

Save Mystic Lake

Prepared by the Save Mystic Lake Working Group, August 20, 2025

“Since time immemorial the descendants of the Soboba people are those whom have lived on and occupied the land that is presently known as the cities of San Jacinto, Hemet, Valle Vista, and Winchester (Soboba Band of Luiseno Indians 2025). Refer to Figure 1 for aerial image of the San Jacinto Valley. Today the Soboba Indian Reservation lies in the lower reaches of the San Jacinto Mountains, across the San Jacinto River from the city of San Jacinto. Soboba’s Tribal members have a rich and diverse Tribal history as members come from both Cahuilla and Luiseño ancestry” (Soboba Band of Luiseno Indians 2025).

“Prior to both Mexican and American settlement in the valley the people of Soboba were virtually self-sufficient. The Soboba people farmed land that was irrigated with surface water from the San Jacinto River, two of its tributary streams, Poppet, and Indian Creeks, and from more than forty perennial springs. These water sources sustained gardens, animals, and orchards” (Soboba Band of Luiseno Indians 2025).

In March 1776, a Spanish expedition travelled into Alta California (Huntington 2025). The purpose was to construct an over-land route to the coastal missions and to occupy the interior. Members of this Spanish expedition described the San Jacinto Valley, the river, and Mystic Lake in their diaries (Wildon 2014). Juan Bautista de Anza camped at Mystic Lake, and he recorded various observations. He described seeing a “large and pleasing lake with birds too numerous to count” and so many birds along the shoreline that it looked like “white sand beaches” (Bolton 1930). A clergy member of the expedition described the valley in his journal.

Priest Francisco Garcès (March 18, 1776)

"Going seven leagues to the northwest, we came to the beautiful valley of San Joseph [San Jacinto Valley], which has all the qualities for a good settlement. There is a great abundance of good quelites which the Indians eat in season, sour cane which they call sotole, and a little palm which bears dates which are not like those of Spain, but very different. These are found also in Pimería Alta. [Pima region of Arizona] There is a large cottonwood grove, a very large marsh with much pasturage, a lake, and a river which probably is permanent. We saw a countless multitude of white geese like those which I saw at Agua Amarilla."

The area became part of six land grants given to the San Luis Rey Mission in 1798. During the Spanish and Mexican rule in California, the Soboba Indians were recognized as an established Indian community. “In approximately 1815, Mission San Luis Rey established Rancho San Jacinto as their furthestmost cattle ranch and Luiseño Indians were brought with them as laborers for the ranch. Some of the original Cahuilla inhabitants of the valley who were present in the valley during this time intermarried with the Luiseños” (Soboba Band of Luiseno Indians 2025).

After the successful revolt of the Mexican people against Spain, the new United States of Mexico (Mexico) seized the properties. The land grant that included what is now the San Jacinto Wildlife Area was given to the Pedrorena family in 1846 (CDFW 2025), thus creating a large land estate for a wealthy and prominent Mexican family. Ranchos require free forced or indentured labor to operate and be profitable. Soon after the USA settlers in the northern Mexican territory of Texas, decided to become their own country, but then ceded the land to the United States of America (USA). Dispute over the new border triggered the USA to declare war and invade Mexico. The northern lands were too difficult to defend, and Mexico lost the war in 1848. The USA government paved the way for extreme changes in California over a brief period including the brutality of Manifest Destiny and the continuation of slavery (National Park Service 2022). The USA government granted the ranchos to new settlers and subdivided the lands without consideration to the people of Soboba. Many people moving westward settled along the San Jacinto River and Mystic Lake.

The San Jacinto River’s natural and historical course flowed directly into the Mystic Lake basin as drawn on a 1901 U.S. Geological Survey topographic map (USGS 1901). Although seasonal flooding provided plentiful water for use yet created continuous frustration and hardships for the residents living on the very broad floodplain which is the San Jacinto Valley. As a result, the San Jacinto River was channelized with earthen levees in many sections over the past century. In the northern San Jacinto Valley, the river was diverted into a narrow flood control channel parallel to Ramona Expressway. The existing earthen levee from Sanderson Avenue to Nuevo Road was built prior to 1942 (USGS 1942).

With the development of Los Angeles, Metropolitan Water District (MWD) constructed the Colorado Aqueduct in the 1930s (MWD 2025, WPA 2025, Beaumont Gazette 1939). The aqueduct tunneled through the Badlands, across the San Jacinto Valley through the Bernasconi Hills, and then under Val Verde (CDFW 2025) (Los Angeles Times 2025). This disrupted groundwater, water bearing fissures, aquifers, mountain springs, and the

riverbed. The aqueduct depleted most of the water resources within the mountains and valley, and by 1938 the water was gone. Refer to the Soboba Band of Luiseno Indians website's "*History*" page for a detailed account of the theft and destruction of their water supply (Soboba Band of Luiseno Indians 2025).

Other impacts to the land and water supply was compounded by Lockheed-Martin purchasing ranchland in the Badlands near the Soboba Reservation to evaluate lunar rocket propulsion systems from 1960 to 1974. A part of the Potrero Canyon Facility (8,552 acres), now known as the San Jacinto Wildlife Area (SJWA) Potrero Unit, was bought by California Wildlife Conservation Board (WCB) and granted to CDFW in 2003. Refer to Figure 2 for a map of the SJWA Units. Lockheed Martin still owns the 2,668-acre Laborde Canyon Facility property and 565-acres of the Potrero Canyon Facility. Both Lockheed Martin Laborde and Potrero Canyon Facility Areas are not open to the public because of hazardous soil and groundwater contamination (Lockheed Martin 2025).

In 1979, California Department of Fish and Wildlife (CDFW), Department of Water Resources executed a Memorandum of Agreement for the mitigation of the State Water Project's (SWP) wildlife losses in southern California. The agreement designated the Bernasconi Hills and valley areas as the SJWA Davis Unit and the Upland Hunting Areas for wildlife mitigation and provided funding for land acquisition, both of which contributed to the establishment of the San Jacinto Wildlife Area (Sewell 2025). The SJWA is a Type "A" wildlife area representing the highest level of recreational use designation for State Wildlife Areas. Recreational resources include hiking trails, shorebird and waterfowl habitat, upland small game hunting, dog training, and bird watching.

The spectacular Mystic Lake became the heart of the San Jacinto Wildlife Area in 1995 (Lowther 2025). A successful conservation effort led by a coalition of the Friends of the Northern San Jacinto Valley, San Geronio Chapter of the Sierra Club, San Bernardino Valley Audubon Society, along with concerned individuals and the support by CDFW (Hague 2025).

Ecology, biology, hydrology, and geology are all distinct voices of a unified life force expressing itself through quantum interactions beneath our feet. Mystic Lake is that living syzygy: a subsidence basin that forms a wide lakebed within the San Jacinto River floodplain (Morton, Douglas M. 1977). Historically, the lake would often hold water for many years drying up only during the periodic regional droughts. This pattern sustained riparian, marshes, and wetlands. The dry periods created a unique and vibrant ecosystem of grassland meadows, and diversity of flowering plants.

In its attempt to return to its natural path year after year, the San Jacinto River often breaks through the earthen levee to flow into Mystic Lake. During periods of heavy rain and El Nino conditions, such as in 2004, 2011, 2019, and 2023, the river flows again due north into Mystic Lake across Bridge Street (Google Earth 2025). Refer to Figure 3 for aerial photo of a flooding event, date unknown, (Morton and Miller 2006). Refer to Figure 4 for photo of 1969 flood event (ACOE 1977). The ranching and planned residential subdivision in the Mystic Lake basin have long since been abandoned.

Ironically, Bridge Street does not have a “bridge” or culverts. Presently, there are tall earthen berms on both sides of Bridge Street blocking stormwater from flowing into Mystic Lake. There is only a low-flow bypass in the mid-century river earthen levee at the intersection of Bridge Street and Ramona Expressway to recharge the lake during dry season. Currently, this low-flow bypass is clogged with sediment, blocking even minimal recharge into the lake. Construction of an upper San Jacinto River inlet/channel to Mystic Lake via a box culvert under Bridge Street and maintaining the lower inlet/channel at Ramona Expressway/Bridge Street would allow off-site runoff and on-site treated stormwater to flow into Mystic Lake. The precipitation and runoff from undeveloped and developed areas would provide a more consistent water source.

For over the last one hundred years Mystic Lake has been the focus of ornithological expeditions and international birding tourism. Today, on Mystic Lake alone 273 species of birds ranging from birds of prey, shorebirds and songbirds have been reliably recorded at Mystic Lake, and if we include the adjacent uplands of the San Jacinto Wildlife Area the number increases to 317 species (Metcalf 2024). This stunning amount of biodiversity is unparalleled in Riverside County. Mystic Lake serves as a critical refuge across a global landscape where similar inland marshes are vanishing imperiling migratory birds that depend on even brief inundation cycles to breed and feed throughout the year (San Jacinto Basin Resource Conservation District 2025) (Audubon 2025). Refer to Figure 5 for a map of the Audubon Society designated Important Bird Areas in the San Jacinto Valley.

Note, the farmlands still in active production in the valley are important habitat for either breeding or wintering for some species. The tricolored blackbird, federal species of conservation concern and state threatened nests in the valley (Metcalf 2024). The overwintering ferruginous hawk and mountain plover are both species of conservation concern. The remaining areas of farmland to consider for agricultural/habitat conservation in the valley are shown in Figure 1 and 8.

Mystic Lake is also a critically important botanical habitat region for rare and at-risk vegetation communities: alkali playas, alkali grasslands, and vernal pools (Riverside County Parks 2024). Vernal pools are a type of seasonal wetland that form in shallow depressions which pond reliably year-to-year during the wet season and dry up the rest of the year. In contrast, alkaline vernal playas are areas that get seasonal flooding and ponding on a less reliable basis. In the wettest years, large areas of vernal playa may support vernal pool plant species. In drier years, these playas may support alkali grassland plant species. So, the species composition of this community can vary from year-to-year based on rainfall patterns. The San Jacinto Valley crownscale, federally endangered, thread-leaved brodiaea, federally threatened/state endangered and rare plants such as Davidson's salt scale, Parish's brittle scale, little mousetail, spreading navarretia, Wright's trichocoronis grow in the high alkaline water and soils and flourish in floodplains and seasonal ponded water. Several of these species only occur in the San Jacinto Valley.

The projected future for the San Jacinto Valley is increased development of housing, commercial, manufacturing, and distribution centers. The City of San Jacinto and County of Riverside are currently reviewing and approving developer requests for zoning and land use changes. A part of the northern San Jacinto Valley along Gilman Springs Road is proposed for City of San Jacinto annexation to build a large commercial and distribution center. Proposed and approved highway widening, urban road interchanges, and expansion of flood control infrastructure will dramatically change the landscape, hydrology, and water supply to Mystic Lake.

Yet, the Valley has complex geological truths. The San Jacinto and Casa Loma fault systems occur parallel to the San Jacinto River and the Badlands. Refer to Figure 6 for a geological map clip of the valley. The earth's movements created Mystic Lake and continue to pull apart the lake basin. The ground cracks, heaves, and settles as Mystic Lake is subsiding incrementally year after year (Morton 1977). In addition, groundwater pumping and diversion for at least one hundred years has lowered water tables increasing the basin's rate of subsidence. The lake basin is predicted to continue to expand according to more recent USGS mapping (Morton and Miller 2006, Morton 1970). Refer to Figure 7 for illustration of progressive subsidence. When another historic flood occurs, the existing and future geological conditions could weaken and undermine levees, bridges, and foundations of any building in the vicinity of Mystic Lake.

There will be another exponential change to the valley within the next five years, and the economic stakes will not be higher. Alternatives to the proposed infrastructure

construction in the valley need to be created and presented to the community, public agencies, and all elected officials. Riverside County's flood control channels cost upwards of \$15 million or more to build (RCFCWCD 2023), while statewide levee failures have spawned single-event repair bills exceeding \$90 million (CA DWR 2022). Add lawsuits over damaged roads, pipelines, and utilities, and the region faces a financial liability that dwarfs the investment needed for the protection of Mystic Lake (Los Angeles Times 1990).

The fate of the rich biodiversity of Mystic Lake is significantly threatened without recognition of the cultural and ecological importance of Mystic Lake. Important environmental considerations and critical mitigation requirements cannot be overlooked by local lead agencies. Ignoring the risks to Mystic Lake's health and survival will be jeopardizing both wildlife and community. Development will tilt toward short-term gains at the expense of long-term impacts on water, air, dark skies, migratory flyways, and habitat linkages.

Mapsol Geo, is a local Geospatial Intelligence startup, was engaged by World Be Well to equip the Save Mystic Lake Working Group with technology support. World be Well is a local non-profit dedicated to building regenerative economic systems, resilient communities, sustainable food systems, and farmland conservation and stewardship (World Be Well 2025).

To present the potential vision for Mystic Lake, Mapsol is embedding every mappable fact into a living digital twin of Mystic Lake. By fusing LiDAR elevation surveys, satellite-derived subsidence maps, groundwater well records, and GPS-tagged bird migration tracks into a unified analytics platform, stakeholders can gain real-time situational awareness on their cloud-based platform called Fuse.Earth (<https://fuse.earth>). Deep-tech innovations by Mapsol will result in a "river-sensitivity index" for the valley at highly granular spatial resolutions that automatically flag fault-creep corridors, marsh margins, and riparian buffers for conservation easements, development setbacks, or reinforced infrastructure. Example data layers to be used are shown in Figure 8.

Environmental justice underpins our approach. Publicly available records in easily accessible web-based interface democratizes the same data the agencies use, offering an open-source GIS web portal with interactive map layers, data-export tools, customizable alerts, and standardized approaches to empower citizens to create their own online presentation web-based platforms for advocacy, sharing knowledge, and preparing public presentations. Reach out to Mapsol (Dr. Kiran Manchikanti, CEO & Founder, kiran@mapsolgeo.com) to explore the digital twin in action to secure Mystic Lake's legacy

for generations to come by showing how it can be done with straightforward information and visually engaging solutions.

Mystic Lake's future hinges on a collective choice to unite around a transparent, science-driven framework where expert insight, community wisdom, and innovative analytics converge. We urge all concerned individuals and organizations to join us in the campaign to Save Mystic Lake!

Figures

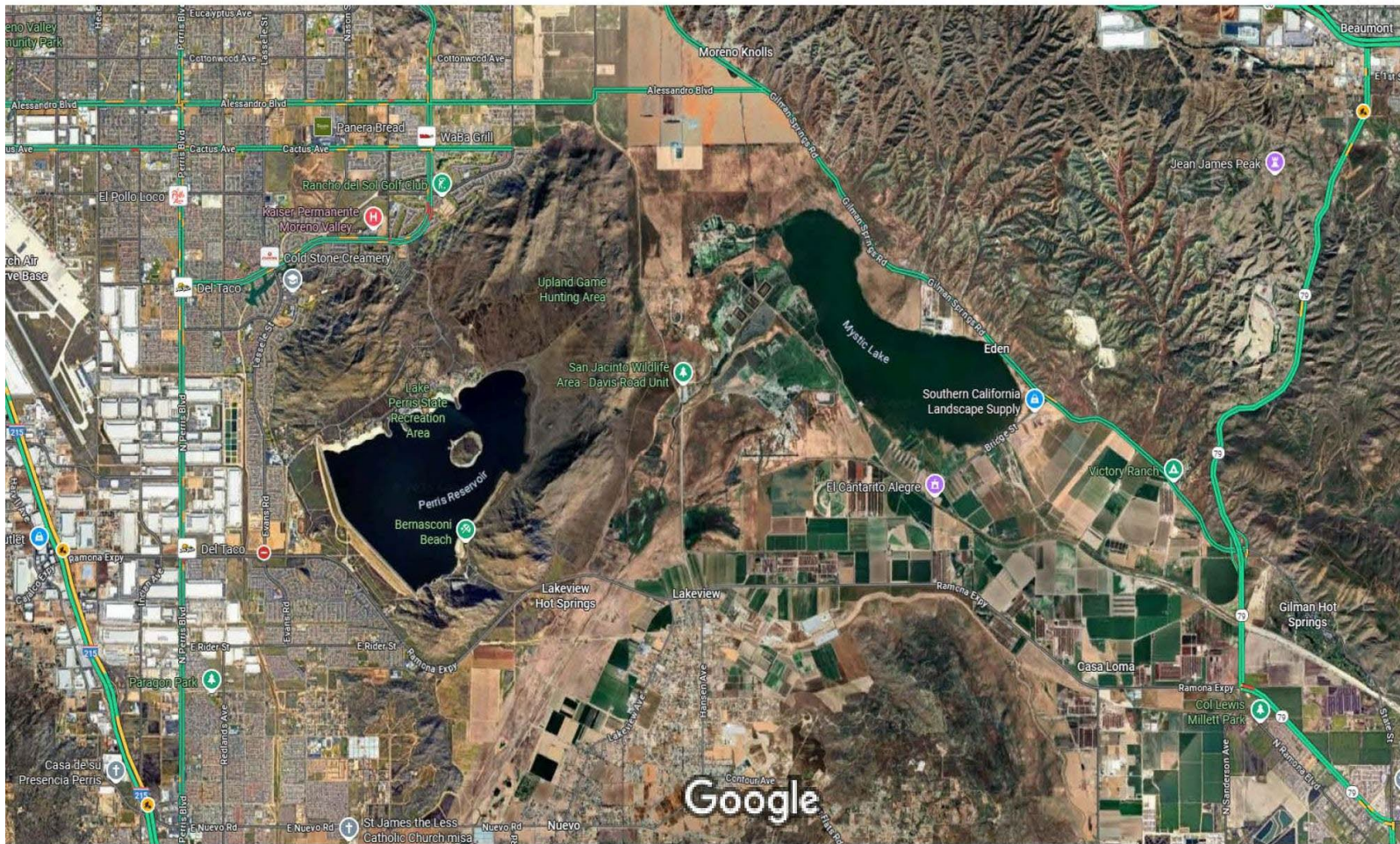


Figure 1. Satellite Imagery of San Jacinto Wildlife Area, Mystic Lake, San Jacinto River, and remaining agricultural lands (Google Earth 2025).

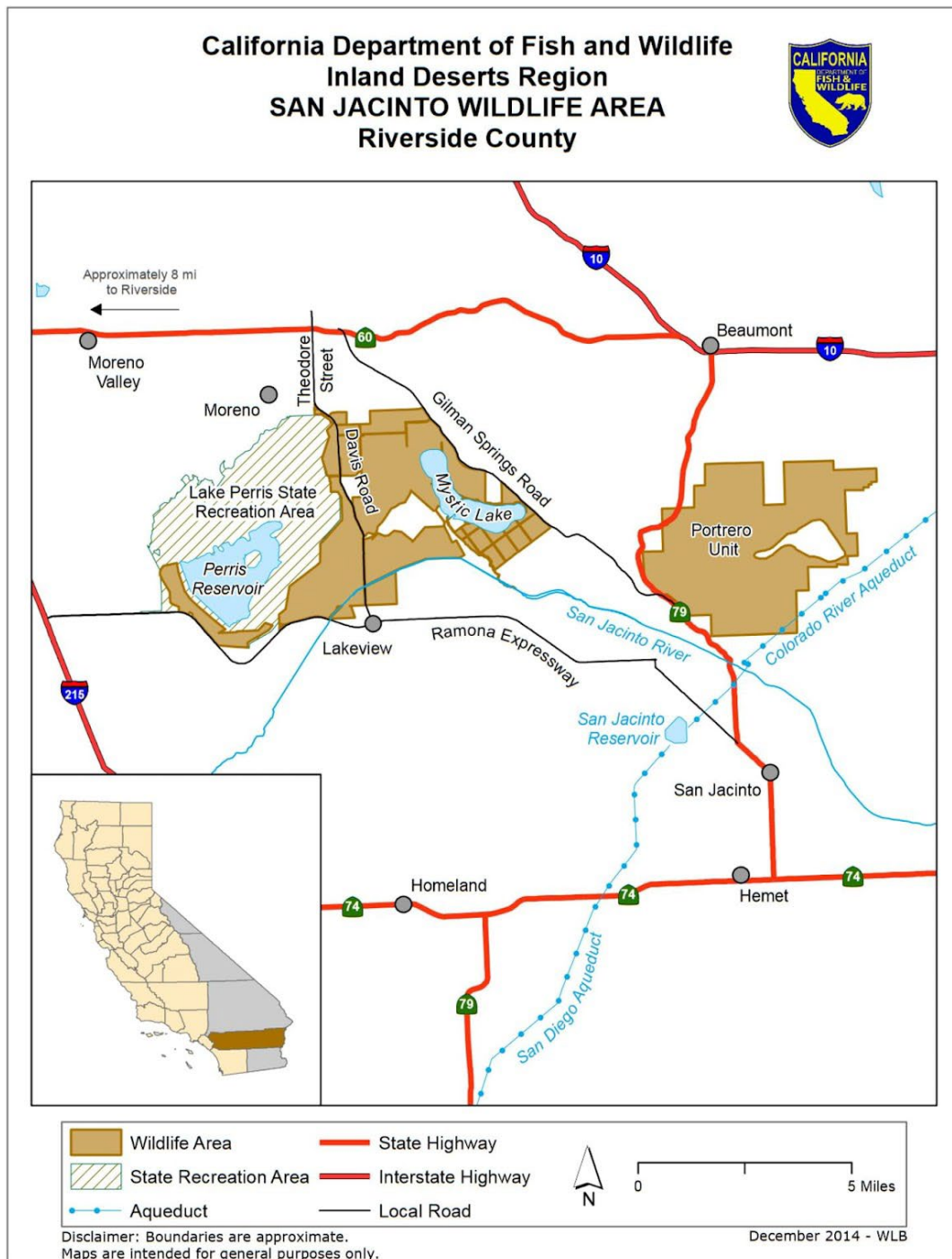


Figure 2. Map of San Jacinto Wildlife Area Units (CDFW 2025).



Photo 242. Flood plain (**Qyva**) of the San Jacinto River in foreground and Mystic Lake, Lakeview and El Casco 7.5' quadrangles, in background. Snow covered mountains on the skyline are the eastern San Gabriel Mountains.

Figure 3. Example flooding event of the San Jacinto Valley, Mystic Lake, and San Jacinto Wildlife Area (Morton and Miller 2006)



Figure 4. "Cover Photo. Aerial view of San Jacinto River, looking downstream. during the flood of February 1969. Note the low flow channel at left" in Flood Plain Information San Jacinto River (San Jacinto to Railroad Canyon Riverside County California), prepared for Riverside County by Corps of Engineers, U.S. Army Los Angeles District, CA, May 1970.

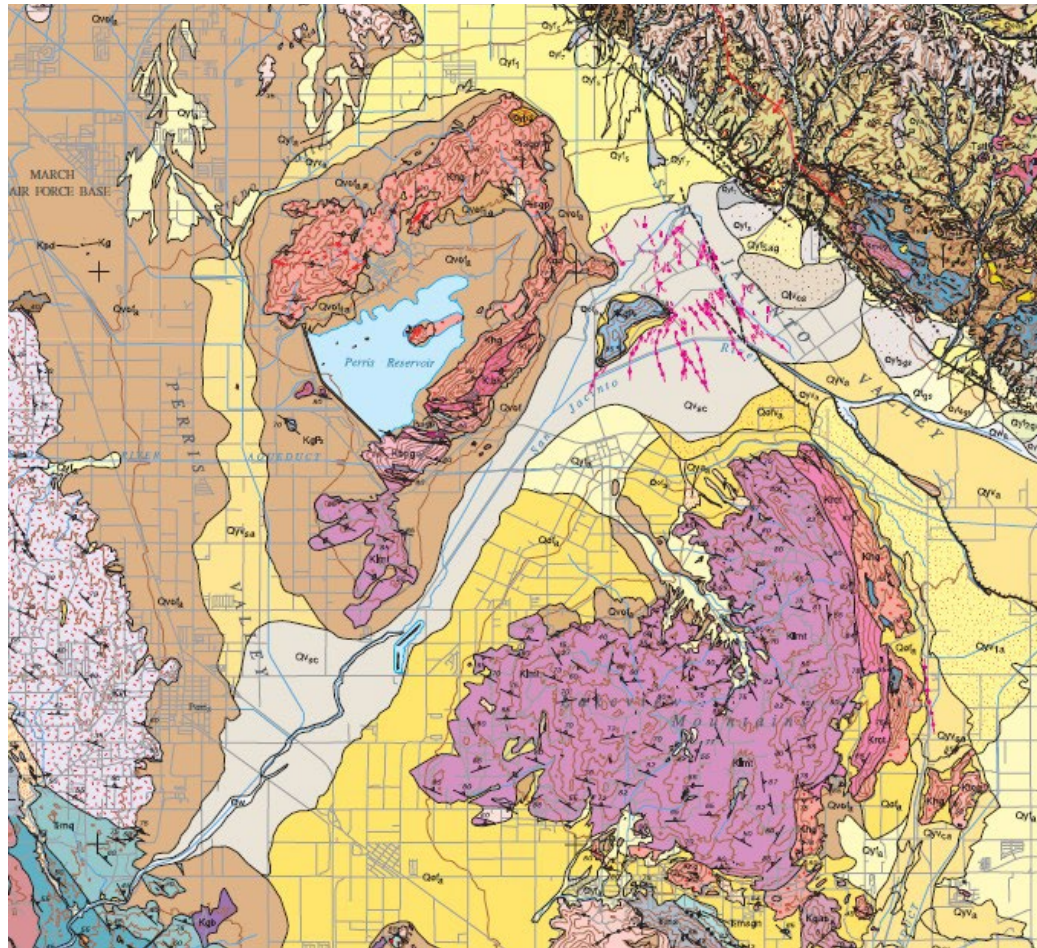
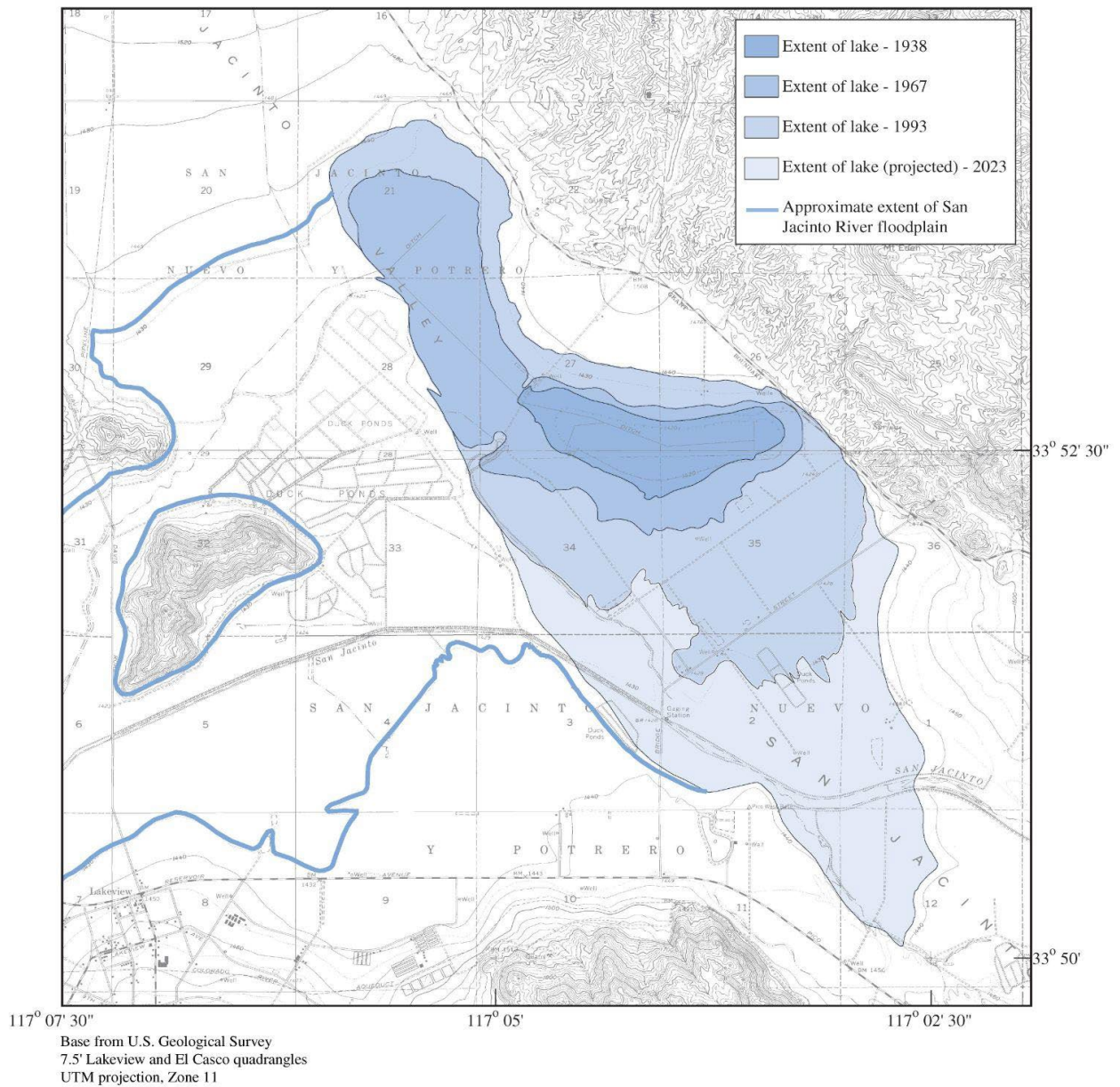


Figure 6. North San Jacinto Valley and San Jacinto Wildlife Area region as mapped in “Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California,” by Douglas M. Morton and Fred K. Miller Digital preparation by Pamela M. Cossette, and Kelly R. Bovard Geology and Description of Map Units, version 1.0 Open-File Report 2006-1217, Online version 1.0 <http://pubs.usgs.gov/of/2006/1217>, 2006.

Figure 5



Historic Lake Levels of Mystic Lake, Riverside County, California

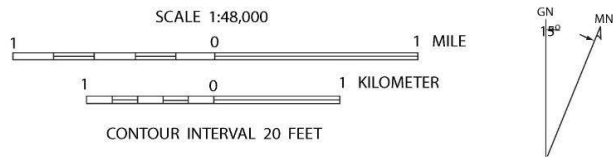


Figure 7. Mystic Lake Historic and Projected Extent of Subsidence from 1938 to 2023 (Morton 1977, Morton and Douglas 2006).

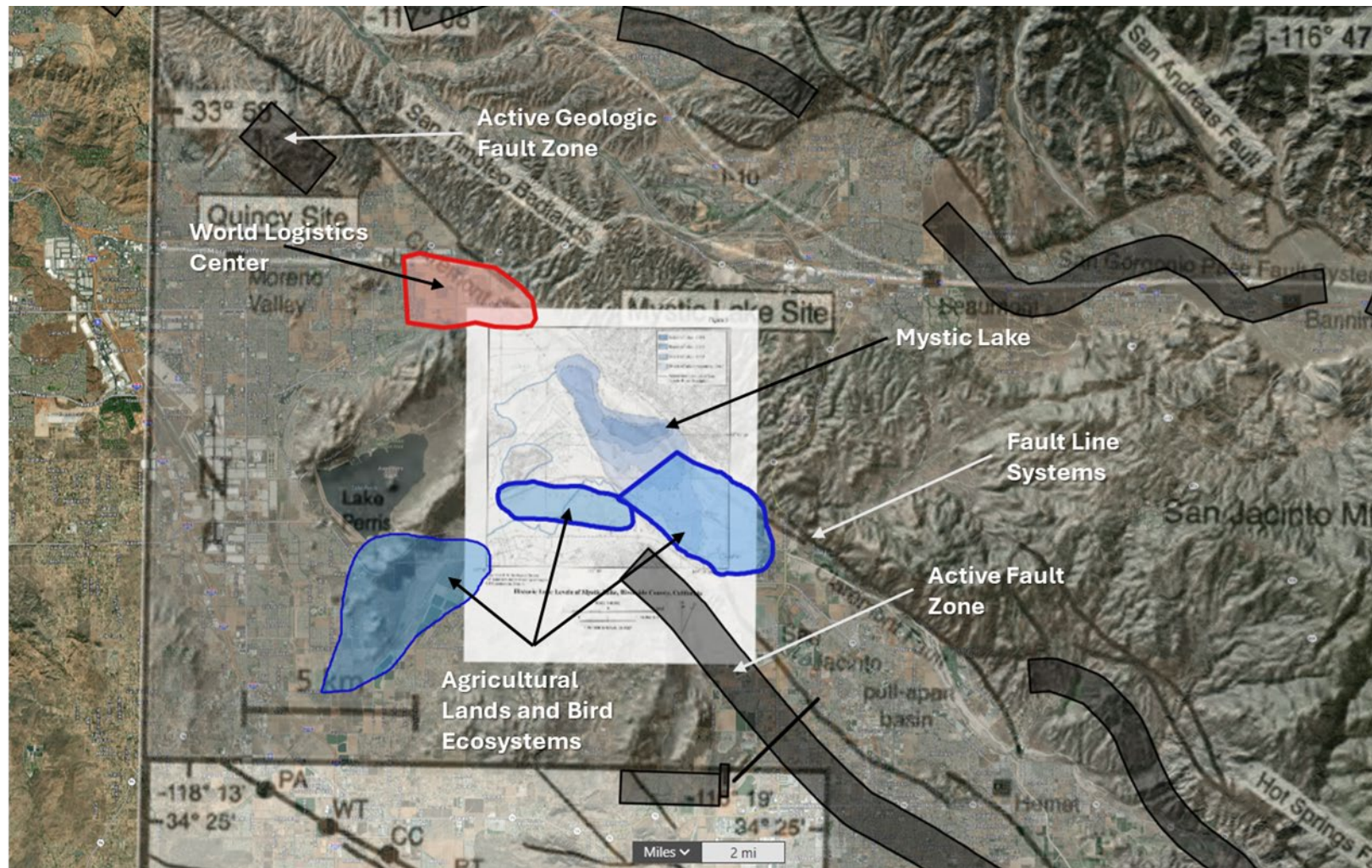


Figure 8. Ecologically, Biologically Active Mystic Lake Ecosystem (Mapsol 2025).

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