operate an extensive groundwater monitoring program that will allow sustainable operation of the groundwater basin. Current recycled water projects, including a dry creek bed and irrigation, and future recycled water projects being planned by SFPUC will continue that trend.

**The Trees of the Sunset**

Originally, much of the Sunset watershed was devoid of dense forests. As tree planting became common practice in parks, thousands of non-native trees were planted in Golden Gate Park, Stern Grove, and on Mount Sutro (left). Trees serve a variety of important human purposes and also serve to capture and slow stormwater; however, these dense tree groves also supplanted native grassland, oak woodland, and scrub habitat for sensitive bird species such as the violet-green swallow, tree swallow, and red-breasted nuthatch. The area is also host to local butterflies.

**Current Projects**

Ulloa Elementary is one of the earliest SFUSD rainwater harvesting projects, including a dry creek bed and “Coastal Classroom” to study native plants.

Initiated in 2006, the Green Hairstreak Corridor connects the butterfly populations to each other with parks planted with the Hairstreak’s habitat and cared for by neighborhood residents and school children. The SFPUC is planning the Sunset Boulevard Greenway project to help reduce stormwater entering the combined sewer system with rain gardens along the corridor between Lincoln Way and Sloat Boulevard. The stormwater project may have an ancillary benefit of providing additional groundwater recharge.

Before urbanization, the Sunset watershed was primarily sand, with patches of alluvium and bedrock near Twin Peaks and Mt. Davidson.

Although few significant streams flowed through its dunes, this sandscape contained a number of freshwater ponds and lakes. Instead of forming creeks, rainwater percolated through the permeable dunes into the underlying groundwater basin. Lakes and ponds formed in depressions where the dunes and the shallow groundwater table intersect.

Golden Gate Park was originally covered with shifting sand and small marshy lakes. Of the original 54 lakes mapped in 1872, only three of the lakes, Elk Glen, Middle and North Lakes, were originally natural groundwater fed and later deepened. The remaining lakes are man-made.

In the 1800s the neighborhood we now know as the Sunset was part of the “Outside Lands”. Many San Franciscans considered the “Outside Lands” to be uninhabitable because of the sand dunes, fog, and wind.

The building of the Twin Peaks Tunnel was one of the most influential factors in the rapid development of the “Outside Lands”. The Twin Peaks Tunnel opened in 1918 and cut the trolley commute to 20 minutes from Sloat Boulevard to downtown. These photographs show the rapid urbanization of the area between 1916, before the tunnel was completed, and 1927. Earlier growth in the Sunset was also spurred by the construction of Golden Gate Park and the 1906 earthquake.

Developed on the slopes of Mt. Davidson and Twin Peaks, neighborhoods like St. Francis Wood and Forest Hill were originally designed as exclusive “residence parks” with wide curvilinear streets, terraced stairways, and buried utilities.