Land Use History

Overview

People have lived along Wildcat Creek since at least 3-4 thousand years before present. Sea level rise had slowed and the Bay's size stabilized, allowing broad mudflats and tidal marshes to develop, and significant local settlement to commence (Banks and Orlins 1985, Fentress 1994). Along lower Wildcat and San Pablo Creeks, villages began to grow as new resources were utilized along the edge of the bay. Clam, mussel, and other shells soon covered areas of dense cultural activity. Several thousand years later the shellmounds, containing burials, ceremonial and household artifacts, fish, birds, and other animals had been built up to as high as thirty feet and acres in size (Luby and Gruber 1999).

At the time of European contact, the people living in Wildcat Watershed were known as the Huchiun, or Jutchiun, or Cuchiyun (Milliken 1979). Of the shoreline inhabited by the Huchiun, which probably extended from about Temescal Creek to Rodeo Creek, the area around lower Wildcat Creek and the Potrero was the most densely populated, presumably because of food resources from the extensive marshes behind the Potrero (Banks and Orlins 1979).

The first recorded Spanish expedition to cross Wildcat Creek took place in 1772, although it is possible that Spaniards may have traveled this far north as early as 1769 (Milliken 1979). The 1772 Fages and 1776 DeAnza expeditions received festive greetings at two villages along Wildcat Creek, one of which was estimated at 100 – 200 people in size. Within three decades, nearly all the native Huchiun had been forced to move to Mission Dolores and convert to Christianity (Milliken 1979). The Huchiun homeland would remain essentially unpopulated for over a decade. The Huchiun did not disappear, though; at least one account documents native people coming down from the hills annually, perhaps a century later to harvest shellfish at the Ellis Landing marshes (Fridell 1954).

In 1817, San Francisco's Mission Dolores needed more food to support the growing population of the Mission, so they established a ranch in the East Bay. Wildcat Creek was chosen as the headquarters because of the broad plains and grassy hills of Wildcat Watershed and adjacent lands. While we do not know how many cattle were grazed during this period, the ranch was operated by as many as 49 Christianized Indians (Milliken 1979), suggesting that significant grazing effects were initiated at this time. In 1823, the Mission shifted its ranching operations to the newly created Sonoma Mission. Subsequently, Francisco Castro took possession of the area, becoming the first white man to settle on the Contra Costa ("opposite coast"; Fridell 1954).

By 1830, Castro had developed Rancho San Pablo, which boasted fourteen hundred cattle, six hundred sheep, and five hundred horses (Williams 1952). With the expansion of the cattle trade to the international market, especially the eastern United States in the 1830s, Castro and other landowners became barons of a major industry that flourished throughout the 19th century (Purcell 1940).

After the United States took control of California in 1846, many squatters settled on the huge Castro landholdings. The onerous court proceedings lasted nearly 50 years, causing the family to lose much of its property by the time the case was settled (Richmond Chamber of Commerce 1944). During this period, farming expanded from family gardens limited to the immediate vicinity of the adobes to commercial market gardens developed especially by Portuguese, Italian and Irish immigrants. The bottomlands along Wildcat and San Pablo Creeks, with fertile alluvial soils and available water, supported a wide range of fruits and vegetables. Away from the creeks, hay and grain were the dominant crops, while intensive stock and dairy ranching continued to dominate the Potrero and the Canyon. On the Bay edge of the Potrero, Chinese immigrants used the deepwater access to establish a regional center of fishing and shrimp harvesting.

Because of the uncertainty over land ownership, the length of time required to adjudicate the San Pablo Rancho Land Grant case – infamous nationally – had the effect of preventing more intensive development (Richmond Chamber of Commerce 1944, McGinty 1921). Ranching of the Alluvial Plain and Canyon, with rodeos and horseracing on the weekends at San Pablo Road (Banks and Orlins 1979), continued as agriculture expanded. Urban development was scant (compared to the towns to the south) until MacDonald's fateful duck hunt in 1895.

Taking a break from an unsuccessful afternoon of hunting ducks in the marshes at the mouth of Wildcat Creek, A.S. MacDonald climbed the Potrero. He noted how its unusual location provided the only local intersection of dry land with deep water. Along the rest of the East Bay, wide marshes and mudflats created a shallow water barrier for ships, necessitating long wharves like the Oakland Mole (Richmond Chamber of Commerce 1944, Rego 1997). Within five years of MacDonald's entrepreneurial insight, Point Richmond had become the Western continental terminus of the massive Santa Fe railroad system, which catalyzed the subsequent industrial and urban development of Wildcat Creek's alluvial fan. The proximity of undeveloped flatlands to both the deepwater port and the urban central bay almost instantly transformed Richmond into an industrial center of international significance, celebrated as "The Wonder City" and "The Pittsburgh of the West" (Cutting 1917).

In 1901, Standard Oil selected the Potrero and the marshes along Wildcat Creek (apparently ideal because of their immunity to wildfire) as the site of their West Coast refinery. A number of other major corporations followed within the next 15 years (Richmond Chamber of Commerce 1944, Cole 1980). The population of the Wildcat area, which at the turn of the 20th century only consisted of several hundred people from the earlier Huchiun villages, now began to increase rapidly. The population of Richmond increased approximately tenfold during 1901–1903 (200 to 2,500), and again during 1903-1923 (2,500 to 23,000), (Cutting 1917, Richmond Chamber of Commerce 1944). Residents tapped into groundwater supplies by drilling over three hundred wells (Dockweiler 1912) and several intensive commercial well fields by 1911. By the 1930s, however, local demand overwhelmed groundwater supplies and Sierran water deliveries soon rendered the local wells obsolete (Figuers 1998). In 1936, most of the upper canyon was protected from residential development by the formation of Tilden Regional Park (National Park Service 1936).

Population expansion slowed in the 1920s and 1930s, such that about 23,000 people were again reported in Richmond in 1940 (Purcell 1940). However, World War II led to the placement of another major industrial corporation on the Wildcat Creek alluvial fan. Creation of the Kaiser Shipyard and rapid production for the war effort necessitated an even more dramatic pulse of development than that of four decades earlier. Between 1941 and 1945, 90,000 employees, particularly white and African-American families from the South and Southwest settled in the East Bay to work at Kaiser. In these five years, Richmond's population quadrupled to nearly 100,000 people (Richmond Public Library, no date).

The shipyard boom transformed the lower watershed but did not last long. The shipyards closed immediately after World War II, leaving Richmond with the problems of poorly developed infrastructure and housing, and reduced employment (Cole 1980). The population of Richmond declined to about 72,000 people by 1960 (City of Richmond 1999), while in the upper watershed, housing

expanded into the Canyon along the edges of El Cerrito, Kensington, and Berkeley. In the 1960s, a major development planned for the northern grasslands in Wildcat Canyon was abandoned, enabling the formation of Wildcat Canyon Regional Preserve in 1976. In the last two decades of the 20th century, the area's population has increased again, particularly among the Asian American and Latino communities, to an estimated 93,000 people in the city of Richmond (Banks and Orlins 1985), over 20,000 in San Pablo, and an unspecified number in the upper watershed (Richmond Chamber of Commerce 1996, City of Richmond 1999).

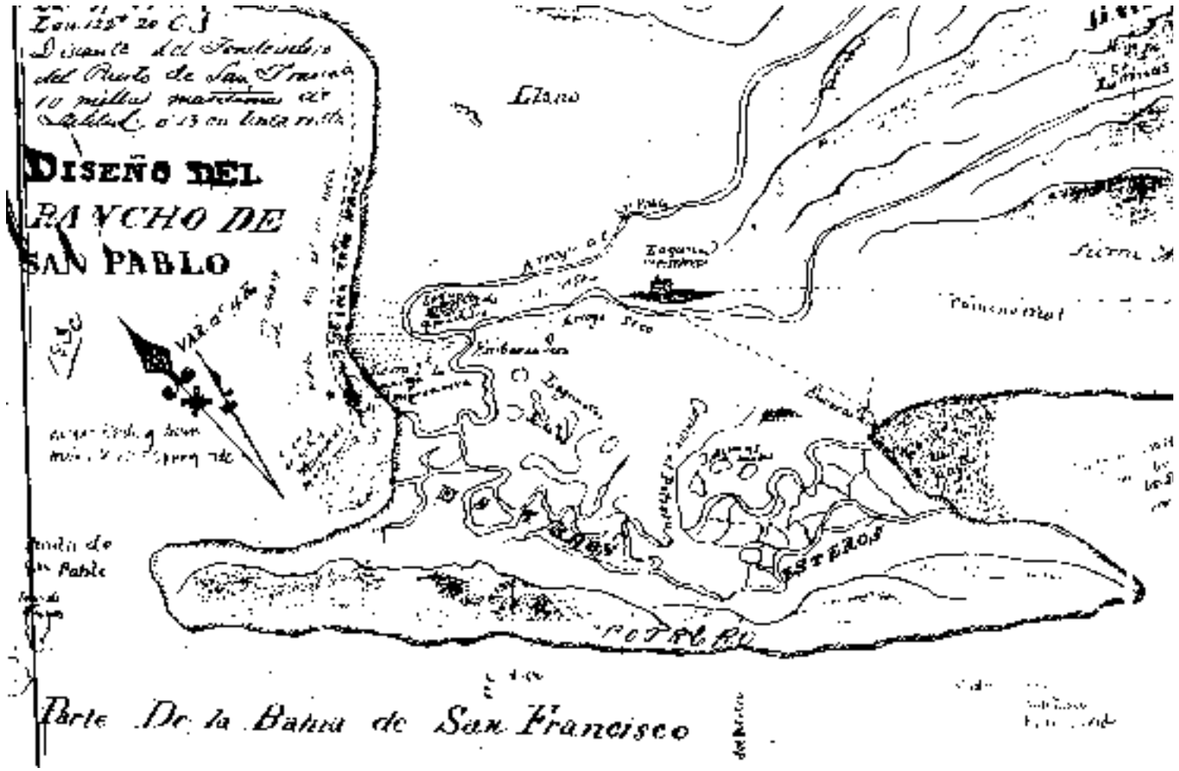
Format of Landscape History Section

To illustrate how the Wildcat Creek Watershed has changed in response to human activities and natural processes, we divided the recent history of Wildcat Creek Watershed into five periods. Maps were made for each interval: Native Landscape (1750–1800), Ranchero Landscape (1800–1850), Agricultural Landscape (1850–1900), Urban Landscape (1900–1950), and Modern Landscape (1950–2000). These intervals correspond fairly well to major events in human history that mark transition points between major types of settlement and land use in the watershed, i.e., depopulation of the Huchiun by 1805; the Treaty of Guadalupe Hidalgo (1846); the establishment of the Santa Fe railroad terminus (1899); and the end of World War II (1944).

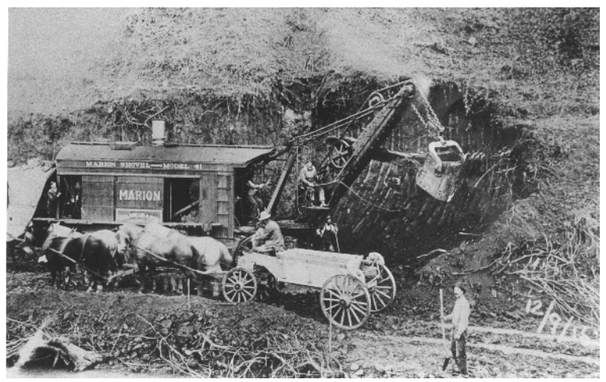
Three types of graphics illustrate each time period. The Eventline (Figure 22) at the top of the following pages tracks the dates of specific events that affected the watershed. Impact Maps (Figures 23, 25, 27, 29, 31) show the general or specific locations of potentially important impacts to the watershed. As a composite map of the approximate distribution of cultural features, hydrological features, and major vegetation types, the Watershed View Maps (Figures 24, 26, 28, 30, 32) illustrate the changing landscape as influenced by non-native land use practices.

Fully documented records are available of all historical references at SFEI's Historical Ecology Department.

Figure 21. 1830 Diseño



Circa 1830 Spanish Diseño (land grant) of San Pablo Rancho showing Wildcat Creek as a Arroyo Seco (which means dry creek), esteros (marsh), and lagunas (fresh water pond or lagoon). Courtesy of University of California at Berkeley Map Room.



(Photo 5) Stripping the banks in preparation for construction of Wildcat Dam, 1919 (see #24 pg. 24.) Source: East Bay Municipal Utility District.

(Photo 6) Curran Homestead (see #16 on pg. 22) near current site of Brazil Building, circa 1900. Source: Louis Stein collection from East Bay Regional Park District.

Land Use History 1750-1800: Native Landscape

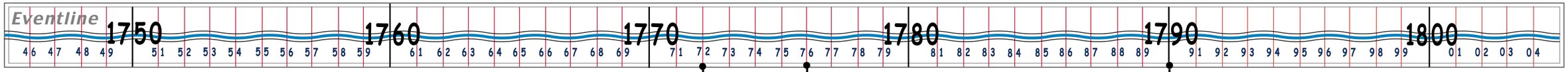


Figure 22

(Photo 7) Stone mortar found at the base of a tributary confluence in the Lower Canyon (given to East Bay Regional Park District).

To observe Wildcat Creek in this era, we might follow the deepwater channel along the northeast end of the Potrero toward the mouth of the creek, as the Huchiun, returning from the Bay in tule balsas, would have. The channel curves to the north through the mudflats, passing several small islands indicative of recent erosion of the marsh. It shows a pattern of *spartina sp.* (cordgrass) and *salicornea sp.* (pickleweed) transitioning to *scirpus sp.* (tules) as the influence of freshwater increases.

Crossing the native grasslands of the alluvial plain, Wildcat Creek passes numerous shellmounds, particularly around the large laguna between the two creeks. Fish caught both in the Bay and the creeks are processed here for local consumption and trade. Near the first shellmound along Wildcat Creek, we reach the upper extent of the tides and the beginning of the narrow riparian forest, the sole trees of the alluvial plain. Continuing upstream, the creek splits with the older overflow channel to the south. The split marks the boundary of present-day Davis Park. Trails lead along the Creek to the Potrero, to marsh ponds (for salt harvest and waterfowl hunting) and channels, and to the shellmounds at Ellis Landing and Stege.

Where the creek turns south, it passes the large shellmound and ceremonial center of the area, located at a lagoon in a "sink" at the end of a remnant channel of Wildcat Creek. The creek then intersects the main road of the East Bay plain (now San Pablo Avenue), which the Spanish explorers followed into the Huchiun lands, passes the shellmounds and village at Alvarado Park, and enters the canyon. The Canyon, like the Alluvial Plain, is much more open than in years to come. Regular burning by the Huchiun prevents encroachment of brush and woodland, except in the more sheltered ravines and north-facing slopes. Woodland is densest in the narrow Lower Canyon, giving way to more brushland where the Canyon widens, and open grasslands at the top of the western ridge. Several trails cross the Canyon, and springs are common.

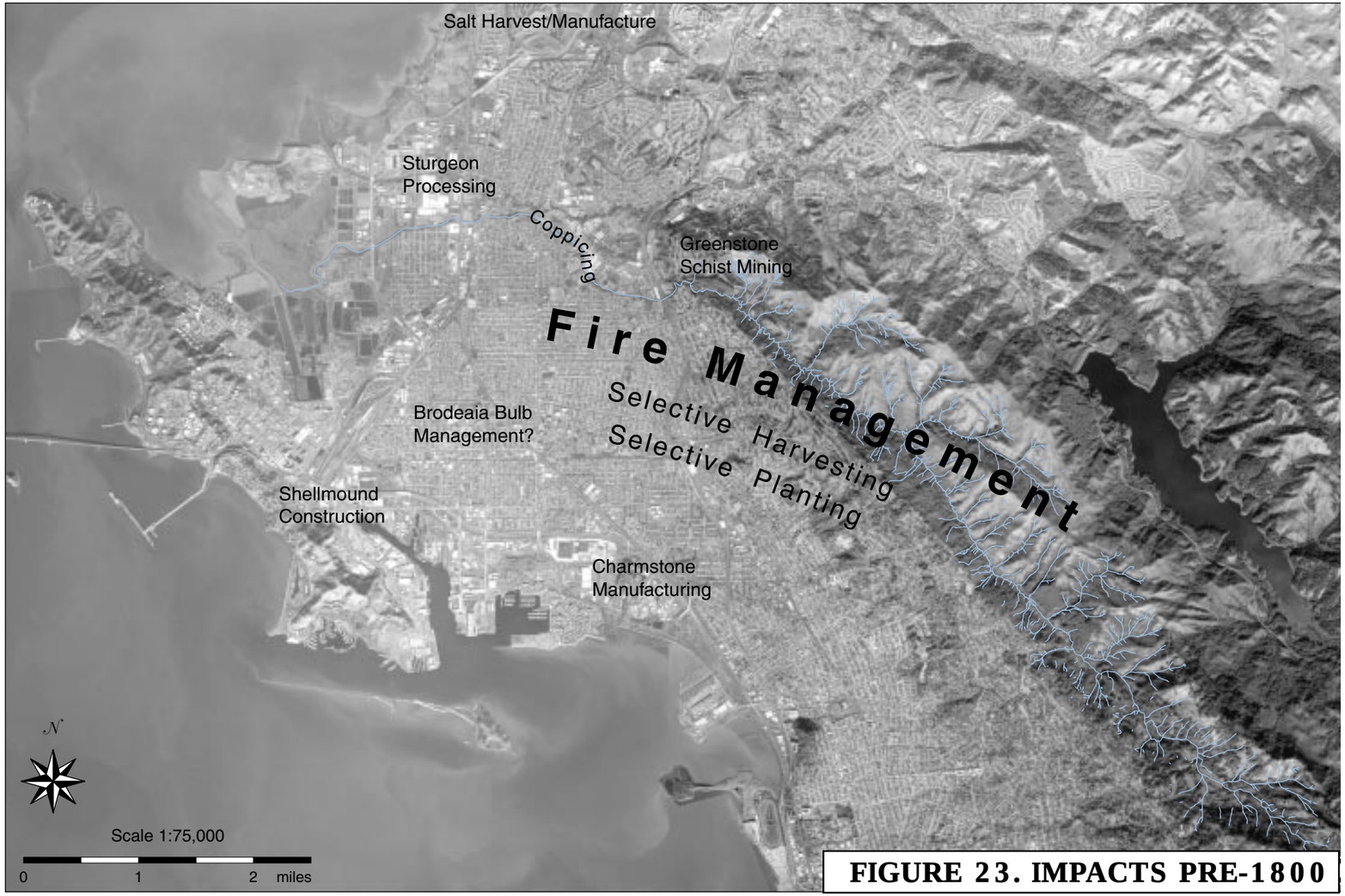
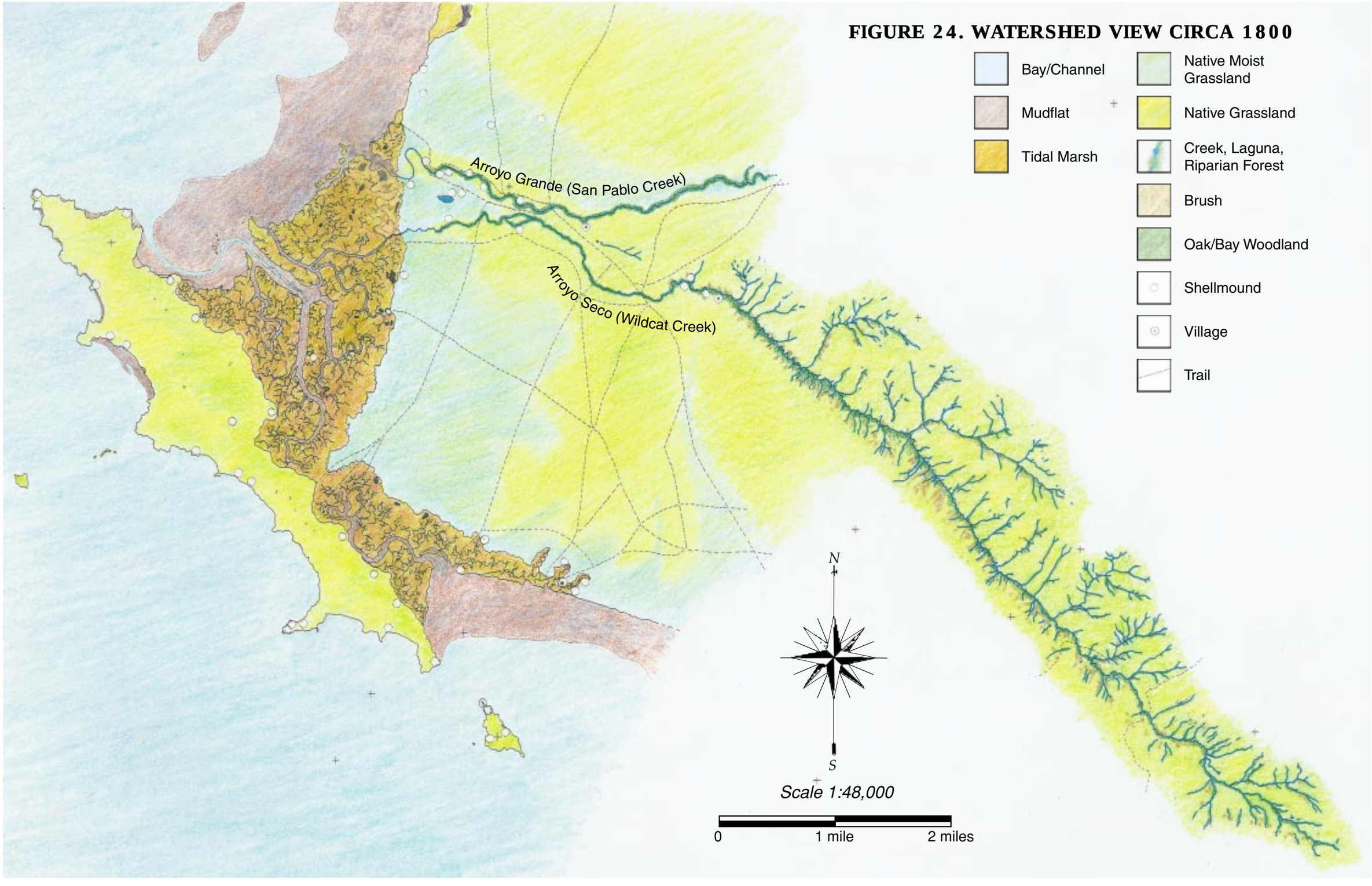


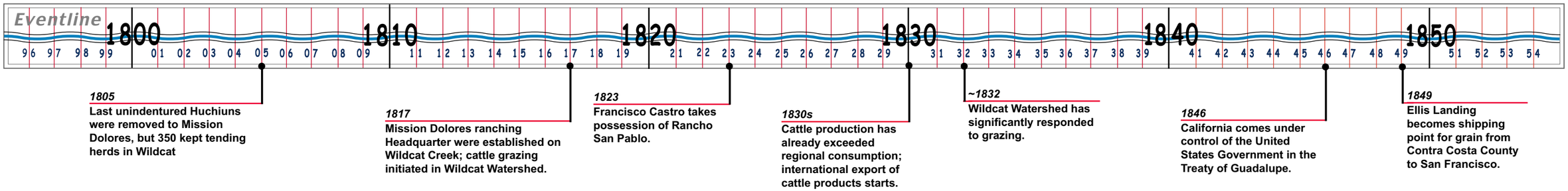
FIGURE 23. IMPACTS PRE-1800

Photo Source: NASA, 1996

FIGURE 24. WATERSHED VIEW CIRCA 1800



Land Use History 1800-1850: Ranchero Landscape



Approaching the mouth of Arroyo Chiquito (Wildcat Creek) from La Bahia de San Pablo in 1850, one would observe several changes. Sediment from recent erosion of San Pablo and Wildcat Creek has buried over 100 acres of marsh with a lobe of alluvial sediment. San Pablo Creek has filled its old bed that independently connected it to the bay. It captured and widened a small slough that connects to Wildcat Creek. Note the change in the boundary between the uplands and the marsh in Figures 24 and 26.

At the convenient juncture of Arroyo Chiquito, Arroyo Grande (San Pablo Creek), and the receiving marsh slough, an Embarcadero has been built, enabling transfer of cattle products to San Francisco and markets that are more distant. As we follow Wildcat Creek upstream across the flatlands, it passes just north of Juan Jose Castro's adobe, built with an unusual cellar which elevated the house 3.5 feet above ground, presumably to avoid flooding. Continuing upstream, we pass the original adobe, placed near the perennial laguna and built onto the earlier Mission Dolores ranch headquarters. Small gaps in the riparian forest are noted near the adobe, probably the first removal of riparian timber or signs of vegetation loss due to bank erosion.

The grasslands of the Alluvial Plain and Canyon - now grazed by cattle, sheep and horses - have undergone major changes in species composition and ecology, with deep-rooted perennials replaced by shallow-rooted annuals. The drought, which seemed to start at the time of the Spanish contact, has broken with the floods of 1832 (see page 9). Wildcat Creek is no longer referred to as Arroyo Seco.

After more than a decade during which the landscape was essentially abandoned, Rancho San Pablo is in full swing. Several thousand cattle graze the Alluvial Plain and the grassy hillsides of the Canyon. Despite the cattle, the area of brush and woodland has expanded in response to increased moisture conditions, greatly reduced fire frequency from lack of Indian burning practices and the fact that the cattle did not enter the watershed until 1817. We suggest that brush expansion on the western slope is most notable in areas of active or recent landslides.

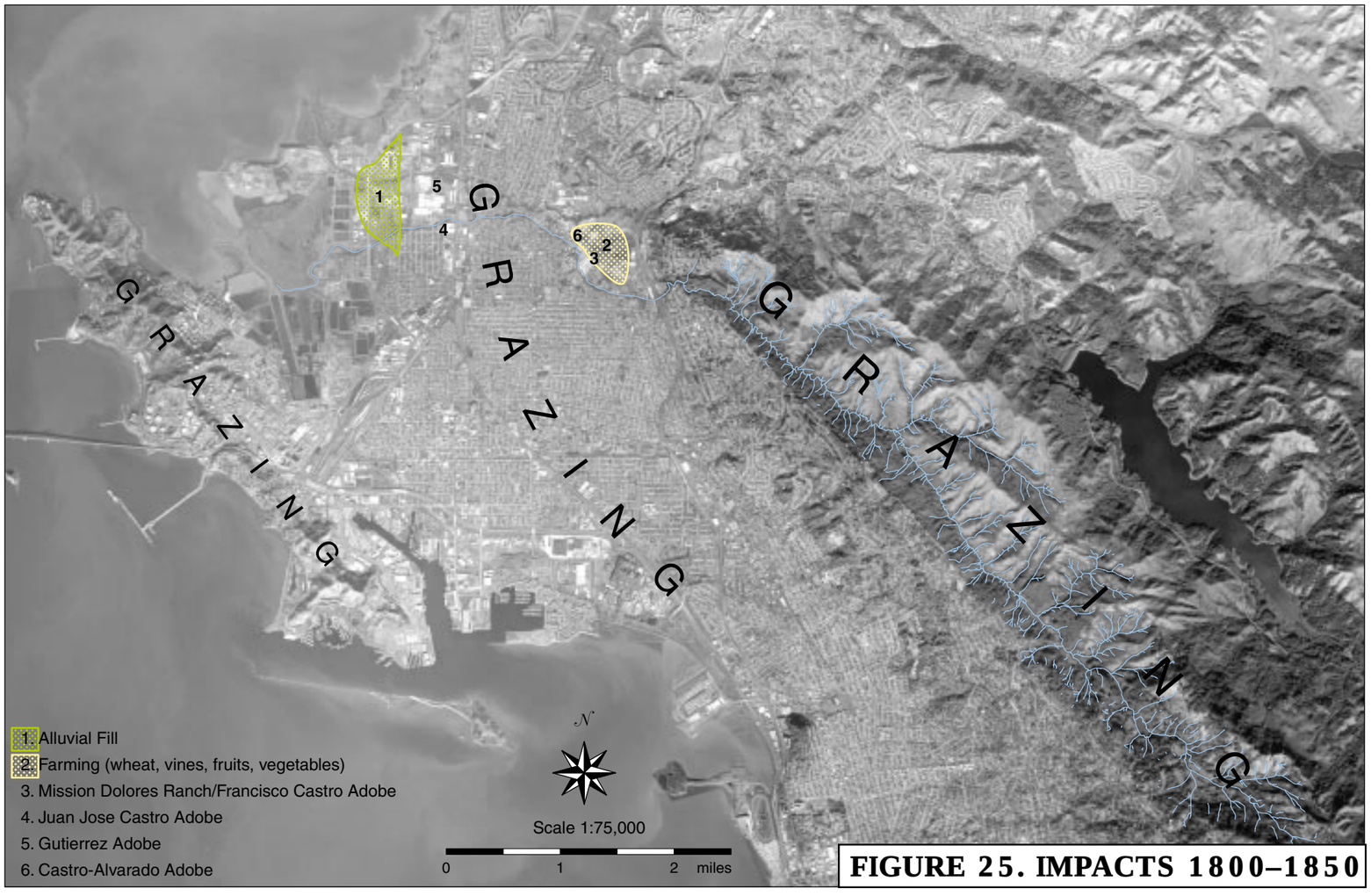
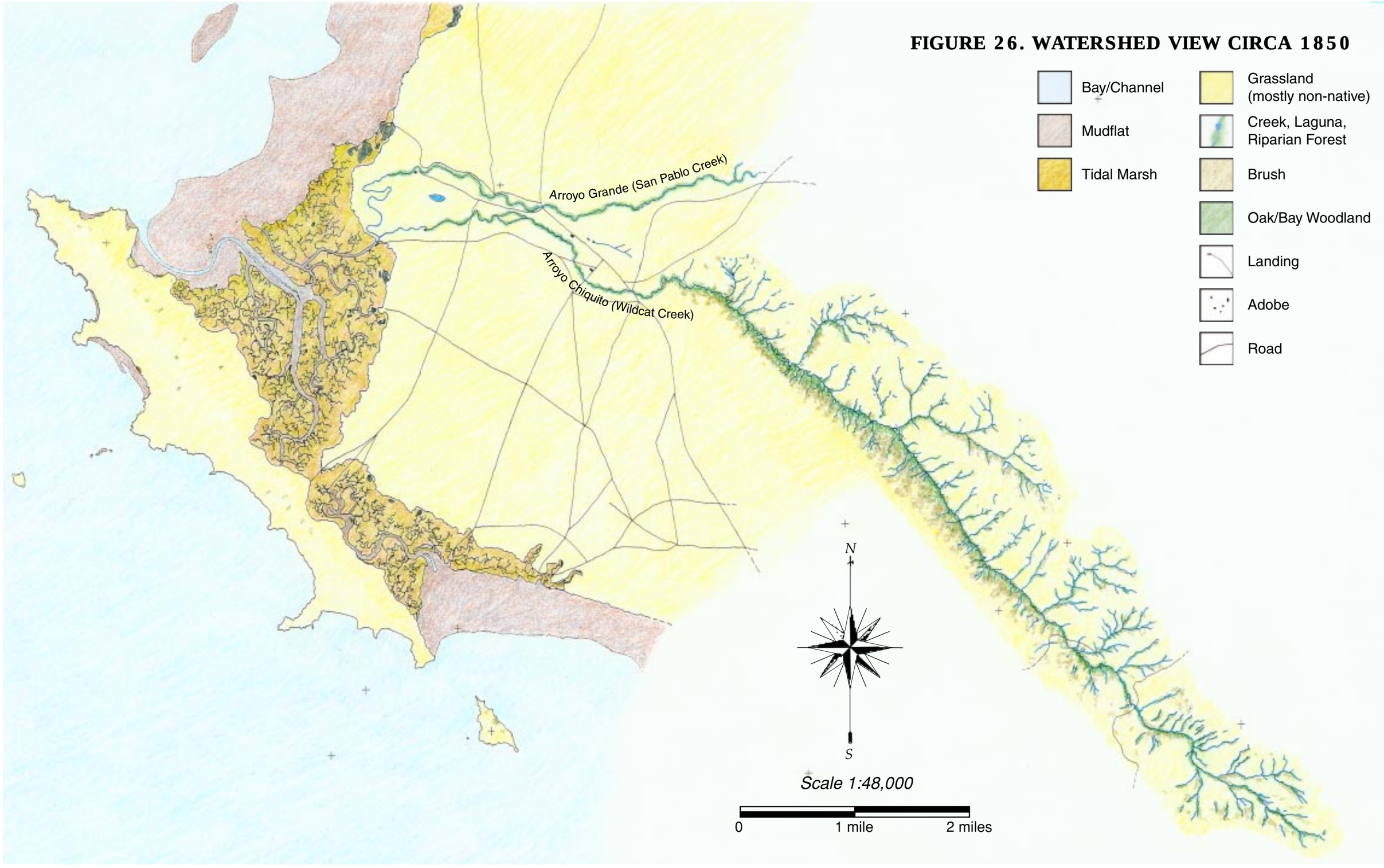


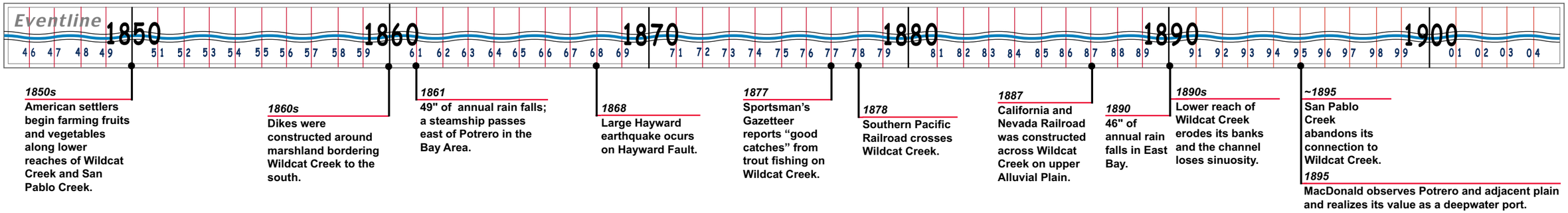
FIGURE 25. IMPACTS 1800–1850

Photo Source: NASA, 1996

FIGURE 26. WATERSHED VIEW CIRCA 1850



Land Use History 1850-1900: Agricultural Landscape



By 1900, further changes in the watershed are evident. Beginning at the Bay outlet of Wildcat Creek, we see a sequence of adjustments. The deepwater channel through the mudflats has shifted. It is now directed between an expanded marsh island and the accreting front edge of the small remnant marsh, away from the Potrero. In a successful attempt to extend his title from the Alluvial Plain to the Potrero, a local resident has constructed levees around the perimeter of the marshland. The levees significantly reduce tidal flow to the marsh, drying up the narrow point between the Potrero and the mainland.

Most of the wider sloughs in the remaining marsh have filled in, indicating the effects of reduced tidal prism and increased sediment load from the watershed. The creek's route through the marsh has been diverted to a more direct connection to Castro Slough near the landing, perhaps to help keep it open. The lower reach of the creek has new avulsion channels, probably as a result of increased sediment supply, and a mainstem channel that is less sinuous. The lobe of sediment at the bottom of the alluvial fan continues to expand onto the marsh. Most dramatically by 1895, San Pablo Creek has abandoned the meanders connecting it to Wildcat Creek and now flows directly into San Pablo Bay; 50 acres of willow have rapidly colonized the vicinity of the former channel. With the reduction of tidal prism, the riparian corridor along Wildcat Creek rapidly extends nearly a mile downstream.

On the Alluvial Plain, farming replaces grazing in many areas, especially along the creek. San Pablo City Hall is located near the original adobe, and the first two railroad bridges across the creek have been built.

In the Canyon, brush and woodland have slowly continued to expand, with a rapid increase on the west side due to removal of dairy cattle and increased landslide activity. More roads lead to the Canyon and along parts of the creek, but there are still substantial gaps with no roads. Good trout fishing on Wildcat Creek is noted in the national 1877 Sportsman's Gazetteer.

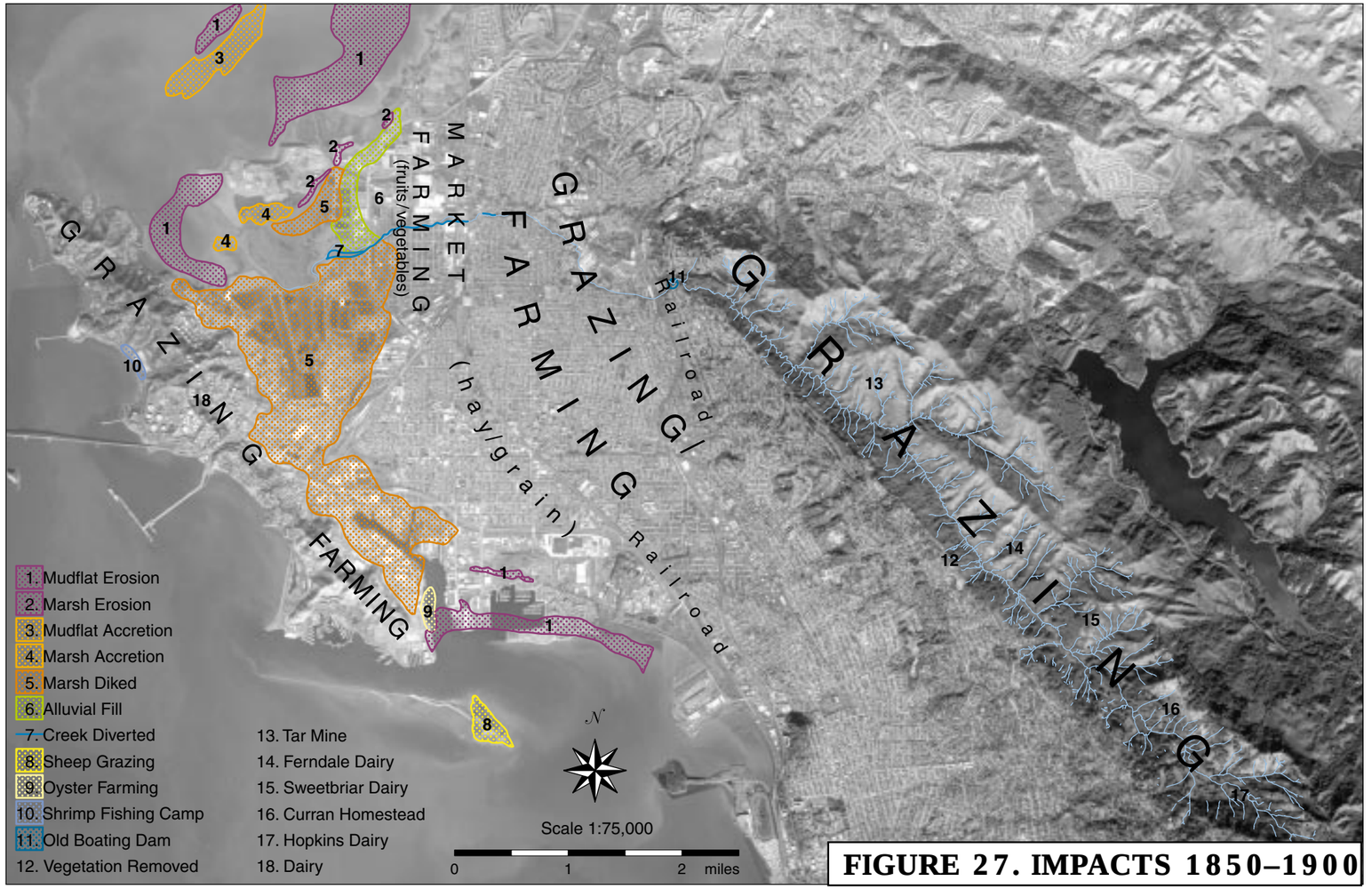
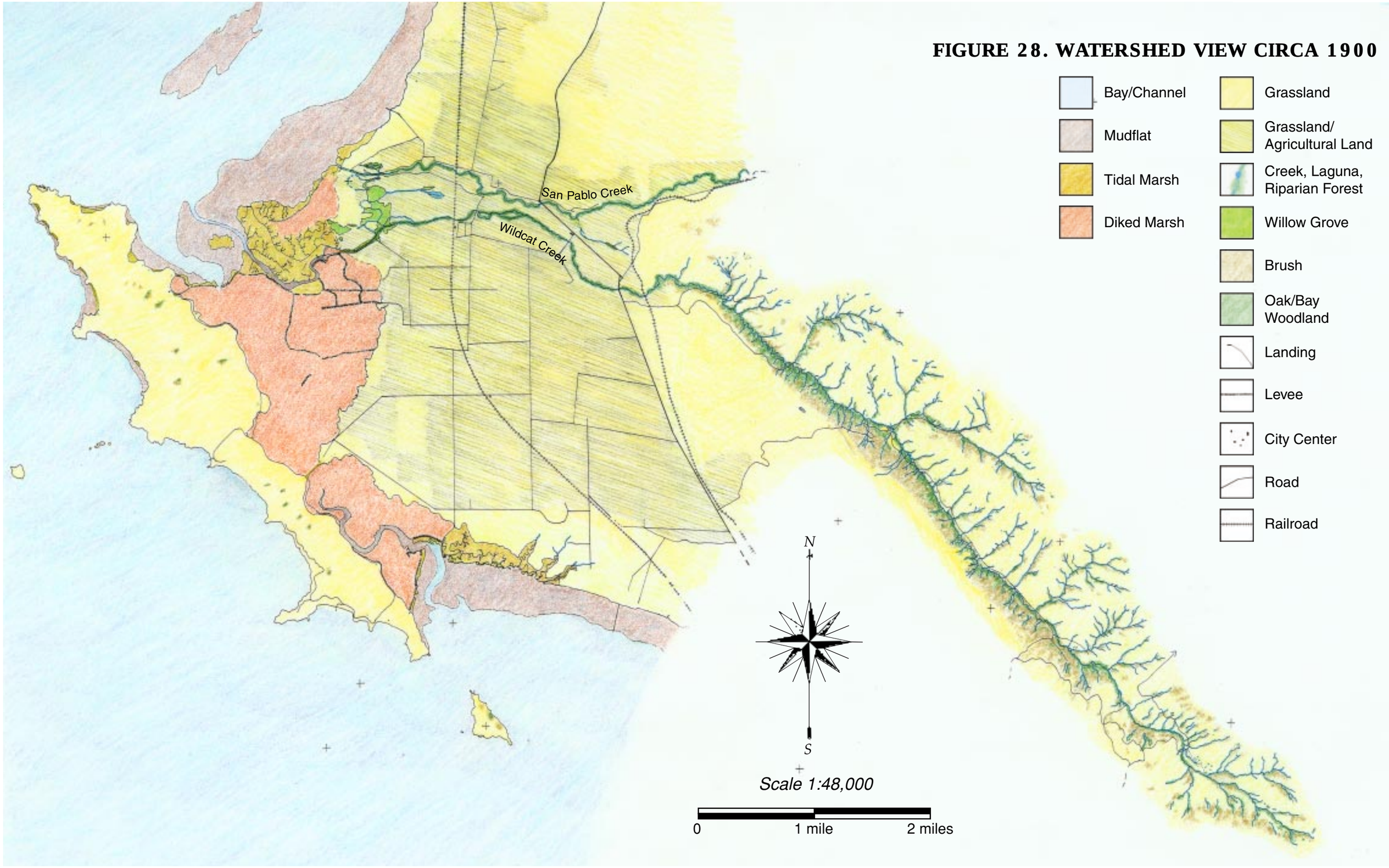


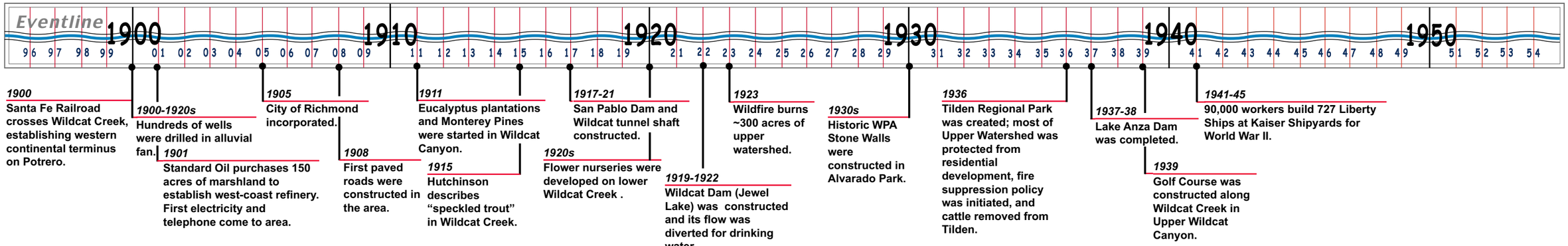
FIGURE 27. IMPACTS 1850–1900

Photo Source: NASA, 1996

FIGURE 28. WATERSHED VIEW CIRCA 1900



Land Use History 1900-1950: Urban Landscape



Viewing Wildcat Creek from San Pablo Bay on a low tide in 1950, one would see vastly expanded mudflats that cover nearly twice their 1900 aerial extent. Most of the diked baylands of the previous period have been filled; yet, ironically, the area of fully-tidal marshlands has increased. Where there is no fill, the tides have washed away nearly all traces of the earlier levees, and over 100 acres of new marsh has aggraded at the mouth of San Pablo Creek. The entry to Wildcat Creek now follows a deepwater shipping channel dredged through the marsh to serve the oil refinery located on the Potrero and former marshland. Turning east towards Wildcat Creek from the shipping channel, the slough passes a remnant levee and row of fishing shacks.

On the Alluvial Plain, agriculture has expanded bayward to use the new alluvial sediment deposited over the salt marsh, and the Creek channel is now straightened below the railroad tracks. A large gap in riparian forest has appeared between 23rd and Church Streets. Except for along the lowest reaches of Wildcat and San Pablo Creeks, urban development has replaced nearly all of the earlier farms and ranches. Most of this change has taken place during a short period; about two-thirds of the development occurred during 1940-1945. Along with the housing, an urban forest has begun to grow.

Activity in the Canyon has also been intense, leading to numerous new trails and roads. Large plantations of eucalyptus or Monterey pine have been planted, and the dams for Jewel Lake and Lake Anza have been constructed. With the creation of Tilden Regional Park, grazing practices have been discontinued in the Upper Canyon. Fires, which may have been common along the ridge of the Canyon, are now actively suppressed. While most of the Upper Canyon is now protected from urban development, some housing, and associated urban trees, have entered the southwestern edge of the Canyon.

FIGURE 29. IMPACTS 1900–1950

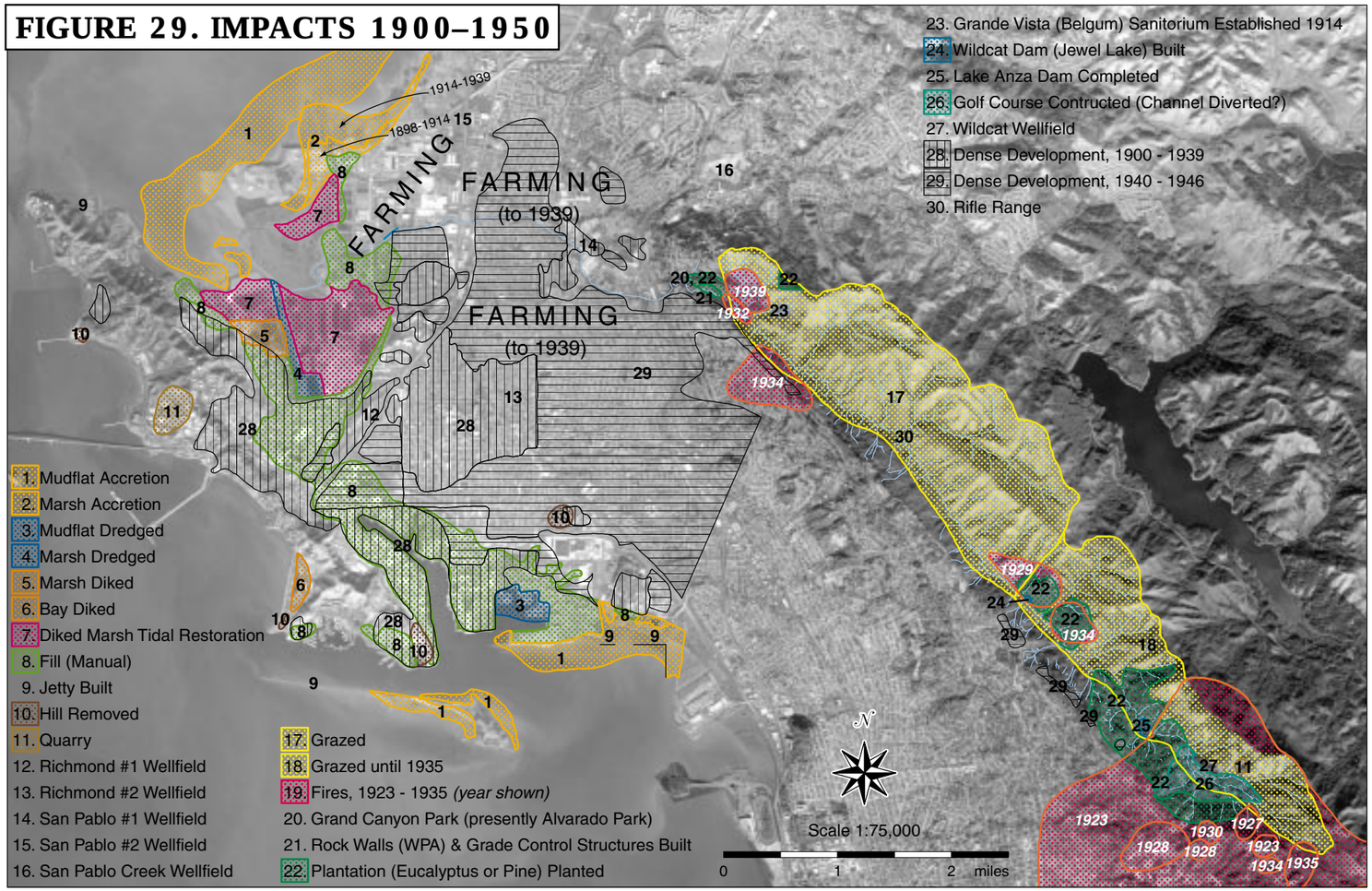
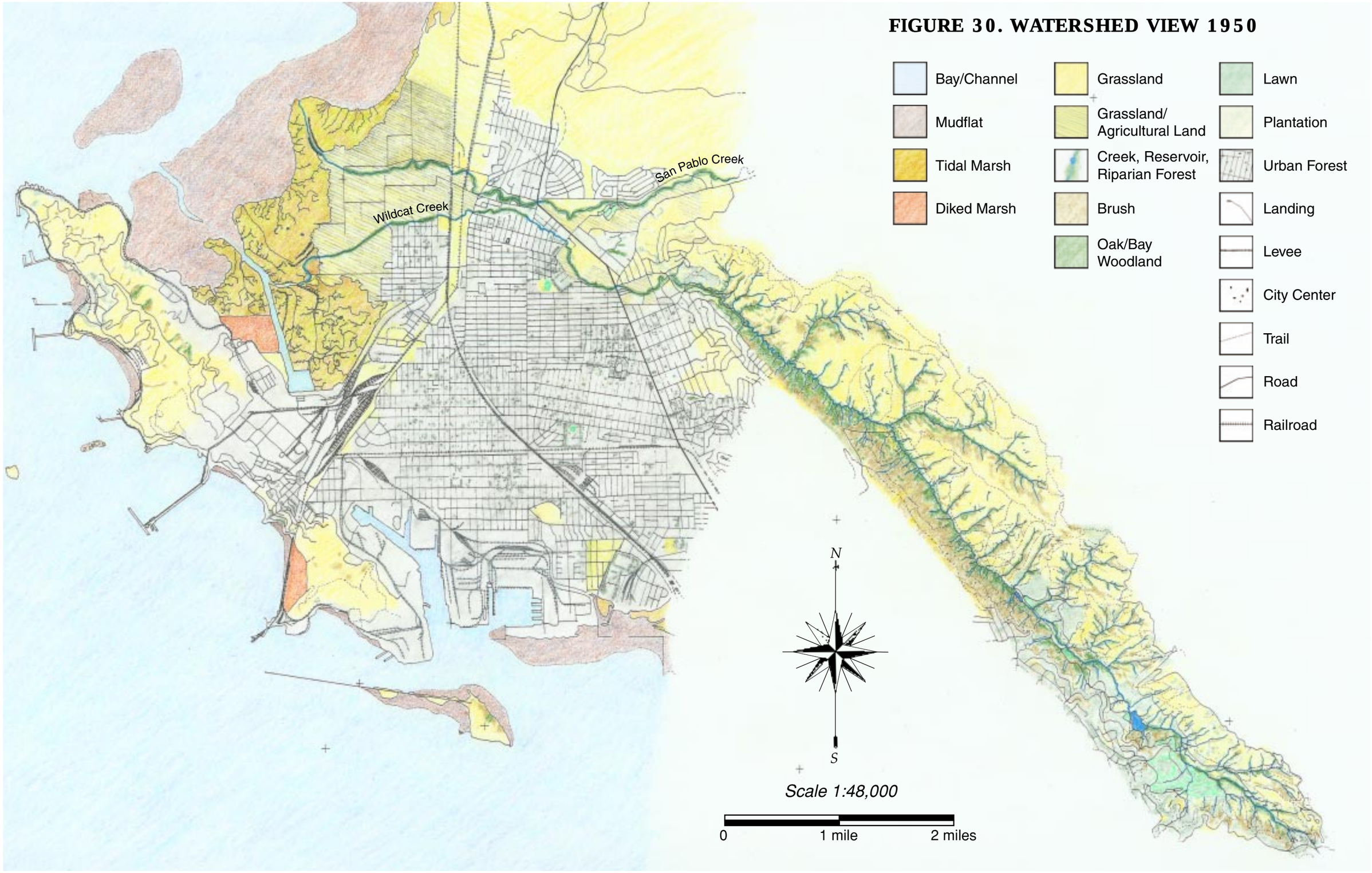
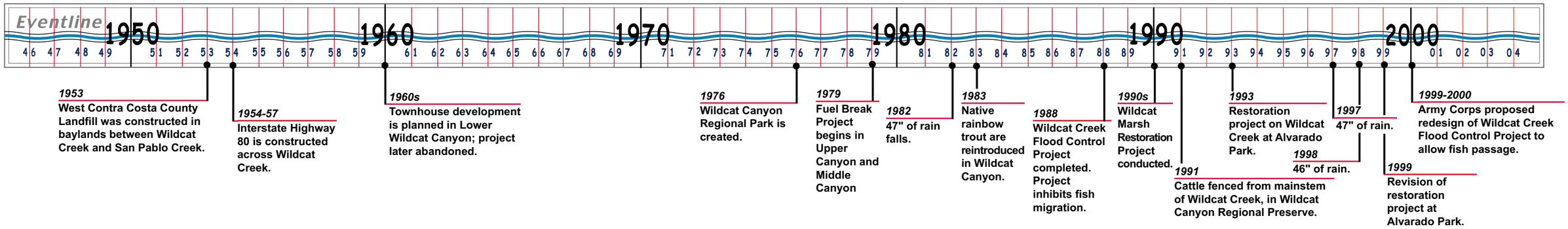


Photo Source: NASA, 1996

FIGURE 30. WATERSHED VIEW 1950



Land Use History 1950–2000: Modern Landscape



During the period 1950–2000, we observe a large reduction in mudflat acreage because of both erosion and filling. The shipping channel at the mouth of Wildcat Creek has been enclosed, along with much of the remaining marshland, to store oil production materials.

The route of the creek into the marsh has been changed through recent flood control projects that include a sediment catchment basin on Wildcat Creek. Immediately adjacent to Wildcat Creek lies the sole remnant of the earlier flower nurseries on the Wildcat Creek bottomlands. Industrial, residential and commercial development has covered most of the remaining flatlands to the north and northeast. The urban forest has become quite substantial in the older parts of town. A local sewage treatment plant and garbage landfill has filled portions of the marsh. Little or no accretion of marshland has occurred near Wildcat Creek or San Pablo Creek during this period.

New gaps in the riparian forest along the Alluvial Plain are evident, near Highway 80 for example, but it should be noted that some earlier gaps have filled in with new vegetation. Major changes occur along the lower sections of Wildcat Creek when the 1988 Flood Control Project realigned, straightened, and shortened the creek downstream of the Southern Pacific Railroad crossing. Sections of the riparian corridor were lost and the channel was configured into a wide trapezoid, designed to contain the assumed 100-year flood. A sediment catchment basin was constructed at the upstream end of the Project.

In the Canyon, the area of open grassland has continued to decrease as brush and woodland expands. The growth of new brushland is noticeable both in the upper, ungrazed part of the Canyon, and in some still-grazed areas, such as Havey Canyon. Similar changes can be seen in the undeveloped parts of the Potrero. With the addition of more housing in the Upper Canyon and concomitant fire concerns, areas along the western urban boundary have been set aside for intensive vegetation management.

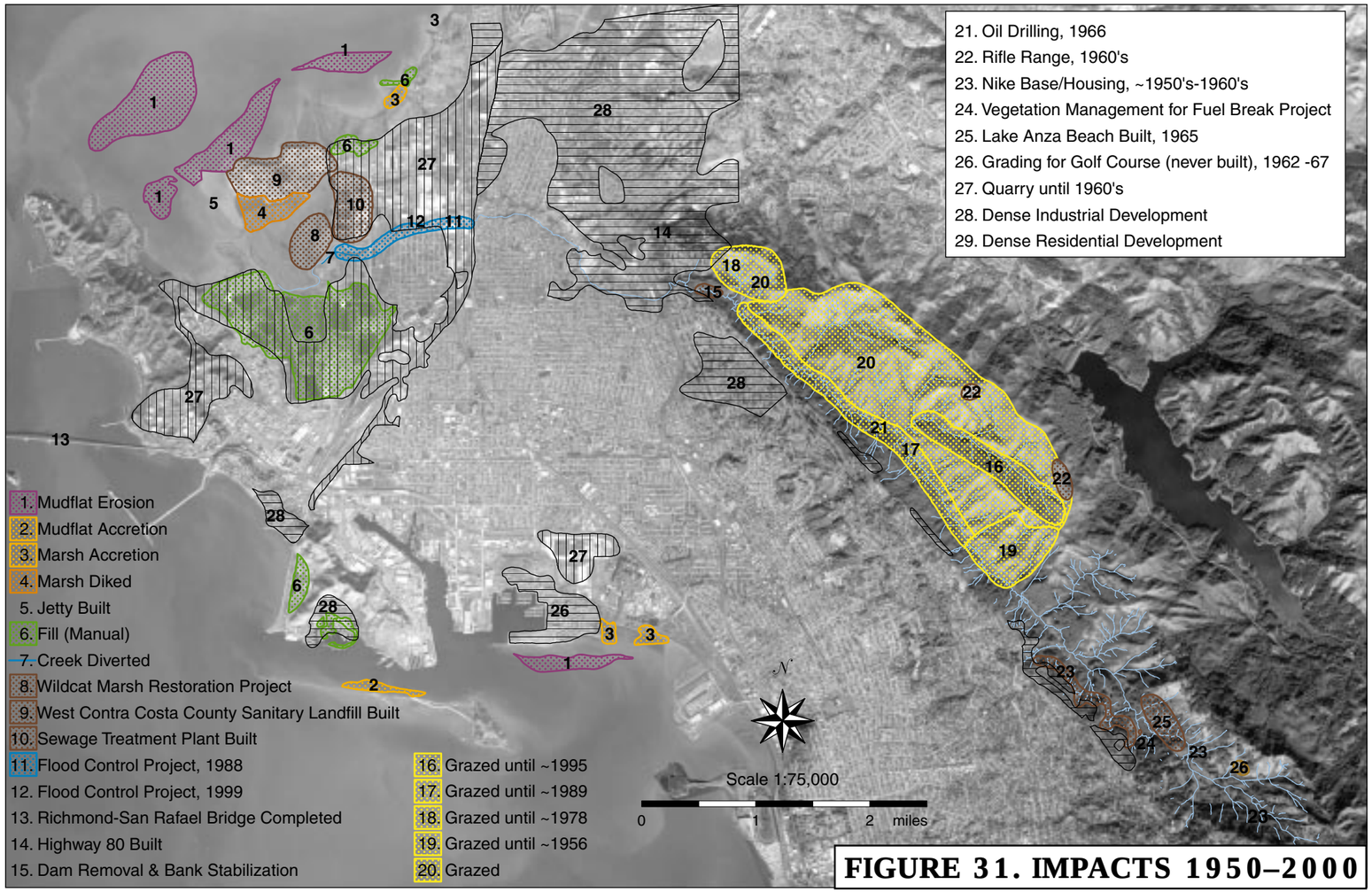


FIGURE 31. IMPACTS 1950–2000

Photo Source: NASA, 1996

FIGURE 32. WATERSHED VIEW 2000