

# State of Utom 2022

## Challenges, Opportunities for Southern California's Signature River



A report by the Center for Biological Diversity





# STATE OF UTOM 2022

## CHALLENGES, OPPORTUNITIES FOR SOUTHERN CALIFORNIA'S SIGNATURE RIVER

**A report by the Center for Biological Diversity:**

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*Cover photo by Ileene Anderson*

### INTRODUCTION

**U**tom, also known as the Santa Clara River, is the wild heart of Southern California. The Chumash people, who still live in the area, named the river Utom, or Phantom River, because water flow can come and go like a phantom. When water is abundant or when the underlying geology pushes water to the surface, there is aboveground water flow. But in dry times stretches of the river have only subsurface waterflow, so the river looks dry. Its watershed hosts some of the region's most important natural resources and an incredibly biodiverse landscape.

More than 110 special-status plants and animals call Utom home, including fish like unarmored threespine sticklebacks and critically endangered amphibians like California red-legged frogs and arroyo toads. The watershed is a critical area not just for local and regional wildlife connectivity but global connectivity as well. Monarch butterflies, a migratory species that overwinter along the California coast, have been documented in the watershed.

As the largest watershed in Southern California remaining in a relatively natural state, Utom flows for about 116 miles from its headwaters in the Angeles National Forest, on the north slope of the San Gabriel Mountains, to its confluence with the Pacific Ocean between Oxnard and Ventura. It is the area's last publicly accessible, mostly free-flowing river. In a region that has lost 97% of its historic river woodlands, Utom is a rare riparian gem sustained by many tributaries, including Santa Paula Creek, Sespe Creek, Piru Creek, Bouquet Canyon, Mint Canyon, San Francisquito Canyon and Placerita Canyon.

But it's a gem that's constantly under threat of development, water diversions, groundwater overpumping and other harmful practices. To restore Utom to a more vibrant natural state, we need sustainable water-management practices that protect the ecological health of the river and the health of the communities that rely on it. Local, state and federal policies must work toward the conservation of this ecologically and culturally important landmark. This is Southern California's signature river, after all. There's too much at stake if we fail to protect it.



Figure 1. The Utom watershed



## PURPOSE OF REPORT

The purpose of this report is to showcase the unique biodiversity of the Utom watershed while highlighting the existing threats to water resources. It describes the current status of a subset of rare and sensitive habitats, highlighting a sample of key wildlife found on Utom and its watershed. The report emphasizes the watershed's importance for local, regional and global wildlife connectivity and identifies land-use and other local plans that guide its future. Finally, we recommend key conservation strategies to maintain and improve the health of this important Southern California river.

## UTOM'S ANIMALS AND THEIR HABITATS

Utom and its watershed are home to numerous animal species, including rare and endangered wildlife. This diversity is due in large part to the variety of habitats within its boundaries (Figure 2). The river's watershed is heavily influenced by the fact that the Pacific and North American tectonic plates meet in this area, creating a complex geology with unique and localized microhabitats. That's coupled with altitudes ranging from sea level, where Utom meets the Pacific Ocean, to over 8,800 feet (2,700 meters) at Mt. Pinos. Numerous habitats occur within the watershed, and some are rich with imperiled species and identified as critical habitat for federally endangered species (Figure 3). More than 30 federally and state-listed threatened and endangered animal species have been documented in Utom's watershed (CNDDDB 2022).

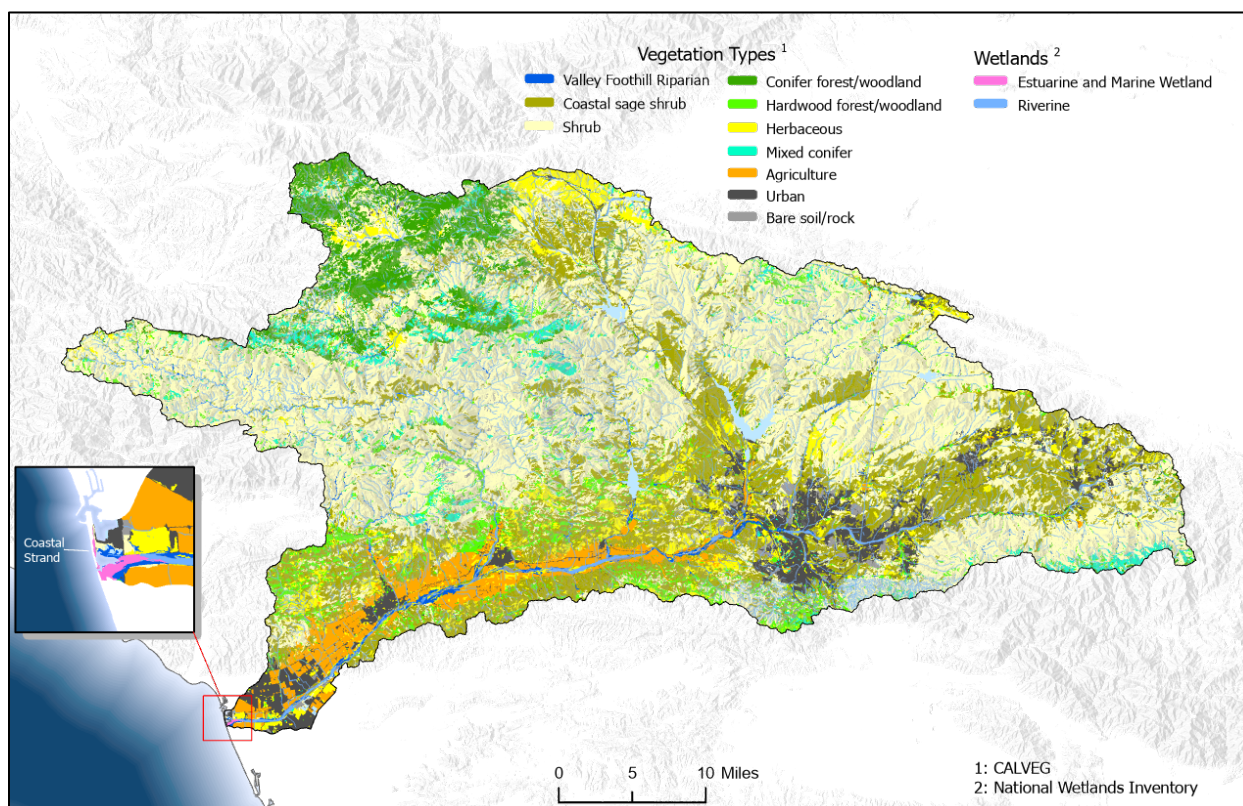


Figure 2. Vegetation types of the Utom watershed

This report highlights some of the unique habitat types found within Utom’s watershed and spotlights some of the endangered or iconic species those habitats support. Parts of the watershed are relatively understudied because of challenging accessibility and ruggedness. Invertebrates and migratory species that are present at only certain times of the year leave gaps in our understanding of wildlife use of the landscape. The Appendix includes a list of federally and/or state-listed threatened, endangered, or sensitive species that are known to occur in Utom’s watershed (CNDDDB 2022). Because the Utom watershed’s fauna and flora is generally underexplored, other threatened, endangered, or sensitive species have the potential to occur in the watershed.

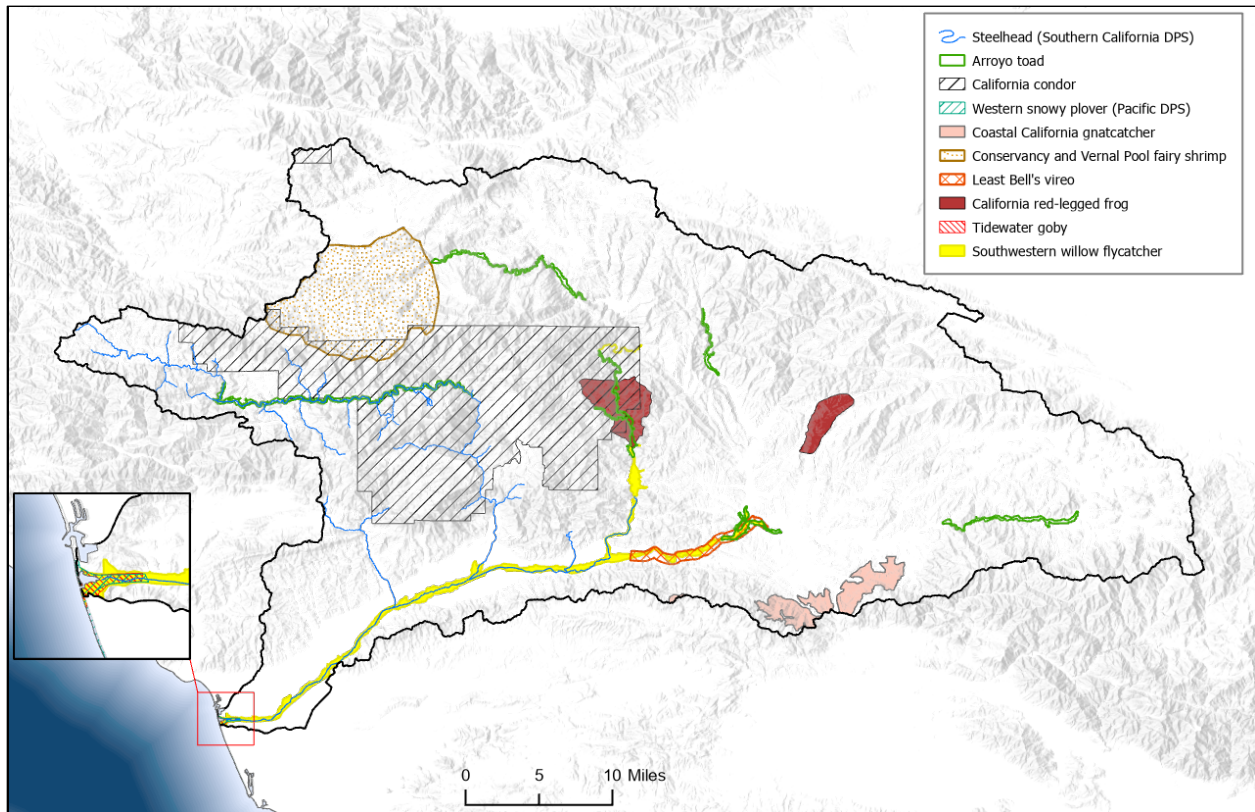


Figure 3. Critical habitats for federally listed species in the Utom watershed

The following sections identify some of Utom’s unique habitats and some of the imperiled and iconic species that rely on them for food, shelter and reproduction.

### Coastal Strand

The coastal strand habitat is where the ocean meets the land, a dynamic, ever-changing landscape reworked by surf, sand and wind. Rivers that meet the ocean, including Utom, move sediments and nutrients from upstream in the watershed to the Pacific Ocean (Dugan and Hubbard 2010). The sediments are deposited back onto the coastal strand that flanks the mouth of the river, replenishing the beaches. These materials provide habitat for a localized food web that have great species richness, abundance, and biomass of macrofauna that are high compared to values reported for similar beaches of



other regions (Dugan 2006). In turn, those resources sustain shorebirds and coastal fishes. While the coastal strand is a dynamic habitat that is constantly shifting with the seasons and tides, at the mouth of Utom, approximately 175 acres are affected by the outflows from Utom (Stillwater Sciences 2011).

The coastal strand is threatened by sea-level rise and increases in storm surge from the progression of climate change (Cayan et al. 2007). In Southern California including the mouth of Utom, the coastal strand has been diminished by development and urbanization encroachment, beach grooming, and increasing impacts from sea-level rise and storm surges (Rahmstorf 2017; Hubbard et al. 2014; Dugan and Hubbard 2010). Coastal development in historic foredunes hems in the coastal strand and prevents its expansion into foredunes while higher seas and surf expand onto the coastal strand. This results in a narrowing of the available habitat for the plants and animals that rely on this ever-changing habitat for all or part of their lifecycles.

### Spotlight Species: Western Snowy Plover



Photo by D. Pitkin/USFWS

The federally threatened western snowy plover (*Charadrius nivosus nivosus*) relies on the coastal strand to nest and raise chicks. Adults also remain on the coastal strand during the non-breeding season for feeding and loafing (Frangis and Cox 2015). The snowy plover scratches out unlined “scrapes” in which to lay their eggs and their nests are highly vulnerable to disturbance and predation (Frangis and Cox 2015). The western snowy plover requires sand spits, dune-backed beaches, mud flats, unvegetated beach strands, open areas around estuaries, and beaches at river mouths with plenty of safe nesting and loafing sites and a robust invertebrate food supply to survive (USFWS 2007a).

#### Estuary

An estuary is a coastal water body that is partially enclosed where saltwater from the ocean mixes with freshwater from rivers and streams. Estuaries are one of the most productive areas on Earth and are often referred to as “nurseries of the sea” because many species of fish and marine wildlife rely on the sheltered

waters of estuaries as protected spawning and rearing habitat. Utom forms a beautiful estuary before exiting to the Pacific Ocean. It waxes and wanes in size based on river flows, although it has already been reduced to only 10-25% of its historic size from a combination of land conversion and levee construction (Cbec, WRA, and Podlech 2015a).

Utom's estuary is biologically important for birds, especially migratory birds who rest and refuel during their migration. Fish including the federally protected tidewater goby and southern California steelhead and other wildlife including shore, wading and diving birds also rely on Utom's estuary for places to live, feed and reproduce. There are extensive efforts to restore and enhance the ecological functionality of Utom's estuary under way (Cbec, WRA, and Podlech 2015b) that factor in the existing adjacent and upstream developmental constraints.

Formerly an approximately 6,900-foot-wide river corridor where the estuary was located is now constrained to approximately a 1,000-foot-wide corridor. That constriction has resulted in increased flow velocity and depth and a reduction in sediment deposition compared to historic conditions. It also causes more bed scouring and sediment transport, which may benefit the coastal strand but causes impacts to the estuary (Cbec, WRA, and Podlech 2015a).

Utom's watershed is dynamic. The varied flows coupled with deposition of upstream materials create a constantly changing estuary in size and composition. At its greatest extent contemporarily, Utom's estuary can be as large as 400 acres (162 ha) when a berm forms at its mouth to the ocean and backs up water into the estuary (Stillwater Sciences 2011).

### **Spotlight Species: Tidewater Goby**



*Photo by Sarah Swenty/USFWS*

Tidewater goby (*Eucyclogobius newberryi*) are found only in coastal California, where they inhabit estuaries, coastal marshes and lagoons. They've been federally listed as an endangered species since 1994, and Utom's estuary is designated as critical habitat for the species. They prefer waters with relatively low salinities (under 12 parts per thousand), but they tolerate salinities of up to 28 parts per thousand (USFWS 2005a). While reproduction can occur throughout the year, the peak of spawning activity occurs during the spring and then again in the late summer (USFWS 2007b). Surviving just one year, the male tidewater gobies dig breeding burrows in clean, coarse sand in the springtime, when the estuaries are closed off to the ocean following winter storms (USFWS 2007b). Eggs are deposited and hang from the ceiling and walls of their burrows (Swift et al. 1989). Because tidewater gobies do not easily tolerate seawater salinities, movement between estuaries is currently limited. The lack of goby movement between estuaries coupled with their short lifespans makes local populations of the tidewater goby vulnerable to localized extinctions from natural and human-related causes, particularly in Southern California (Swift et al. 1989).

### Riverine Systems

Riverine systems are defined to include "all wetlands and deepwater habitats contained within a channel" where a channel is defined as "an open conduit either naturally or artificially created which periodically or continuously contains moving water" (Cowardin et al. 1979). Within riverine systems four subsystems are typically present including on Utom. They include:

- **Tidal** – "The gradient is low and water velocity fluctuates under tidal influence. The streambed is mainly mud with occasional patches of sand. Oxygen deficits may sometimes occur and the fauna is similar to that in the Lower Perennial Subsystem. The floodplain is typically well-developed." (Cowardin et al. 1979). The tidal subsystem is representative of the estuarine habitat described in the preceding section.
- **Lower Perennial** – "The gradient is low and water velocity is slow. There is no tidal influence, and some water flows throughout the year. The substrate consists mainly of sand and mud. Oxygen deficits may sometimes occur, the fauna is composed mostly of species that reach their maximum abundance in still water, and true planktonic organisms are common. The gradient is lower than that of the Upper Perennial Subsystem and the floodplain is well developed." (Cowardin et al. 1979). The Lower Perennial subsystem is represented throughout the mainstem of Utom during most of the year.
- **Upper Perennial** – "The gradient is high and velocity of the water fast. There is no tidal influence and some water flows throughout the year. The substrate consists of rock, cobbles, or gravel with occasional patches of sand. The natural dissolved oxygen concentration is normally near saturation. The fauna is characteristic of running water, and there are few or no planktonic forms. The gradient is high compared with that of the Lower Perennial Subsystem, and there is very little floodplain development." (Cowardin et al. 1979). The Upper Perennial subsystem is represented in the tributaries to Utom, which flow down the steep gradients primarily on the northern slopes of the watershed in the Los Padres and Angeles National Forests. Tributaries include but are not limited to the upper portions of Santa Paula, Sespe and Piru creeks in Ventura County and San Francisquito, Bouquet and Escondido creeks in Los Angeles County. Small tributaries on the



south slopes of the watershed from the Santa Susanna Mountains contribute modest flows to Utom.

- **Intermittent** – “In this subsystem, the channel contains flowing water for only part of the year. When the water is not flowing, it may remain in isolated pools or surface water may be absent.” (Cowardin et al. 1979). The subsurface aquifer of Utom has deep alluvial pockets that create patches where the surface flow is absent during much of the year. These characteristic stretches of subsurface flow give Utom its traditional name — Utom meaning ghost in the Chumash language. During Southern California’s brief rainy season, Utom has episodic events in which surface water flows consistently in the mainstem and tributaries creating important conditions and habitat for steelhead to complete their lifecycle.

Utom’s watershed sustains 116 miles (187 km) of riverine habitats, but the actual amount of each type is variable due to precipitation and water inputs and extraction. Regardless, numerous species rely on the surface flows throughout or at some point in their lifecycle.

### Spotlight Species: Unarmored Threespine Stickleback



Photo by Tim Hovey/CDFW

The critically endangered unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) is a tiny, scaleless, freshwater fish reaching approximately 5 centimeters in length. It lives in slow-moving, quiet water in the upper Utom and a few of Utom’s tributaries in Los Angeles County with vegetative or algal cover (USFWS 2021; 2009). During flooding events, the stickleback take refuge in protected areas out of strong flows.

Typically, the unarmored threespine stickleback live one year, breeding throughout the year but most successfully between February and September (USFWS 2021; 2009). Males build and defend a nest of fine plant debris and algal strands, where they court all females who enter their territory. The eggs of several females may be found in a single nest. After spawning, males care for the eggs and newly hatched fry while guarding the nest and surrounding territory (USFWS 2009).

Currently only four extant populations are known in Utom's watershed (USFWS 2021). The USFWS finalized a recovery plan in 1985, but populations continue to decline, due to wildfires, drought and floods within the unarmored threespine stickleback's limited habitat. Fish salvages and translocations of the unarmored threespine stickleback have become common over the past seven years, including annually since 2018 (USFWS 2021).

### Spotlight Species: Southern Steelhead



Photo by Mark Capelli/USFWS

Prior to the 1950s, Utom was home to one of the largest steelhead runs in Southern California (Cbec, WRA, and Podlech 2015a). Due to numerous factors, but primarily to the inability of steelhead to breach the Vern Freeman Diversion located near Santa Paula, southern steelhead rarely if ever reach spawning habitat upstream of the diversion.

The natural life cycle of steelhead includes spawning in freshwater streams, eggs hatching into fry that remain in freshwater streams and rivers for one to three years. The fish then migrate to the saltwater of the Pacific through the estuary, where they spend from one to four years maturing in the marine environment. The cycle continues as the steelhead return to spawn in freshwater streams, often in the same location where they were born.

Southern steelhead (*Oncorhynchus mykiss*) are critically endangered and are currently modeled to be threatened with extinction in the next 25-50 years (CalTrout 2017). Utom's steelhead have unique genetics that allow them to tolerate warmer water temperatures up to 25°C (77°F) compared to northern steelhead that can tolerate 22-23 °C (73°F) for only a short time (CalTrout 2017). Withstanding warmer waters is a key asset as climate change progresses. In Utom, they rely on winter precipitation to provide adequate waterflow to enable migration up and down the river. A federal court order now requires that effective fish passage for steelhead is constructed at the Vern Freeman Diversion (see details in



Connectivity and Water sections below for more information) so steelhead can reach upstream spawning habitat and fry can successfully migrate to the ocean during high flow. Utom is one of the largest watersheds in Southern California for steelhead and is a critical river for recovery of this unique steelhead population.

### *Riparian Habitats*

Riparian habitats are plant communities found along rivers, creeks and streams and support woody vegetation ranging from dense thickets of shrubs to a closed canopy of large mature trees with a sparse understory of herbaceous plants. They are one of the most important natural resources in California because of the ecosystem services that they provide. These services include providing food, cover and water for a diversity of wildlife; serving as migration routes and breeding sites for wildlife; stabilizing streambanks and sediments via vegetation that resists flood flows; allowing for water infiltration into the soils, recharging groundwater and alluvial aquifers; removing excess nutrients in the water and soils thereby improving water quality naturally; and providing important recreation and scenic values. (USDA – NRCS 1996). Yet because of their relatively small size, they are vulnerable to severe alteration and damage caused by people.

Riparian areas in the western United States comprise less than 1% of the land area, yet they are among the most productive and valuable natural resources (USDA-NRCS 1996). The water-rich riparian areas create a ribbon of green vegetation through the arid uplands. By the late 1980s estimates of riparian habitat reduction in Southern California floodplain areas have been as high as 97% (Bowler 1989). More have been lost in the intervening years due to development, agriculture, dams and diversions, groundwater pumping, and lack of precipitation associated with climate change.

Utom supports beautiful, lush riparian habitat along the mainstem and larger tributaries, particularly in areas with shallow groundwater. Because Utom is a dynamic floodplain, the riparian habitat waxes and wanes based on hydrology coupled with scour/flooding, drought and fire. Riparian areas are critical breeding refugia for amphibians and migratory and resident birds, both of which rely on the rich resources for their reproductive success. The whole of Utom's mainstem and the connecting lower reaches of the Sespe, Piru and San Francisquito creeks are recognized as a globally Important Bird Area by the Audubon Society due primarily to their riparian resources (See Figure 4). Utom's watershed sustains over 12,000 acres (4,856 ha) of valley-foothill riparian habitat for numerous species.

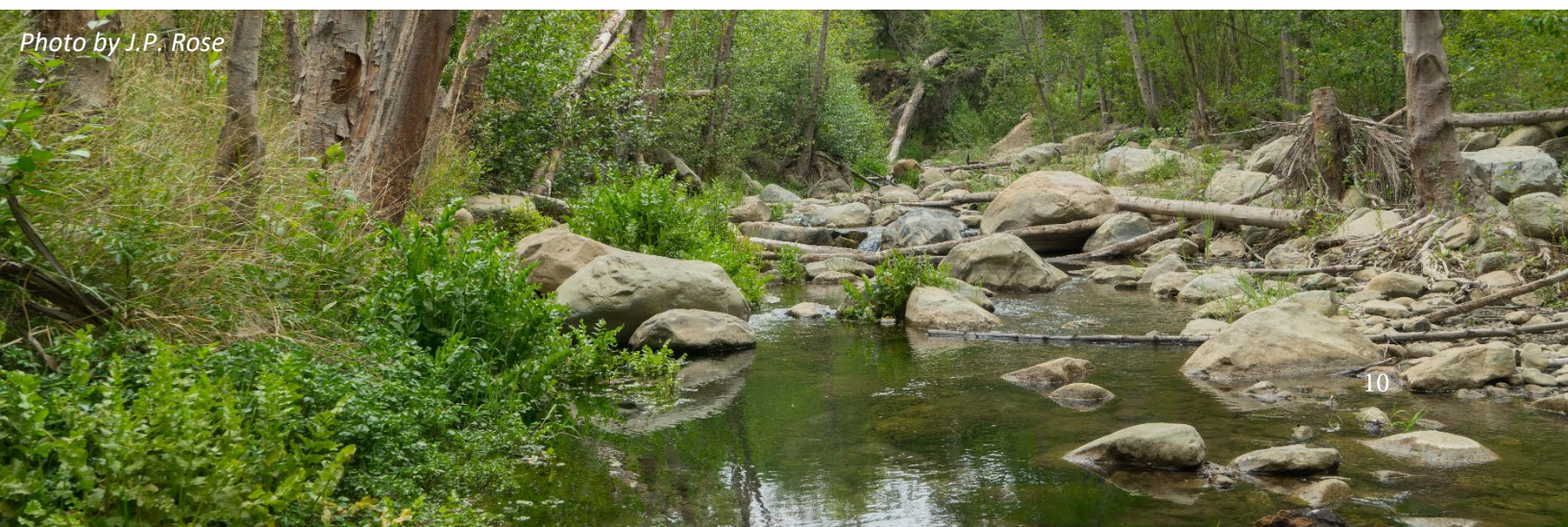


Photo by J.P. Rose



## Spotlight Species: Arroyo Toad

Photo by Chris Brown/USGS



The arroyo toad (*Anaxyrus californicus*) is a small (2-3 inches [5-7.6 centimeters]), stocky and warty animal endemic to Southern California and Baja, Mexico. They are found in low-gradient streams and rivers with intermittent and perennial flow in coastal areas and a few desert drainages in central and Southern California and Baja, Mexico. They utilize aquatic, riparian, and upland habitats and require slow-moving streams that have sandy soils with sandy streamside terraces where successful reproduction depends on availability of very shallow, still, or low-flow pools for breeding, egg-laying, and tadpole development (USFWS 2014).

Because of their unique habitat requirements, arroyo toad populations have decreased to the point where they are protected as a threatened species under the federal Endangered Species Act. Their habitat destruction arises from both short- and long-term changes in river hydrology, including pollution that negatively affects water quality, reservoirs that cause unnatural water releases that alter geomorphology and fragment populations and groundwater extraction. Other threats include loss of upland habitat to urbanization and agricultural uses, invasive non-native plants and animals, roads, off-road vehicles and other recreational impacts, mining and grazing. Because remaining populations are dwindling and isolated, drought, fire and climate change threaten the toads. Utom's watershed provides some of the best remaining habitat they need to survive.



## Spotlight Species: Western Yellow-Billed Cuckoo



The migratory and secretive western yellow-billed cuckoo (*Coccyzus americanus*) is a striking medium-sized (12 inches [30 centimeters]) bird that winters in Central and South America and breeds in western North America in riparian areas (USFWS 2020b). It was listed as endangered under the California Endangered Species Act in 1998 and as threatened under the federal Endangered Species Act in 2014. It relies on mature riparian forest for successful breeding.

Western yellow-billed cuckoos are slender, brown birds with creamy white underparts. Their wings show rufous or cinnamon color in flight; they have black tails with white spots and are named for their yellow-to-orange lower mandible, contrasting with a black upper. They typically arrive in California in June, and most depart by mid-September (Laymon 1998). Their nests are typically on the horizontal branch of a willow tree, in a location hidden from ground view or from surrounding trees. Nests have two to four eggs. The brief breeding and nesting period requires ample food resources that include katydids, caterpillars, tree frogs and grasshoppers (USFWS 2020b, Laymon 1998).

Surveys in 2018 and 2019 along Utom detected yellow-billed cuckoos in Bouquet Canyon in Los Angeles County and adjacent to the Hedrick Ranch Nature Area in Ventura County (Hall et al. 2020). Their presence is likely due to habitat revitalization and *Arundo* removal efforts in these areas.

Like many riparian-dependent species, the western yellow-billed cuckoo is suffering from population decline partially due to the decline in riparian habitats in the western United States, which the birds require for successful reproduction. The migration and wintering habitat of this species is not well understood.

## Coastal Sage Scrub

Utom's watershed sustains more than 135,000 acres (54,600 ha) of coastal sage scrub in the lower elevations of the watershed. Coastal sage scrub habitat is found in dry hills and flats along coastal California and Baja and nearby inland areas where coastal fog and marine influence are common. Although average annual precipitation in coastal sage scrub is only 10 inches (25 centimeters) and varies widely depending on the year, coastal sage scrub plants also capture water from misty coastal fog and marine layers. Often referred to as "soft chaparral" because of its smaller stature and softer leaves and branches, the fragrant coastal sage scrub shrubs reach an average height of 6.5 feet (2 meters) or less. Many coastal sage scrub plant species are drought deciduous; they lose their leaves during the summer and actively grow during the winter rainy season.

Coastal sage scrub is one of the most endangered ecosystems in California (Allen et al. 2013). Some of the major threats to coastal sage scrub include agriculture and urban development, habitat fragmentation, disrupted fire regimes that have resulted in frequent fires, and invasive exotic plant species. Another threat is high levels of anthropogenic nitrogen deposition primarily from air pollution that increases exotic plant productivity, increases flammability and available fuel, and extends the fire season (Talluto and Suding 2008; Allen et al. 2013). Because this habitat type is not adapted to frequent fires, frequent fire intervals cause "type conversion" to non-native annual grasslands. Between 1930 and 2008, 49% of coastal sage scrub has been type converted to non-native grasses (Talluto and Suding 2008). Conversions continue although more recent data is not available.

### **Spotlight Species: Coastal California Gnatcatcher**



*Photo by Glen Tepke*



The coastal California gnatcatcher (*Polioptila californica californica*) was listed as federally threatened in 1993 due to population declines from habitat loss and fragmentation. This small non-migratory and territorial songbird is an obligate inhabitant of coastal sage scrub (USFWS 2010a). It has dark gray feathers on its back and light gray-and-white feathers on its chest. Its wings are brown in flight, its long tail mostly black with a few white outer feathers.

Breeding season for the California gnatcatcher commences in late February and continues through July, which in good years of abundant resources, allows for more than one clutch of eggs (USFWS 2010a). As its name suggests, the California gnatcatcher feeds on a wide variety of small insects, including beetles, caterpillars, scale insects, wasps, ants, flies, moths, small grasshoppers, spiders and many others (Audubon Field Guide: California Gnatcatcher 2022). Once fledged, juveniles remain with their parents for several months and eventually disperse from their natal territory to set up their own territories. Finding habitat to set up new territories can be difficult because of ongoing development in coastal sage scrub, which fragments their habitat and negatively affects dispersal of these small birds (Vandergast et al. 2019). California gnatcatcher habitat has also been impacted by frequent fires that have converted coastal sage scrub into non-native grasslands (USFWS 2020a; USFWS 2010a,b).

Utom's watershed is close to the northernmost extent of the coastal California gnatcatcher's range. This population stands out as genetically different from the southern populations (Vandergast et al. 2019). Very little suitable habitat connects the Ventura County birds to more southern birds and may reflect both distance and isolation (Vandergast et al. 2019; USFWS 2020a). The population of coastal California gnatcatcher in Utom's watershed may be particularly important for future range shifts as climate change progresses. Recent extralimital populations have been documented north of their previously documented range (Vandergast et al. 2019). However, the lack of suitable gnatcatcher habitat between Utom's watershed and the southern populations pose a significant barrier that divides these populations and makes the species less resilient to climate change.

### Vernal Pools

Vernal pools are unique isolated ephemeral aquatic features that host a suite of rare species. Vernal pools form during winter rainstorms, where water collects in depressions above an impervious soil layer or layers. Water evaporates from these pools during the spring and early summer, and by late summer the vernal pools dry out completely. In Southern California, vernal pools can be surrounded by upland habitats, which include valley needlegrass grasslands, annual grasslands, coastal sage scrub, maritime succulent scrub, and chaparral (USFWS 1998). As the water evaporates from the pools, a "bathtub ring" of flowering plants delineate the boundary of the pool. Many unique plants and animals rely on vernal pools for successful reproduction. In Utom's watershed, vernal pools are only known from a single pool in the northern Santa Clarita area in Los Angeles County and a complex on the Los Padres National Forest in Ventura County. Ongoing threats to vernal pools include urban development, water supply/flood control activities and conversion to agricultural use or development. The vernal pools in Utom's watershed are on private land on Cruzan Mesa and vulnerable to development.

## Spotlight Species: Vernal Pool Fairy Shrimp



Photo by USFWS

Vernal pools are habitat for numerous animals, but none are more reliant on vernal pools than fairy shrimp. To the tiny fairy shrimp, vernal pools are their whole world. After the vernal pools have formed, the fairy shrimp hatch from their protective desiccation-resistant cysts, grow to maturity, and reproduce creating encysted embryos — all before the pool dries out. Flooding and hitching a ride on waterfowl can disperse fairy shrimp between individual pools. The vernal pools in Utom’s watershed include two species of fairy shrimp: the vernal pool fairy shrimp (*Branchinecta lynchi*) and conservancy fairy shrimp (*Branchinecta conservatio*).

The vernal pool fairy shrimp is a federally threatened species that is found in cool-water pools. They require cool water temperatures of 10°C (50°F) or lower to hatch (USFWS2007c). Time to maturity and reproduction depends on water temperature and averages approximately 40 days but can range from 18 to 147 days (USFWS 2007c).

The conservancy fairy shrimp is a federally endangered species that is found in relatively large and turbid vernal pools (mean size 27,865 square meters [299,936 square feet]) (USFWS 2005b). Conservancy fairy shrimp can be found in pools at temperatures that reach 23°C (73°F). They reach maturity in an average of 46 days and live as long as 154 days, but growth rate and longevity are largely controlled by water temperature and can vary greatly (USFWS 2005b). Utom’s watershed is the southernmost extent of the conservancy fairy shrimp’s range and isolated from the nearest location in Merced County.

Both of these fairy shrimp species are found in high-elevation atypical vernal pools known as the Foster Bear Ponds located in the Los Padres National Forest (USFWS 2012). The vernal pool complex covers



approximately 4 acres (USFWS 2012). The vernal pool fairy shrimp is also known from a vernal pool on Cruzan Mesa (USFWS 2007c).

Vernal pools have been documented to dry out prior to the fairy shrimp reaching maturity, causing mortality for that year's fairy shrimp cohort (USFWS 2007b). Future climate warming threatens this species through decreasing precipitation and warmer temperatures that increase evaporation.

### **Spotlight Species: Western Spadefoot Toad**



Photo by James Bettaso/USFWS

The western spadefoot (*Spea hammondi*) is a California species of special concern that uses vernal pools and ponds for successful reproduction and the adjacent grasslands during the non-breeding season (Baumberger et al. 2019; USFWS 2005b). Spadefoot are small (1.5 - 2.5 inches [3.7 - 6.2 centimeters]) snout-vent length toads with cat-like eyes (pupils are vertically elliptical in bright light but are round at night), a single black sharp-edged “spade” on each hind foot, teeth in the upper jaw, and rather smooth skin (USFWS 2005b). In Southern California, western spadefoot have lost more than 80% of their habitat due primarily to urbanization, isolation and habitat fragmentation (Neal et al. 2020). In Utom’s watershed, the latest data from 2013-2019 documented spadefoot in both Los Angeles County in the Newhall area and in Ventura County near Val Verde (CNDDDB 2022). Protecting and enhancing habitat will provide refugia for this California amphibian.



## *Oak, Walnut, Juniper and Joshua Tree Woodlands*

Utom's watershed is rich with a diversity of woodlands including oak, walnut, and juniper woodlands. These habitats support many different types of upland species. Oak woodlands are made up of at least seven different oak species, with coast live oak (*Quercus agrifolia*) being common in Utom's watershed. Often oak woodlands form a dense overstory that precludes much of an understory from developing. Coast live oaks thrive in canyon bottoms, slopes, and flats where soils are deep and sandy or loamy with high organic matter.

The rare plant community of Southern California walnut woodlands reach their most northern, inland extent in Utom's watershed and can intergrade with oak woodlands. It can also be associated with annual grassland, mesic chaparral, coastal sage scrub and riparian vegetation.

Juniper woodlands are a more arid type of woodland, dominated by California juniper and found where Utom's watershed approaches the Mojave Desert. California junipers are somewhat evenly spaced across the landscape with little canopy overlap. Interspaces between trees can include a variety of forbs, grasses and shrubs. They can occur on ridges, slopes, valleys, alluvial fans, and valley bottoms where soils are porous, rocky, coarse, sandy, or silty, and are often very shallow.

In the very arid northern and eastern part of the watershed, small populations of the iconic Joshua tree occur. Joshua trees are threatened by impacts of climate change including decreased precipitation, increased temperatures, altered fire regimes that destroy the trees, and loss of its obligate pollinator, the yucca moth. In October of 2019, the Center for Biological Diversity sought California Endangered Species Act protection for the Western Joshua Tree, which occurs in Utom's watershed. The state is currently providing interim protections to the Western Joshua trees as a candidate species while it determines if permanent protection as a threatened species is warranted.



California juniper  
Photo by Scott Ranger CC BY-NC



## Spotlight Species: Acorn Woodpecker



Photo by Andy Reago &  
Chrissy McClarren CC BY

The acorn woodpecker (*Melanerpes formicivorus*) has often been referred to as a bird with a clownish face due to its striking red crown, creamy white face, and black patches around the eyes and bill. It's medium-sized, with a stiff, wedge-shaped tail that it uses for support when clinging to tree trunks. As its name indicates, the acorn woodpecker relies on oak acorns as a food source particularly during winter months, although they also consume numerous small insects, oak catkins, fruit, and flower nectar. They are unique among woodpeckers in that they live in large groups, hoard acorns, and breed cooperatively. Group members gather acorns by the hundreds and wedge them into holes they've made in a tree trunk as storage for later use, creating granary trees. The group defends these granary trees from others. While acorn woodpeckers are fairly tolerant of humans, they are threatened by habitat loss from the destruction of oak woodlands by urban development and agriculture. Degradation of their habitat is occurring from grazing and poor regeneration of oaks.

## Spotlight Species: Canyon Bat



*Photo by tmills/iNaturalist  
CC BY-NC*

With 25 species of bats residing in the state, California has the fourth highest diversity of bat species in the United States (Miner and Stokes 2005). Twenty-four of these species occur in the south coast ecoregion of the state, including Utom's watershed, making the region critically important for maintaining bat diversity (Miner and Stokes 2005). At least two-thirds of the region's bat species are officially recognized as sensitive by the California Department of Fish and Wildlife, USFWS, and/or Federal land management agencies (Miner and Stokes 2005).

One of the most common and smallest bat species is the canyon bat (*Parastrellus hesperus*), formerly known as the western pipistrelle. These small bats typically emerge at dusk and are the most commonly seen bat in Utom's watershed. They roost in a variety of places including crevices in cliffs, rock outcrops, caves, mines, buildings, and possibly sometimes rodent burrows and spaces under rocks (BCI 2022; NatureServe 2022). Their diet includes various small insects, especially those in swarms (NatureServe 2022).

Because the canyon bat is so small and common, not much is known about its natural history. It is known to forage over and around open water, so maintaining important water resources will benefit these bats within Utom's watershed (Texas Parks and Wildlife 2022).



## Unique Groves and Forests

Utom watershed's forested lands are amazingly diverse because of its topographic diversity. Coastal groves of eucalyptus and pines have provided essential wintering habitat for the western monarch butterfly, whose numbers are plummeting throughout its range.

At more than 8,800 feet (2680 m), Mt. Pinos is the highest elevation in Utom's watershed. Its high-elevation conifer forest woodlands habitat is considered a sky island archipelago because it is isolated by surrounding inhospitable lower-elevation habitat types. This gives rise to unique terrestrial animals that are unable to migrate effectively to suitable habitat elsewhere and are therefore imperiled from the effects of climate change. There are no higher elevations to escape as climate change increases temperatures and decreases snowfall, pushing these species past their thermal optimum.

### **Spotlight Species: Western Monarch Butterfly**



*Photo by John Buse*

Each fall western monarch butterflies (*Danaus plexippus*) make a long-distance migration to specific groves of trees on the California coast, where they overwinter in large clusters. Historically, at least one site occurred along Utom. A nearby grove of eucalyptus along Arundell Barranca in El Camino Real Park still hosts a small number of wintering western monarch butterflies. Monarchs require specific conditions to overwinter successfully (Leong 2016) and there is potential for establishing overwintering habitat along Utom. Monarchs are threatened by a drastic drop in milkweed due to herbicides, ongoing use of

pesticides within their range, and climate change, which is destabilizing weather conditions and predictable flowering seasons that monarchs require to complete their multigenerational migration.

### **Spotlight Species: Mt. Pinos Lodgepole Chipmunk**



Photo by Tim Quinn CC BY-NC

The energetic and highly endemic Mt. Pinos lodgepole chipmunk (*Tamias speciosus callipeplus*) is limited to the upper slopes and summits of Mount Pinos, Cerro Noreste and Frazier Mountain in the Los Padres National Forest near the Kern/Ventura county line. It's primarily found around old logs, rock outcroppings and other forest debris. Rock crevasses and old logs are required for protection from predators (coyote, fox, bobcat, Cooper's hawk, and red-tailed hawk) and are used as nesting sites. These chipmunks are diurnal but hibernate from October/November until April/May. Their breeding season commences shortly after coming out of hibernation, and a single litter of three to six young is produced annually.

This endemic and isolated subspecies of lodgepole chipmunk is facing catastrophic threats. The U.S. Forest Service determined that a single, large, stand-replacing fire could eliminate this subspecies (Stephenson and Calcarone 1999). In addition, the Mt. Pinos lodgepole chipmunk is either highly vulnerable or extremely vulnerable to climate change because of its limited ability to migrate to appropriate habitat elsewhere (Stewart et al. 2016).



## THE IMPORTANCE OF UTOM'S WATERSHED FOR WILDLIFE CONNECTIVITY

Utom's watershed has been identified as a critical area for local, regional and global wildlife connectivity (Figure 4). The ability of animals to move among different areas of habitat to find food, shelter and mates is crucial for their long-term survival. Utom stretches more than 116 miles from the desert to the coast and the watershed encompasses about 1,600 square miles of heterogeneous habitats, including chaparral, scrublands, riparian habitats, oak woodlands, vernal pools, salt marshes, Joshua tree woodlands, and pine forests (Figure 2). The wide variety of unique and sensitive species and plant communities that occur in the region highlights the watershed's importance for wildlife connectivity.

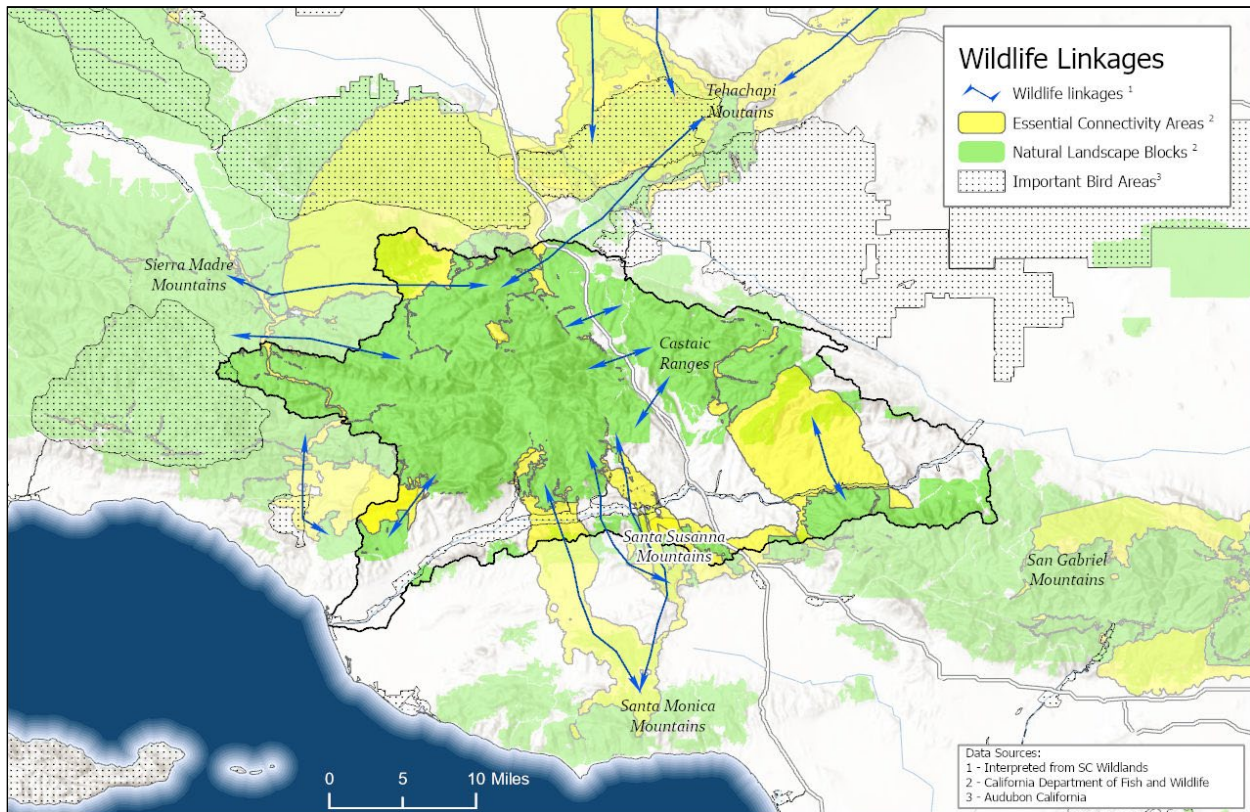


Figure 4. Wildlife connectivity linkages

For example, local connectivity that links aquatic and terrestrial habitats allows sensitive species like amphibians and reptiles to persist. The federally endangered arroyo toad, which has designated critical habitat within the watershed (Figure 3), has been found to spend much of the year in sandy burrows along floodplains and stream channels. Males travel up to six-tenths of a mile along streams during breeding season to find mates (USFWS 2014) and about the same distance away from low-elevation water (Griffin and Case 2001). The federally threatened California red-legged frog also has designated critical habitat within the watershed (Figure 3), and it has been found to travel on average about 600 feet between breeding pools and upland habitat, with some individuals roaming almost a mile from the water (Fellers and Kleman 2007). Other sensitive species known to occur in the watershed, such as the western pond turtle and California newt (both considered species of special concern), have been found to travel up to

1,300 feet and 2 miles, respectively, from breeding ponds into upland habitat (Trenham 1998; Semlitsch and Bodie 2003). These and other less mobile species, like the coast horned lizard and the two-striped garter snake rely on local connectivity to thrive.



California condor  
Photo by USFWS

At the regional scale, the watershed has been identified as an integral landscape connecting the Sierra Madre Mountains with the Santa Susana and Santa Monica mountains to the south, the Castaic Ranges and San Gabriel Mountains to the east and southeast, and the Tehachapi Mountains to the northeast (SC Wildlands 2008; CDFW 2010). Medium- and large-sized mammals such as mountain lions, bobcats, American badgers, ringtails and mule deer require large patches of heterogeneous habitat to forage, seek shelter, and find mates. In addition, species like the federally endangered California condor and the coastal California gnatcatcher, both of which have designated critical habitat within the watershed (Figure 3), also require large areas of interconnected habitats to forage. The Sespe Condor Sanctuary is located in Utom's watershed and provides important refugia and breeding sites. Numerous bat species that occur in the area, including the pallid bat and the western mastiff bat (both species of special concern), rely on healthy insect populations supported by intact ecosystems.

The local mountain lion, which falls within the Southern California and Central Coast Evolutionarily Significant Unit and is a candidate species under the California Endangered Species Act, is especially vulnerable to insufficient regional connectivity (Yap, Rose, and Cummings 2019). Already suffering from an extinction vortex driven by low genetic diversity and high levels of human-caused mortalities like vehicle strikes, rat poisoning and poaching, local mountain lions could become extinct within 50 years or sooner if nothing is done to preserve existing connectivity and enhance connectivity at existing barriers (Benson et al. 2019). Abnormalities linked with inbreeding depression, like kinked tails and undescended testes, have recently been observed in the area (NPS 2020), and if inbreeding depression occurs, scientists predict there is a >99% chance of extinction, which could occur within as few as 15 years (Benson et al. 2019). The watershed's role in regional connectivity is critical for the recovery and long-term survival of local mountain lions and other sensitive wildlife.



Mountain Lion  
Photo by NPS



Globally Utom's watershed is important for migratory species. Monarch butterflies, who have complex migration and breeding patterns throughout North America, overwinter along the California coast and have been documented in the watershed. Utom and several of its tributaries are home to and designated critical habitat for the federally endangered Southern California steelhead (Figure 3). The National Marine Fisheries Service has identified the watershed's steelhead population, which has both anadromous fish that can spend years in the ocean before returning to streams to breed and resident fish that spend their entire lives in the watershed, as a high priority core recovery population (NMFS 2016). And when there is sufficient flow, the watershed provides spawning and rearing habitat for other anadromous fish species, like the Pacific lamprey, a species of special concern that has been documented along the Pacific Rim from Hokkaido Island, Japan to Baja California, Mexico (Reid and Goodman 2020).

The National Audubon Society has identified Utom and its associated coastal shoreline as global priority Important Bird Areas (IBAs) for resident and migratory birds within the Pacific Flyway, a north-south migratory corridor that extends from Alaska to Patagonia (Figure 4). Federally endangered species like the least bell's vireo, southwestern willow flycatcher and snowy plover have designated critical habitat within the watershed (Figure 3). Both the least bell's vireo and southwestern willow flycatcher seasonally breed in California with the least bell's vireo overwintering as far as southern Mexico and the southwestern willow flycatcher overwintering in Mexico, Central America and northern South America. The watershed provides breeding, foraging, and resting habitat for these and other special-status bird species, including the western yellow-billed cuckoo (state endangered, federally threatened) and California least tern (state and federally endangered), as well as millions of other migratory birds, like the summer tanager and long-eared owl. Its location and heterogeneous habitats make it vital for global connectivity.

Natural riparian systems integrated into heterogeneous habitats like Utom's river watershed are critically important because they provide live-in habitat as well as local, regional, and global connectivity for the area's rich biodiversity. Connectivity among and between the watershed's streams and upland riparian habitat is essential for the survival of native fish species like the Southern California steelhead, unarmored threespine stickleback (state and federally endangered), arroyo chub (a species of special concern), and Santa Ana sucker (federally threatened). The shade and erosion control from riparian vegetation provide cool and clear streams that are ideal for spawning and rearing (Moyle, Katz, and Quiñones 2011; Lohse et al. 2008). Agricultural encroachment and over-aggressive removal of riparian areas have been identified as major drivers of declines in California's freshwater and anadromous fish (Lohse et al. 2008; Moyle, Katz, and Quiñones 2011; Opperman et al. 2005; Pess et al. 2002; Grantham et al. 2012).

Many other species, including mountain lions and bobcats, often use riparian areas and natural ridgelines as migration corridors or foraging habitat (Dickson et al, 2005; Hilty and Merenlender, 2004; Jennings and Lewison, 2013; Jennings and Zeller, 2017). And, as mentioned previously, sensitive species like the least bell's vireo and arroyo toad inhabit riparian areas. Similarly, connectivity between other wetland and wetland complexes, like vernal pools, and the associated upland habitat is important for species that rely on vernal pools and metapopulation dynamics for survival, like the vernal pool fairy shrimp (federally threatened) and western spadefoot toad (a species of special concern).

The watershed's riparian habitats can also provide some resilience to climate change. The canopy cover of riparian trees and the availability of groundwater have a cooling effect for both air and water temperatures, which creates a cooler microclimate for species to find refuge from a warming climate (Keeley et al. 2018; Gray et al. 2020; Knouft et al. 2021). In addition, the watershed's local and regional connectivity helps animals and plants adapt as climate change alters habitats and ecological processes and causes shifts in species' ranges (Scheffers et al. 2016; Wiens 2016; Román-Palacios and Wiens 2020). High levels of connectivity will allow a wide variety of species to adjust to shifts in resource availability and maintain a suitable climate space (Cushman et al. 2013; Heller and Zavaleta 2009; Warren et al. 2011).

It is estimated that 97% of historic riparian habitat in Southern California has been lost (Bowler 1989)(Riparian Habitat Joint Venture 2009). As one of the last remaining and mostly unchanneled major riparian systems in Southern California, Utom's watershed is a biodiversity and wildlife connectivity stronghold. Local and state officials must prioritize preserving and restoring habitat in the watershed and pushing back against further fragmentation.

## UTOM'S WATER QUALITY AND QUANTITY

Utom is a critical water resource for the Ventura County and northern Los Angeles County regions. Beyond its value as critical habitat for many species, it provides numerous recreational opportunities, drinking water for local communities, and supports the local agricultural industry. The river system originates at Pacifico Mountain of the San Gabriel Mountains and flows westward to the Pacific Ocean. It drains a total area of about 1,634 square miles. Principal tributaries of Utom are Castaic Creek in Los Angeles County, and Piru, Sespe and Santa Paula creeks in Ventura County, with drainage areas of 197 mi<sup>2</sup>, 441 mi<sup>2</sup>, 269 mi<sup>2</sup> and 42 mi<sup>2</sup>, respectively. Four major reservoirs, Lake Piru and Pyramid Lake on Piru Creek, Castaic Lake on Castaic Creek, and the Bouquet Reservoir on Bouquet Creek control about 37% of the watershed (VCPWA FCD, 1994). Approximately 40% of the watershed (drained by the upper Utom) is within Los Angeles County and 60% (drained by the lower Utom) is in Ventura County.

Surface waters of the watershed are diverted for storage reservoirs and wastewater treatment plants (UWCD, 1996). In addition, the region's fresh water supply relies on large groundwater reserves that exist in alluvial aquifers underlying the valley of Utom and its tributaries and the Oxnard Coastal Plain (RWCQB, 1994). These groundwater basins, across the entire 500-year floodplain, rely on Utom as the major source of recharge. However, historical diversions of surface waters and over-drawing of groundwater has harmed the natural ecosystem and caused depletion of critical water resources as the rate of natural replenishment cannot keep up. Thus, sustainable management of water quality and quantity is essential for regional ecological and community health.



## Stream Flow

The upper Utom is a large ephemeral stream that comprises the headwaters of Utom's riverine system. It originates as a typical mountain stream with a relatively narrow channel. As the river continues, it becomes a typical braided stream, characterized by braided channels, wide floodplain, and coarser sand gravel deposits that extend into the lower Utom. Utom forms a coastal lagoon and an estuary at its mouth at the Pacific Ocean near the Ventura Marina and McGrath State Beach.

The morphology of the river is controlled by stormwater flows and flash floods (UWCD, 1996). Stream flows in some portions of the river and its tributaries are seasonal and high intensity following rainfall. Other portions of the river have surface flows year-round. Controlled water conservation releases, wastewater effluent discharges, agricultural runoff, "rising" groundwater and other flows contribute to the year-round flow (SC RPSC, 1996).

## Surface Water Quality

Historically, United Water Conservation District and Castaic Lake Water Agency observed two trends in surface-water-quality data collected in the upper Utom from 1951 to 1993: (1) an increase in concentration of the total dissolved solids (TDS) and sulfate from upstream (Lang Station) to downstream (County Line station) in Los Angeles County; and (2) a general decrease in concentrations of TDS and sulfate across all the stations over their periods of record.

The water quality data for the lower Utom from 1977-1988 indicated: (1) a weaker trend of TDS and sulfate concentrations progressively increasing downstream than observed in the upper reaches of the river; (2) higher quality waters associated with higher flow volumes and lower quality waters associated with lower flow volumes; (3) elevated nitrate concentrations observed at several stations downstream of developed areas within the watershed, correlated with land-use practices including septic tanks, agriculture, industry, and reclaimed water; and (4) elevated chloride concentrations from water-reclamation plants displaying similar trends to nitrate (SC RPSC, 1996).

Potential sources of water-quality problems in the lower Utom include natural oil seeps in the Santa Paula area, impacts from urbanization and agriculture and effects of imported and reclaimed water (UWCD, 1996). Surface water trend evaluation of Utom is difficult due to its complex hydrogeology, with numerous areas of sinking and rising groundwater at the subbasin boundaries, and data gaps in the upper reaches.

Several water-quality issues associated with Utom's estuary were identified in the 1996 study: (1) As of 1992, the plan allowed for the natural breaching of the sandbar at the mouth of the lagoon when the water level reached 9 feet above mean sea level (AMSL); (2) Mosquito Abatement; (3) Eutrophication; (4) Coliform - Bacteria levels exceeding recreational standards have been recorded at receiving stations in the estuary and nearby ocean monitoring stations and believed to result from birds; and (5) Pesticides (SC RPSC, 1996).

As reported in the 2006 State of the Watershed Report, the Utom still struggles with managing surface water quality. The estuary and beach are on the 303(d) list for coliform while a portion of the river upstream of the estuary is listed for ammonia and coliform. The estuary is also listed for toxaphene and residual amounts of other legacy pesticides (ChemA) in fish tissue. Three small lakes in the watershed are also on the 303(d) list for eutrophication, trash, DO, and/or pH problems. In addition, portions of the river have chloride exceedances (Birosik, 2006).

The clear trend is that the mainstem of the Santa Clara River has lower-quality water than most of its large tributaries. For many constituents, concentrations increase from the top to the bottom of the mainstem. However, the reverse is occurring with chloride and nitrate. For details by region, see Table 1 below.

**Table 1. Surface Water Quality From 1990-2006**

	Chloride	Sulfate	TDS (total dissolved solids)	Nitrate
<b>Reach 2: Includes Todd Barranca and mainstem below Freeman Diversion down to Highway 101 bridge</b>	Not reported	Impaired	Impaired	Impaired
<b>Reach 3: Includes the mainstem from above Freeman Diversion to just above Sespe Creek as well as the lower stretches of Santa Paula and Sespe Creeks</b>	Impaired	Impaired	Impaired	Gradually decreasing in concentration
<b>Reach 4: Includes the mainstem from just above Sespe Creek to just before the County Line as well as Hopper Canyon Creek and the lower stretch of Piru Creek</b>	Low concentrations	Impaired	Impaired	Impaired
<b>Reach 5: Includes the mainstem from just west of the County Line to the I-5 freeway bridge as well as the Castaic Creek subwatershed</b>	Impaired	variable but generally below objective	variable with a few over the objective	Impaired
<b>Reach 6: Includes a short section of the mainstem between San Francisquito and Bouquet Canyon Creeks as well as those subwatersheds and the South Fork</b>	Impaired	mostly below objective; more variable recently	mostly below objective	All below objective
<b>Reach 7: Includes the mainstem from Bouquet Canyon Creek to the Lang</b>	Not reported	mainstem sites all	mainstem stations	Not reported



<b>gauging station as well as Mint and Pole Canyon Creeks</b>		exceed the objective	mostly over objective	
<b>Reach 9: Includes the upper stretches of the Santa Paula Creek subwatershed</b>	– few data, some exceedances	Not Reported	few samples; gradual decreasing trend but most samples over objective	low concentrations throughout
<b>Reach 10: Includes the upper stretches of the Sespe Creek subwatershed</b>	few data, about half exceedances	Not reported	very few samples	low concentrations throughout
<b>Reach 11: Includes the Piru Creek subwatershed above Santa Felicia Dam</b>	few data points; decrease over time, few recent exceedances	variable and mostly below objective	mostly below objective	low concentrations throughout

Birosik (2006)

### Groundwater Quality and Quantity

The California Department of Water Resources delineates two groundwater basins in Utom’s floodplain: Acton Valley Basin and Santa Clara River Valley Basin. Both valleys are drained by Utom toward the Pacific Ocean to the west.

Between the Acton Valley Groundwater Basin and the Santa Clara River Valley Basin is the 9-mile-long Soledad Canyon Alluvial Channel. The water resources department does not designate the Soledad Canyon Alluvial Channel as a groundwater basin, but 21 private water-supply wells extract groundwater throughout the channel. Groundwater extraction data, groundwater storage and yield data are not currently available (UWCD, 1996).

The Santa Clara River Groundwater Basin is subdivided into six sub-basins (in downstream order): Santa Clara River Valley East, Piru, Fillmore, Santa Paula, Mound and Oxnard (DWR, 1980). Details on basin area, storage capacity, historical storage and storage depletions are depicted in Figure 5 and Table 2 below.

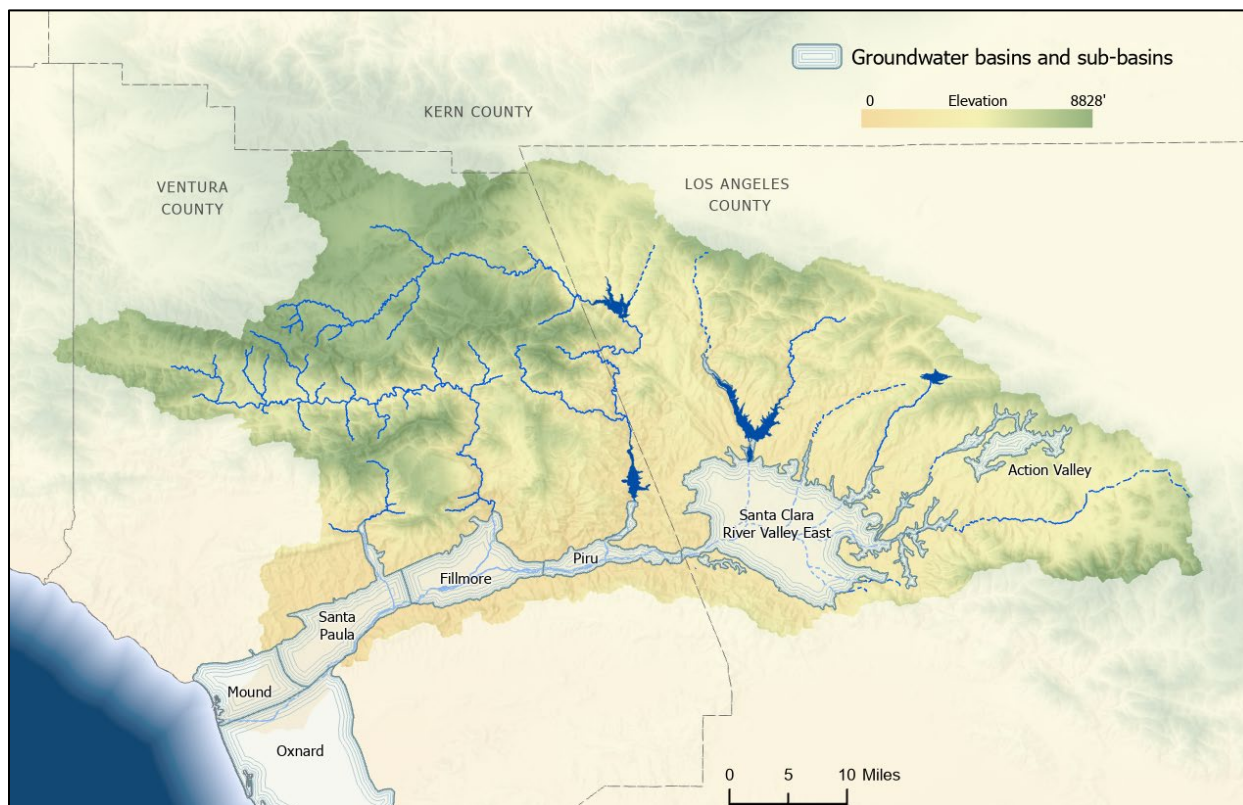


Figure 5. Groundwater basins and subbasins of the Utom watershed

Table 2. Utom Groundwater Basins

Basins	Area (square miles)	Aquifers	Estimated Storage Capacity (acre-feet)	Estimated Historical Storage (acre-feet)	Estimated Storage Depletions (acre-feet)
<b>Acton Valley Groundwater Basin</b>	12.9	NA	40,000 to 45,000	Dry: 14,883 (1965) Wet: 34,395 (1945)	Several water-suppliers extract > 100 gallons/minute
<b>Santa Clara River Valley East</b>	103	Alluvial	239,900	Dry: 107,000 (1965) Wet: 201,000 (1945)	12,000-21,000 (1987-1994)
		Saugus	1,413,000	Unknown	8,000-14,500 (1987-1994)
<b>Piru</b>	13.9	NA	1,979,000	Unknown	6,335-15,128 (1983-1990)
<b>Fillmore</b>	32.5	NA	7,330,000	45-foot fluctuations since 1946	31,896-61,804: (1983-1989)
<b>Santa Paula</b>	35.7	NA	754,000	55-foot fluctuations since 1975	15,708-29,799 (1983-1990)



<b>Mound</b>	23.1	NA	153,000	110,000 (1999)	Unknown
<b>Oxnard</b>	90.6	NA	7,140,000	5,380,000 (1999)	Forebay: 22,830-121,000 (1980-1990) Plain: 81,467 (1990), 46,938 (1992)

SC RPSC (1996)

Regional groundwater-quality issues include exceeding health standards for pollutants, primarily runoff from industry and agriculture as well as saltwater intrusion from over-drafting. Nitrate runoff from agriculture also contaminates many of the basins and subbasins within the watershed, and seawater intrusion threatens long-term viability of these crucial water resources.

#### ***Acton Valley Groundwater Basin***

The Department's report indicated high concentrations of TDS, sulfate and chloride in 75 wells in the northern part of the basin, some concentrations exceeding drinking water standards (Slade, 1990; DWR 1993). Nitrate concentrations in two wells were above drinking water standards as well (DWR, 1968).

#### ***Santa Clara River Valley East Groundwater Subbasin***

The state evaluation indicated that nitrate concentrations were above the state maximum contaminant level (MCL) of 45 mg/L in some parts of the Santa Clara River Valley East Groundwater Subbasin (DWR 1993). However, the 2002 Annual Water Quality Report produced by the Santa Clarita Valley Water Purveyors has shown that the MCL for nitrate was not exceeded in 2002 for potable water delivered to respective customers. UWCD and CLWA (1996) reported nitrate concentrations ranged from non-detectable to 57 mg/L in both aquifers. High concentrations of TDS reported in some wells in the western part of the subbasin make the groundwater unsuitable for domestic use.

#### ***Piru Groundwater Subbasin***

The most prominent natural contaminants in the Piru Groundwater Subbasin are boron and sulfate (UWCD, 1996). Agricultural return flows may lead to high concentrations of nitrate, especially during dry periods (UWCD, 1996; Birosik, 2006). Urban storm water runoff is high in chloride. Chloride concentrations appear to be distinctively higher throughout the Piru subbasin than in the Fillmore subbasin to the west (UWCD, 2001b). Other potential sources of water quality problems are leaking underground storage tanks and wastewater effluents (Birosik, 2006).

#### ***Fillmore Groundwater Subbasin***

Elevated nitrate concentrations in the groundwater were observed in two areas within the Fillmore Groundwater Subbasin: the Bardsdale area near Fillmore and the west side of Sespe Creek west of Fillmore (UWCD, 1996). Historically, the eastern Sespe Uplands area has the highest concentrations of nitrate and boron in both the Fillmore and Piru subbasins. Nitrates also may be naturally occurring in the underlying San Pedro Formation (DWR, 1968). Agricultural return flows may lead to high concentrations

of nitrate as well, especially during dry periods (UWCD, 1996; Birosik, 2006). Urban storm water runoff tends to concentrate chloride. Other potential sources of water quality problems are leaking underground storage tanks, wastewater effluents and leaching of contaminants from a nearby Toland Road landfill (Birosik, 2006). The possibility of the leaching from the landfill will be reduced after the completion of landfill improvements (including construction of a stability berm) originally proposed for commencement in January 2003 but has been delayed (DWR, 1968).

### ***Santa Paula Groundwater Subbasin***

Nitrate concentrations in the Santa Paula Groundwater Subbasin can fluctuate significantly (Birosik, 2006). The 2000 TDS and chloride concentrations exceeded groundwater quality objectives established by the Regional Water Quality Control Board (RWQCB) (DWR, 1968).

### ***Oxnard Groundwater Subbasin***

The primary water-quality concern in the Oxnard subbasin is the saline water encroachment in the Oxnard Plain area along the coast between Port Hueneme and Point Mugu. UWCD/USGS's Regional Aquifer Systems Analysis (RASA) study indicated four major types of chloride degradation (UWCD, 1996):

- Lateral seawater intrusion
- Movement of poor quality semi-perched zone water down the failed well casings causing cross-contamination of freshwater supplies
- Dewatering of high-chloride content marine clays caused by regional pumping stress
- Lateral movement of saline water along fault plains

According to the UWCD (2003), cross-contamination of aquifers by leakage of near surface waters through abandoned wells appears to be the largest source of contamination besides seawater intrusion (UWCD, 2003).

Elevated nitrate concentrations in the groundwater exceeding the state MCL are periodically observed in several areas in the forebay near El Rio and near transitional boundary (unconfined to confined conditions) of the forebay and the Oxnard Plain (DWR, 1968). High and variable concentrations of nitrate are of the primary concern in the forebay area, which is the source of drinking water supply for the entire subbasin and recharge area for the Oxnard Plain.

Additionally, elevated levels of DDT and PCB are found near Point Mugu but are not detected in the water supply aquifers (Birosik, 2006).

### ***Threats to Utom's Quality and Quantity***

While Utom is one of the few remaining natural river systems in Southern California, development pressure, over drafting of surface and groundwater, pollution and invasive species all threaten the ecological health of this watershed. Fortunately, there are clear strategies to prevent further harm and restore some of the most impacted areas through smart and sustainable water management plans that include regional water conservation and recycling.



### ***Vern Freeman Diversion***

The Vern Freeman Diversion is the major impediment to the migration and thus survival of the Southern California steelhead in Utom's watershed. Utom once supported a population of 9,000 steelhead per year, but because of the diversion's non-functional fish ladder and the disrupted flow schedule associated with the diversion's operations, the river only sees runs of up to 2 steelhead per year (CalTrout, 2021).

The diversion blocks steelhead access to 99% of the watershed, including the Sespe, Piru, and Santa Paula creeks that provide high quality spawning and rearing habitat. The Sespe Creek and Santa Paula Creek sub-watersheds could support a large reproducing population. These sub-watersheds are large enough to provide refuge during droughts and is currently the only place where land-locked steelhead reproduction is occurring.

Through recent successful litigation, the Wishtoyo Foundation and the Center for Biological Diversity obtained a court order requiring United Water Conservation District to design and implement a steelhead passage solution for the Vern Freeman Diversion Dam and to release sufficient water downstream needed for steelhead migration.

### ***Seawater Intrusion***

Groundwater levels in the Oxnard Plain area (Mound, Oxnard, Santa Paula, Pleasant Valley and Las Posas Valley) have been relatively stable or have shown an increasing trend. However, in the coastal regions this stability is largely due to seawater intrusion, which results in water of unusable quality replacing high quality groundwater. Saltwater intrusion occurs in many ways, including lateral encroachment from coastal waters and vertical movement of saltwater near discharging wells (USGS, 2021). Saltwater intrusion decreases freshwater storage in the aquifers and, in extreme cases, can result in the abandonment of wells. The intrusion of saltwater caused by withdrawals of freshwater from the groundwater system can make the resource unsuitable for use. This threatens neighboring communities that rely on groundwater for drinking and agriculture (CalTrout, 2021). In Southern California's semi-arid Mediterranean climate, Groundwater Dependent Ecosystems (GDE) including riparian areas, estuaries and isolated springs and seeps, rely on groundwater particularly during dry summers, periods of drought and as the advancing effects of climate change (Rohde, M.M. et al. 2018). Seawater intrusion can cause groundwater to become too salty to support vegetation that relies on freshwater and upset the balance of soil nutrients (USDA 2022), resulting in detrimental impacts to riparian and other GDEs that provide habitat to imperiled species within Utom's watershed.

Seawater intrusion began in the Oxnard Plain area by 1930s and was widespread as early as the 1940s. Changes in groundwater management, including pumping reductions, shifting of pumping locations, implementation of the Vern Freeman Diversion and the operation of the Pumping Trough and Pleasant Valley pipeline systems have significantly reduced seawater intrusion, but seawater intrusion conditions throughout the watershed persist (California Water Foundation, 2021). One success story is the recorded rising groundwater levels in the Las Posas Valley are a result of active management to increase groundwater recharge beneath the Arroyo Las Posas.

### ***Contamination***

Polluted stormwater runoff from industry, agriculture and residential area septic systems are negatively impacting surface-water quality on Utom.

Of the 125 dischargers enrolled under the general industrial stormwater permit in the watershed, the largest numbers are located in the cities of Santa Clarita, Santa Paula and Valencia (California Water Board, 2021). There is a wide array of businesses represented, including wholesale trade-durable goods; trucking and warehousing; stone, clay and glass products; and nonmetallic minerals. A similar number of sites are located in the upper and lower watershed.

There are currently 129 sites enrolled under the general construction stormwater permit. The majority of these sites are located in the upper watershed, especially in the cities of Santa Clarita and Valencia. Other clusters of construction are found in the cities of Santa Paula and Fillmore, as well as near the coast. About half of the sites are residential and about two-thirds are five acres or greater in size with four sites being at least 1,000 acres.

While there are several small Publicly Owned Treatment Works (POTW) in the Ventura County portion of the watershed (one of which discharges to the estuary) and two larger POTWs in the upper watershed, many of the smaller communities in the watershed remain unsewered. In particular, in the Agua Dulce area of the upper watershed, impacts on drinking water wells from septic tanks are a major concern. The community is undertaking a wellhead protection effort, with oversight by RWQCB staff. Development pressure, particularly in the upper watershed, threatens habitat and water quality of the river. The effects of septic system use in the Oxnard forebay area are also of concern.

### ***Channelization***

Although Utom is one of the few rivers in Southern California that has not been significantly altered through channelization, development pressure continues to threaten this natural watershed. Future flood control measures such as channelization should be avoided because it increases runoff volumes and velocities, erosion, and loss of habitat. More specifically, channelization can drain wetlands, lower groundwater levels, reduce groundwater recharge from stream flow, and increase erosion sedimentation, channel maintenance, and downstream flooding. While channelization is often proposed as a solution to make flood plains developable, such changes harm many riparian species and threaten the region's groundwater supply. Changes in stream flow and removal of natural stream beds and associated vegetation dramatically reduce the wildlife that exist in these ecosystems (Johansson, 2013). Johansson (2013) found that channelization was the main factor affecting the fish biota, both in abundance as well as species richness and composition (Johansson, 2013). Utom needs to be protected against this threat and the natural flood plains must remain if the region wants to preserve its natural water supply and rich biodiversity.



### *Invasive Species*

*Arundo donax* (giant reed, bamboo reed, giant reed grass, arundo grass, donax cane, giant cane, river cane, bamboo cane, canne de Provence) is the largest member within the genus of tall perennial reed-like grasses, growing to a height of 8 meters (Bell, 1998). This species is native to freshwaters of eastern Asia, but has been cultivated throughout Asia, southern Europe, north Africa, and the Middle East for thousands of years and planted widely in North and South America and Australasia in the past century (Bell, 1998). It was intentionally introduced from the Mediterranean in the 1820s to the Los Angeles area as an erosion control agent in drainage canals, and was also used as thatching for roofs of sheds, barns, and other buildings (Bell, 1998). It has been cultivated in the Utom floodplain for its use in woodwind instruments. Today it is an invasive pest throughout the warmer coastal freshwaters of the United States, from Maryland to northern California.

*Arundo donax* grows along lakes, streams, and drains. Under optimal conditions it can grow more than 5 centimeters per day. *Arundo donax* stands are among the greatest biomass productivity of all communities. Under ideal growth conditions they can produce more than 20 tons per hectare above-ground dry mass annually (Perdue 1958). According to a 2011 report by the California Invasive Plant Council, one acre of the nonnative, invasive *Arundo* consumes 24 acre-feet of water per year, whereas an acre of native plants uses 4 acre-feet per year. In other words, *Arundo* consumes six times more water than native riparian plants (*Arundo donax*, 2011).

*Arundo donax* represents a major threat to the Utom's remaining riparian corridors today. This alien grass readily invades riparian channels and is very competitive, difficult to control, and likely does not provide either food or nesting habitat for native animals. *Arundo* competes with native species such as willows (*Salix* sp.), mulefat (*Baccharis salicifolia*) and cottonwoods (*Populus* sp.) which provide nesting habitat for federally and state threatened and endangered birds, including the least Bell's vireo and southwestern willow flycatcher (Bell, 1998). Management of *Arundo donax* is critical to the preservation of Utom's natural state.

### *Steps Forward and Signs of Progress*

Moving forward, regional water agencies must take environmental impacts into account. One sign of progress was the approval of the Oxnard Subbasin's Groundwater Sustainability Plan on Nov. 18, 2021 (CalMatters, 2021). While other plans have been rejected for failing to thoroughly manage and assess the impacts of over-pumping, Oxnard's plan was accepted. However, much more can and should be done. For example, the region needs to invest in the ecological and cultural restoration of Utom and the revitalization of endangered fish species including Southern California steelhead. Restoring Utom's functional fish passage and its natural flow regime will profoundly restore its ecological integrity. Similarly greater water conservation can be achieved by reducing groundwater pumping, crop selection and maintaining soil health. (Bhalerao et al. 2013) In urban areas, investments in on-site graywater use, regional water recycling, stormwater capture and treatment, and native landscaping for groundwater recapture can significantly improve overall water quality and quantity in the Utom watershed. (University

of Florida, 2021) (Begum et al., 2008). Ultimately, the Utom needs water-management strategies that better balance the region's water resources to ensure that the watershed can continue to supply the surrounding community with safe, clean drinking water as well as support a thriving ecosystem for all the native species that rely on it as habitat.

## LAND-USE PLANS AFFECTING UТОM'S WATERSHED

Utom's watershed spans multiple jurisdictions in Ventura and Los Angeles counties, as well as cities such as Santa Clarita and Ventura and federal lands managed by the U.S. Forest Service. These jurisdictions have adopted land-use plans containing policies, ordinances, and zoning designations that affect Utom and its watershed (Figure 6). While some of these policies afford significant protections, many do not provide clear and enforceable guidelines, leaving the river vulnerable to continued development that could jeopardize it as well as the plants and animals that depend upon it.

### *Ventura County General Plan*

The Ventura County General Plan sets forth the goals and policies to manage future growth in unincorporated Ventura County, which encompasses a significant portion of Utom's watershed (Ventura County, 2020). The General Plan contains some policies designed to protect the watershed, including policy COS-1, which requires identification, preservation, and protection of state and federally listed species and their supporting habitats, including wetland, riparian, and coastal habitats. (General Plan at 6-2.)

Within this policy are 15 subpolicies to require mitigation measures for discretionary development that could potentially hurt sensitive species (COS 1.1 – 1.2) and require incorporation of wildlife passage features on road and floodplain improvements (COS 1.3-1.5). (General Plan at 6-2.) Moreover, policy COS 1.7 requires that discretionary development balance the preservation of streams, wetlands and riparian habitats while policies COS 1.10 and 1.11 require evaluation for potential impacts of discretionary development on wetlands or near wetlands. (General Plan at 6-3.) Policy COS 1.11 further states that discretionary development that would have a significant impact on a wetland habitat shall be prohibited unless mitigation measures are approved that would reduce the impact to a less than significant level, subject to some exceptions. (*Id.*) Together these policies offer some protection from unsustainable development in the watershed.

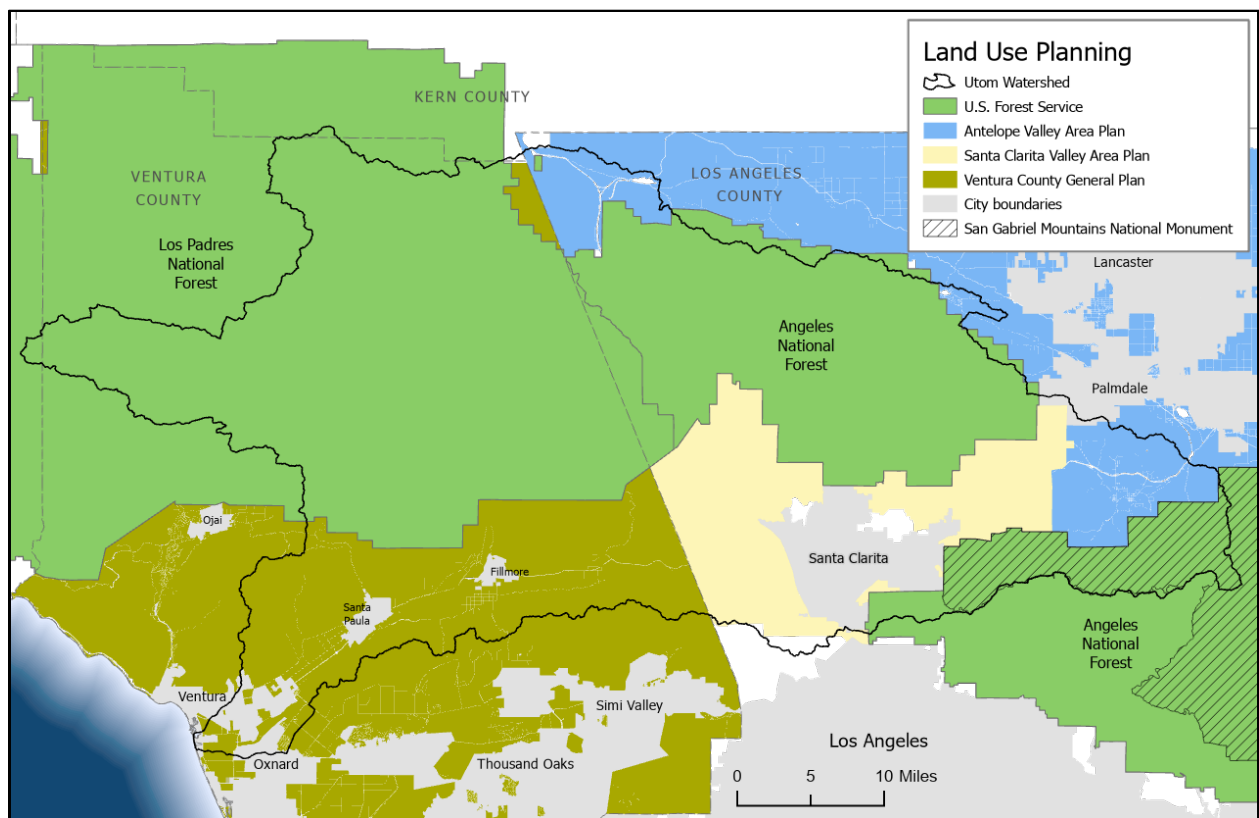


Figure 6. Land-use plans in Utom’s watershed

The General Plan also contains policy WR-7, which encourages but does not require agencies to manage water quantity and quality to address availability for environmental purposes, including maintenance of existing groundwater-dependent habitats and in-stream flows needed for riparian habitats and species protection. (General Plan at 9-10.)

The El Rio/Del Norte Area Plan includes policies specific to Utom, but they only extend within the plan area near Highway 101 and State Route 232. For instance, policy ED 3-2 includes a land use designation of open space in order to minimize hazards from flooding (ED-11) and ED-32 and ED-33 encourage protection and revegetation of natural habitat areas and the Santa Clara River that incorporates native species. (ED 17.) Likewise, ED 33.1 and 33.2 require evaluation of impacts to biological resources of discretionary development near the river and landscaping of lots in natural habitat areas to utilize appropriate native species. (*Id.*)

The Piru Creek Area Plan similarly includes policies for the Piru Creek tributary of Utom. For example, the plan contains a policy that all discretionary development within 100 feet of Piru Creek or Utom must be designed to prevent impacts which would significantly degrade riparian habitats (Piru Creek Area Plan, 2011). In addition, development within or adjacent to Piru Creek or Utom must dedicate wildlife connectivity easements if deemed necessary by the county to protect biological resources, and



when discretionary development proposals might affect biological resources, California Department of Fish and Wildlife, USFWS, and the National Audubon Society at the Condor Research Center must be consulted. (*Id.*)

### ***Ventura County Wildlife Connectivity Ordinance***

In March 2019 Ventura County adopted ordinances 4537 and 4539, also known as the Habitat Connectivity and Wildlife Corridor Ordinances or the Wildlife Connectivity Ordinance (Ventura County, 2019). The goal of the Wildlife Connectivity Ordinance is to preserve functional connectivity for wildlife and vegetation through connectivity areas by minimizing direct and indirect movement barriers and minimizing loss of vegetation and habitat fragmentation. (See Connectivity Ordinance at § 8104-7.7.)

Toward this goal, the Wildlife Connectivity Ordinance designates an overlay zone that includes development standards for any development that undergoes ministerial review. These standards prohibit certain types of lighting and fencing that have the potential to disturb and/or interfere with wildlife movement and require that setbacks be included on development near surface water features. More specifically, proposed development within 200 feet of a surface-water feature or an identified wildlife crossing generally cannot be approved ministerially, and instead would require that the applicant seek and obtain a discretionary permit from Ventura County. The term “surface water feature” is defined broadly to include an area containing a stream (including an intermittent or ephemeral stream), creek, river, wetland, seep, or pond and the riparian habitat area associated with the feature. This means that even intermittent tributaries of Utom should receive some level of protection under the Wildlife Connectivity Ordinance. In addition, Utom and significant areas of the surrounding riparian habitat are designated as a part of the overlay zone (Ventura County, 2022).

Within the overlay zone, there are particular areas known as Critical Wildlife Passage Areas, or CWPAs. Within CWPAs the standards above for the overlay zone apply, as well as provisions that require more compact development to help maintain undeveloped areas that serve as linkages for wildlife movement.

### ***Los Angeles County General Plan***

The Los Angeles County General Plan provides a regulatory and policy framework for land-use decisions within the unincorporated portions of Los Angeles County, which span more than 2,650 square miles (L.A. General Plan, 2015). The L.A. County General Plan includes more than a dozen area plans which contain policies that are specific to that planning area. (*Id.* at 28.) Within Los Angeles County, the Antelope Valley Area Plan and Santa Clarita Valley Area Plan are the two major plans covering Utom’s watershed.

In addition to the plan-specific policies discussed in sections (D)(1) and (D)(2) below, the L.A. County General Plan contains goals and policies to protect open space and conservation of natural resources. (*Id.*)

at 128.) For instance, Goal C/NR 3 is identified as the “permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and S[ignificant]E[cological]A[reas].” (*Id.* at 137.)

However, the policies supporting goal C/NR 3 do not provide clear benchmarks or safeguards to meet this goal. For example, policy C/NR 3.3 states, “Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function — acknowledging the importance of incrementally restoring ecosystem values when complete restoration is not feasible.” (*Id.*) The policy does not clearly identify which persons or entities are tasked with these restoration efforts, nor does the policy or any other part of the L.A. County General Plan provide a timeline on which such restoration efforts must (or even should) occur.

Likewise, policy C/NR 3.8 states, “Discourage development in areas with identified significant biological resources, such as SEAs.” (*Id.* at 137.) Similarly, policy C/NR 3.11 states, “[d]iscourage development in riparian habitats, streambeds, wetlands . . . .” (*Id.* At 138.) Again, these policies do not identify who or what entities (e.g., L.A. County Department of Regional Planning, the L.A. County Board of Supervisors) are tasked with “discouraging” such development, or how county officials would discourage such development in practice. The utility or benefit of these policies seems particularly questionable since L.A. County often approves development projects in areas with significant biological resources or riparian habitats.

Policy C/NR 3.9 provides slightly more detail for the review process for projects located in Significant Ecological Areas or “SEAs.” This policy identifies a number of goals such as a “protection of water sources from hydromodification in order to maintain the ecological function of riparian habitats” and requires these goals be “consider[ed]” in the design of projects located in SEAs. (*Id.* at 138.) Yet, requiring the “consideration” of a goal does not provide any assurances that the goal will be met, or even that steps will be taken towards meeting that goal.

### ***Antelope Valley Area Plan***

Adopted in 2015, the Antelope Valley Area Plan (AVAP) (L.A. County, 2015) governs land use decisions in the Antelope Valley in Los Angeles County, which includes a significant portion of the upper watershed of Utom. (L.A. County, 2014)

The AVAP designates 19,276 acres of the upper watershed of Utom as an SEA (L.A. County, 2014) which was subsequently adopted by the county in December 2019. The SEA Program is designed to ensure that private lands in SEAs retain a right of reasonable use while avoiding development or activities that are incompatible with the viability of the SEA. (*Id.* at 5.4-1.) More specifically, the SEA Ordinance establishes

permitting requirements, development standards, and review processes for development within SEAs such as the upper watershed of Utom. (L.A. County, 2019)

However, within the boundaries of the AVAP (which includes part of the Santa Clara River SEA), the SEA Ordinance entirely exempts construction of a single-family residence, regardless of size, as well as additions to a single-family residence, landscaping, new assessor structures, additions to existing accessory structures, new or expanded animal keeping areas and facilities, and agricultural uses on all previously disturbed farmland. (See Los Angeles County Code, tit. 22, div. 5, chapt. 22.102.040.) These exemptions significantly reduce the effectiveness of the SEA Program to protect Utom.

The AVAP and its EIR contain very limited policies designed to protect water quality, such as “discourag[ing] water intensive recreational uses” and requiring stormwater infiltration on new development. (AVAP at COS-3.) Yet, as noted above, a policy “discouraging” a certain activity may have little positive effect in practice.

### ***Santa Clarita Valley Area Plan***

The Santa Clarita Valley Area Plan (SCVAP) is also part of the L.A. County General Plan and was adopted by L.A. County in 2012. (L.A. County, 2012) Like the AVAP, the SCVAP contains general policies to protect riparian areas and water quality. Objective S-2.1 is to “plan for flood protection as part of a multi-objective watershed management approach for the Santa Clara River and its tributaries.” (SVCAP at p. 219.) Policies supporting this objective include designating appropriate areas within the floodplain as open space for multi-use purposes (policy S-2.1.1.) and cooperating with other agencies regarding watershed management, water quality, and habitat protection (policy S-2.1.4).

Within the Conservation and Open Space Element, the SCVAP includes other general objectives and policies that could help benefit Utom and its watershed. Objective CO-13.5 identifies a goal to “minimize harm to ecosystems [and] watersheds” (SVCAP at p. 176). Policy CO-1.5.6 requires decision-makers to consider through the development review process the “impacts of development on the entire watershed of the Santa Clara River and its tributaries, including hydromodification.” (SVCAP at p. 176.) On its own terms, however, policy CO-1.5.6 does not require that such impacts actually be avoided or even mitigated, but simply considered.

Objective CO-3.1 contains slightly stronger policies designed to encourage conservation of existing natural areas to promote biodiversity. Policy CO-3.1.2 includes a policy to “avoid designating or approving new development that will adversely impact wetlands, floodplains, threatened or endangered species and habitat, and water bodies supporting fish or recreational uses, and establish an adequate buffer area as deemed appropriate through site specific review.” (SVCAP at p. 178.) Likewise, policy CO-3.2.1 states “protect wetlands from development impacts, with the goal of achieving no net loss (or functional reduction) of jurisdictional wetlands . . .” (*Id.* at 178.) Within objective CO-3.3 focused on wildlife



movement, policy CO-3.3.1 states “Protect the banks and adjacent riparian habitat along the Santa Clara River and its tributaries, to provide wildlife corridors.” (*Id.* at 178.)

While these objectives and policies — at least when considered together — appear to provide some protection for Utom and its watershed, implementing agencies have significant deference in deciding whether a particular development proposal is or is not consistent with a general plan. See *California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 637. Furthermore, courts have held that “a given project need not be in perfect conformity with each and every general plan policy.” (*Id.*) In other words, L.A. County could still theoretically approve a project that violates some or all of these policies, and such a decision may be considered consistent with the general plan and survive judicial review.

The SCVAP also describes five SEAs within Utom’s watershed: the Cruzan Mesa Vernal Pools SEA, the Santa Felicia SEA, Valley Oaks Savannah SEA, the Santa Clara River SEA and part of the Santa Susana Mountains/Simi Hills SEA, (SVCAP at p. 143.) As noted above, development in SEAs is subject to heightened permitting requirements, development standards, and review processes. Together the SEA Program in these areas provide some protections for lands within Utom’s watershed.

### *City of Santa Clarita General Plan*

The Santa Clarita General Plan was adopted in June 2011 (Santa Clarita, 2011) and provides a long-term plan for development in the city of Santa Clarita, which is within Utom’s watershed. The Conservation and Open Space Element contains policies to protect biological resources and water resources, although they are often quite vague. For instance, policy CO 3.1.1 states, “Avoid designating or approving new development that will adversely impact wetlands, floodplains, threatened or endangered species and habitat, and water bodies supporting fish or recreational uses, and establish an adequate buffer area as deemed appropriate through site specific review.” (Santa Clarita, 2011) This policy does not provide clear guidance as to what qualifies as an adequate buffer or specify who will deem such buffer appropriate (e.g., a developer-retained consultant, a city biologist, etc.). Likewise, policy CO 3.2.1 states, “Protect wetlands from development impacts, with the goal of achieving no net loss (or functional reduction) of jurisdictional wetlands within the planning area.” (*Id.*) This policy does not actually preclude development in wetlands, nor does it provide a path for how the “no net loss” standard will be achieved.

Policy CO 4.3.7 states, “Reduce the amount of pollutants entering the Santa Clara River and its tributaries by capturing and treating stormwater runoff at the source, to the extent possible.” (*Id.* at CO-90.) While this policy sets forth an admirable goal, it provides no clear means to meet this goal, or any guidelines as to what types of reductions in pollutants would be considered consistent with the plan. And the qualifier “to the extent possible” provides regulated entities with a means to absolve themselves of compliance by claiming a lack of feasibility.

Similarly, policy CO 4.4.3 discourages the use of chemical fertilizers, herbicides, and pesticides to reduce water pollution, but does not include any mandate to actual end the use of such chemicals. (*Id.* at CO-91.)

The Santa Clarita General Plan contains other policies applicable specifically to Utom. Policy CO 10.1.2 states:

The Santa Clara River corridor and its major tributaries shall be preserved as open space to accommodate storm water flows and protect critical plant and animal species, as follows:

- a. Uses and improvements within the corridor shall be limited to those that benefit the community's use of the river in its natural state.
  - b. Development on properties adjacent to, but outside of the defined primary river corridor shall be:
    - i. Located and designed to protect the river's water quality, plants, and animal habitats by controlling the type and density of uses, drainage runoff (water treatment) and other relevant elements; and
    - ii. Designed to maximize the full range of river amenities, including views and recreational access, while minimizing adverse impacts to the river.
- (*Id.* at CO-101.)

Again, this policy contains some important goals but is vague, giving the city significant discretion in how the policy is applied in any particular circumstance.

Moreover, policy CO 6.3.2 states, "Protect the banks of the Santa Clara River and its major tributaries through open space designations and property acquisitions, where feasible, to protect and enhance the scenic character of the river valley." (*Id.* at CO-93.) Here, the "where feasible" language robs the policy of having a powerful effect, because a developer can claim that protecting certain areas is not "feasible."

The Santa Clarita General Plan contains policies designed to protect open space. (*Id.* at CO-101-103.) Objective CO 10.2 is to "[e]nsure the inclusion of adequate open space within development projects." (*Id.* at CO-102.) Unfortunately, this objective is exceedingly vague because it does not define what qualifies as "adequate" open space. For instance, will a development project need to preserve three times as much land as is developed (e.g., 3-to-1 mitigation ratio), or some other lesser or greater ratio? The underlying policies are also unenforceable. For instance, policy CO 10.2.2 simply "encourages" that open space be "connect[ed] to each other and to adjacent open spaces, to the extent reasonable and practical." (*Id.* at CO-102.)

### *City of Ventura General Plan*

The city of Ventura's General Plan was adopted in 2005 and guides long-term decision-making for the development of the city. (City of San Buenaventura, 2005) Given that portions of the city are adjacent to

Utom, the city's General Plan contains policies designed to protect rivers, wetlands, and riparian habitats, many of which are incorporated into the city's local coastal program. For instance, within policy 1B (Increase the area of open space protected from development impacts), action 1.11 "requires that sensitive wetland and coastal areas be preserved as undeveloped open space wherever feasible and that future developments result in no net loss of wetlands or 'natural' coastal areas." (*Id.* at 1-5.) This language is significantly stronger than language in many of the other local land-use plans, given that it *requires* — as opposed to simply *encourages* — the preservation of sensitive wetland areas and sets a "no net loss" standard for wetlands.

Other policies provide some protections for Utom and its watershed. Under policy 1C (improve protection for native plants and animals), action 1.17 requires that developments "mitigate [their] impact on wildlife through the development review process." (*Id.* at 1-6.) Action 1.18 requires native or non-invasive plant species for new development adjacent to rivers and creeks, while action 1.19 requires that for development near watercourses, surveys must be conducted for listed or sensitive species, and appropriate buffers and other mitigation be implemented. (*Id.* at 1-6.)

## National Forest Management Plans

### ***Los Padres National Forest***

One of the primary tributaries of Utom is Sespe Creek, within the Los Padres National Forest. As such, the U.S. Forest Service's Land Management Plan for the Los Padres National Forest governs land use and regulation within much of this watershed. (U.S. Forest Service, 2005) Currently, 4.7 miles of Sespe Creek are a designated Wild and Scenic River, while another 11.5 miles are recommended for Wild and Scenic River status. Piru Creek, which flows through the eastern edge of the Los Padres National Forest and the western edge of the Angeles National Forest has 7.3 miles designated as part of the National Wild and Scenic Rivers System, with 4.3 miles designated as wild and 3 miles as recreational (National Wild and Scenic River System 2022). The Sespe Wilderness also currently encompasses 218,507 acres. (US Forest Service, 2005) The Existing Wilderness or EW designation only allows uses consistent with all applicable wilderness legislation and with the primitive character of the area. ((U.S. Forest Service, 2005) Other designations in the Los Padres National Forest include Back Country (BC), Back Country Motorized Use Restricted (BCMUR), Back Country Non-Motorized (BCNM), Critical Biological (CB), and Recommended Wilderness (RW). (See Land Management Plan at p. 6.) Other designations in the Sespe Watershed include BC, BCNM, CB, and Developed Areas Interface (DAI). (U.S. Forest Service, 2005)

Despite these designations, livestock grazing occurs in several areas around the eastern and northern perimeter of the Sespe Wilderness, and oil and gas are pumped from beneath the wilderness area via directional drilling from wells in the Sespe Field just outside the wilderness boundary. (Management Plan at p. 81.) Overall, the Los Padres National Forest contains approximately 21 oil and gas leases on 5,642 acres, containing approximately 180 wells and associated facilities. (Land Management Plan at p. 31.) In



short, while large portions of the Sespe Creek Watershed retain their natural features, continued grazing and oil drilling threaten water quality, wildlife and the health of the watershed.

### ***Angeles National Forest***

The headwaters of Utom lie within the Angeles National Forest. These headwaters and other small tributaries in the upper watershed are governed by the U.S. Forest Service's Land Management Plan for the Angeles National Forest (US Forest Service, 2005). As discussed above, 7.3 miles of Piru Creek have been designated under the Wild and Scenic River System, most of which lies within the Angeles National Forest's boundary. In addition, 13 miles of San Francisquito Canyon, a major tributary to Utom, is eligible as a Recreational River under the Wild and Scenic Rivers System. A small portion of the Sespe Wilderness is within the boundaries of the Angeles National Forest in Utom's watershed. The Magic Mountain Wilderness, which is made up of two noncontiguous sections totaling 11,938 acres, is located on the westernmost edge of the Mojave Rivers Ranger District. Most of the lands in Utom's watershed in the Angeles National Forest are designated Back Country Non-Motorized (BCNM), but also include Back Country (BC), Back Country Motorized Use Restricted (BCMUR), Critical Biological (CB), Special Interest Area (SIA) and Developed Areas Interface (DAI) (See Angeles Land Management Plan).

CB zones can be found in Castaic Creek, Fish Canyon, San Francisquito Creek and Soledad Canyon, and were designated to protect habitat for federal- or state-listed species including the Arroyo toad, unarmored three-spine stickleback, California red-legged frog and Nevin's barberry in Utom's watershed. There are two SIAs in Utom's watershed. The Libre Mountain botanical SIA was established in recognition of the unique stands of black oaks in the north-central part of the watershed. Farther east in the upper portion of Utom's watershed is the 7,850-acre Aliso-Arrastre Middle and North SIA, established for cultural resources including numerous Native American archaeological sites — from long-term occupation sites to seasonal encampments and special-use resource procurement, processing, and storage sites (Land Management Plan).

Despite these designations, Utom's watershed in this area is well-used by recreationalists primarily because of its easy accessibility to the larger Los Angeles and Santa Clarita urban areas.

### ***San Gabriel Mountains National Monument***

The boundaries of the San Gabriel Mountains National Monument are embedded within the Angeles National Forest and overlap Utom's watershed at the very western edge of the monument (see Figure 6). While the Monument Management Plan retained most of Angeles National Forest's existing land zoning, it clarified that within the monument no oil and gas exploration and development areas or minerals resources exploration and development would be allowed except for valid existing rights. The Monument Management Plan also designated sections of Aliso Canyon Creek, a tributary to Utom, as a CB zone due to the presence of California red-legged frogs. Under the plan, the expansion of utility corridors in the

area is only allowed through a land-use plan amendment. In addition, no overnight camping is allowed in this area.

### Upper Santa Clara River Enhanced Watershed Management Program

The Upper Santa Clara River Enhanced Watershed Management Program is developed by the city of Santa Clarita, Los Angeles County and Los Angeles County Flood Control District to comply with requirements in their Municipal Separate Storm Sewer System (MS4) Permit (USCR EWMP Group, 2015). The program covers 121,423 acres of the upper watershed under the jurisdiction of these agencies but excludes 262,748 acres under the jurisdiction of California State Parks and the Angeles National Forest (*Id.*). It was finalized in April 2016 (L.A. RWQCB, 2016) with the goal of establishing water-quality standards and improving water quality in the watershed.

### Nonregulatory Plans

There are nonregulatory plans that help influence and guide land-use decisions in Utom's watershed. One of the major nonregulatory plans is the Los Angeles Countywide Sustainability Plan, (L.A. County, 2019) which includes important conservation goals for the Los Angeles County. For instance, Action 36 in the plan calls for the evaluation and implementation of mechanisms such as a stream-protection ordinance to protect and preserve natural buffers to waterbodies such as floodplains, streams, and wetlands (*Id.* at 58). The timeline or "horizon" for these mechanisms or ordinance is "short-term," which is defined as "by or before year 2025" (while medium-term is by 2035) (*Id.* at 21). Similarly action 68 calls for "comprehensive and coordinated management guidelines for local waterways" that balance flood risk, habitat, biodiversity, and other factors, with a timeline of "short-term" or by 2025 (*Id.* at 88). And action 67 is "develop a wildlife connectivity ordinance" with a "medium-term" or by 2035 timeline (*Id.* at 88). Given that the sustainability plan is only a few years old, it remains to be seen how much, if at all, it will guide or influence development decisions in L.A. County.

The Santa Clara River Enhancement and Management Plan was created to "to provide a guidance document for the preservation, enhancement, and sustainability of the physical, biological, and economic resources that occur within the 500-year floodplain limits of the Santa Clara River mainstem that will be of benefit to stakeholders when planning and implementing projects and activities" (SCREMP, 2005). Supported by local, state and federal agencies including [California State Coastal Conservancy](#), [Los Angeles County Department of Public Works](#), [U.S. Environmental Protection Agency](#), [USFWS](#), [Ventura County Watershed Protection District](#), the plan collected data on numerous resources of Utom including biological and water resources, cultural resources, aggregate, flooding, and access and recreation. It encouraged improved coordination and exchange of information among the project steering committee members with the goal of resolving conflicting uses along the river. While some of the plan's actions have been implemented, this effort has not been updated and implementation has languished in the recent past. The ultimate goals of this effort have therefore not been realized.

Another key nonregulatory plan is the South Coast Missing Linkages Project (SC Wildlands, 2008). The project was led by SC Wildlands in partnership with local, state and federal agencies and organizations including The Wildlands Conservancy, National Park Service, California State Parks and the Santa Monica Mountains Conservancy. The project envisions an interconnected set of nature reserves to allow ecological processes to continue operating (Project at 1). The project includes a comprehensive plan for a regional network that would maintain and restore critical habitat linkages between existing reserves (*Id.*). The project identifies the San Gabriel-Castaic Connection as a key linkage that encompasses portions of Utom, including its headwaters near Soledad Canyon (*see* Project at pp. 14-16).

SC Wildlands published a separate report on the San Gabriel-Castaic Connection (SC Wildlands, 2004), which provides recommended locations of wildlife crossing structures and identifies existing barriers to wildlife movement (report at pp. 60-73). The report also identifies impediments to streams including Utom and contains recommendations to mitigate the effects of stream barriers (*Id.* at pp. 74-78). These include restoring natural historic flows, upgrading existing culverts that impede wildlife movement in riparian zones, restoring riparian vegetation within six-tenths of a mile of streams and rivers, and removing exotic and aquatic plants and animals from streams (*Id.* at 77). SC Wildlands also released a report on the Santa Clara River Watershed in 2006 designed to inform decision-makers and community members about maintaining the health and integrity of Utom and its upper watershed.

### Recovery Plans

In Utom's watershed, 15 of the federally listed species, one federally delisted but state-listed species, and one state-listed species have Recovery Plans (see Appendix). Recovery plans are species-specific and provide important guidance on methods of minimizing threats to listed species, restoring and acquiring habitat, removing introduced predators or invasive species, monitoring individual populations, and captive breeding and releasing them into habitat within their historical range. Recovery plans include measurable and objective criteria that must be achieved for recovery of the species to occur. Because recovery plans are guidance and not regulatory documents, no agency or entity is required to implement the actions in a recovery plan.

## **LOOKING AHEAD: CONSERVATION STRATEGIES FOR UTOM AND ITS WATERSHED**

Ensuring the long-term protection of Utom's watershed requires ongoing engagement with local, state and federal agencies as well as conservancies, developers and landowners. Below are some recommendations to ensure the long-term health and protection of the watershed:

- Support the restoration of degraded habitat to recover native species and habitats.
- Focus on and support adaptation strategies for species and habitats to enable survival as climate change progresses.



- Prohibit the use of first- and second-generation anticoagulant rodenticides throughout the watershed.
- Develop and implement wildlife connectivity ordinances and policies, particularly for larger jurisdictions such as Los Angeles County and the national forests, that together encompass the entire watershed. Such ordinances and policies should establish standards and limits on development and activities in connectivity and riparian areas, as well as fencing and lighting standards designed to allow wildlife to move across the landscape. Strong ordinances would prohibit large-scale development in habitat linkages and riparian areas while allowing some economic uses on privately-owned lands, consistent with the U.S. and California Constitutions.
- Support increased funding to wildlife agencies and conservation entities that conserve areas including those under threat of development, particularly within key linkage areas such as the San Gabriel-Castaic Connection.
- Incorporate wildlife crossing infrastructure in strategic locations to improve wildlife connectivity and permeability at existing roads and highways. Ensure that suitable habitat exists through preservation or restoration/enhancement on both sides of crossing structures and culverts. Existing culverts should be upgraded and retrofitted so they are usable by wildlife as part of the ongoing maintenance of culverts, particularly within riparian zones.
- Maintain natural water flows and hydrological processes in Utom's creeks and rivers to support public trust resources.
- Restore Utom's functional fish passage and its natural flow regime to protect endangered fish species, including Southern California steelhead.
- Refocus groundwater management on pumping reductions and shifting pumping locations to reduce seawater intrusion.
- Encourage environmentally and water-conscious crop selection and irrigation practices by farmers.
- Prioritize soil health to maximize water retention and thus reduce water runoff.

- Support urban area water conservation strategies including on-site graywater use, regional water recycling, stormwater capture and treatment, and native landscaping for groundwater recapture.
- Incorporate requirements into general and land-use plan policies for minimum setback widths of at least 300 feet from streams and wetlands, including for intermittent and perennial streams that are part of the watershed.
- Replace existing general and land-use plan policies that only discourage development in sensitive areas, riparian areas, or designated critical habitat with policies that prohibit such development, unless and/or until impacts are fully mitigated as determined by the appropriate resource agencies.
- Incorporate requirements into general and land-use plan policies that development proposals must be consistent with all of the goals, objectives, and guidelines set forth in recovery plans for federally protected species and applicable state plans for state-listed species.

Utom is, without a doubt, worth protecting. With leadership and a vision toward conservation, we can ensure the watershed continues to be a rich cultural resource while serving as a hotspot for biological diversity and a source of clean drinking water for decades to come. The future of Southern California depends on a healthy and thriving Utom. Planning for that sustainable future must begin today.



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## APPENDIX

Common Name	Scientific Name	Fed List	CA list	Critical Habitat	Recovery Plan
<b>Invertebrates</b>					
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	None	2006	2005
Conservancy pool fairy shrimp	<i>Branchinecta conservatio</i>	Endangered	None	2006	2005
monarch - California overwintering population	<i>Danaus plexippus pop. 1</i>	Candidate	None	None	None
quino checkerspot butterfly	<i>Euphydryas editha quino</i>	Endangered	None	2009	2003
<b>Fish</b>					
Santa Ana sucker	<i>Catostomus santaanae</i>	Threatened	None	2010	2017
tidewater goby	<i>Eucyclogobius newberryi</i>	Endangered	None	2013	2005
unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	Endangered	Endangered	None	1985
steelhead - southern California DPS	<i>Oncorhynchus mykiss irideus pop. 10</i>	Endangered	None	2005	2012
<b>Amphibians</b>					
arroyo toad	<i>Anaxyrus californicus</i>	Endangered	None	2011	1999
foothill yellow-legged frog - South Coast DPS	<i>Rana boylei</i>	Proposed Endangered	Endangered	None	None
California red-legged frog	<i>Rana draytonii</i>	Threatened	None	2010	2002
tricolored blackbird	<i>Agelaius tricolor</i>	None	Threatened	None	None
<b>Reptiles</b>					
southern rubber boa	<i>Charina umbratica</i>	None	Threatened	None	None
blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	Endangered	None	1998
<b>Birds</b>					
Swainson's hawk	<i>Buteo swainsoni</i>	None	Threatened	None	None
western snowy plover	<i>Charadrius nivosus nivosus</i>	Threatened	None	2012	2007
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Threatened	Endangered	2021	None
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	Endangered	2013	2002
California condor	<i>Gymnogyps californianus</i>	Endangered	Endangered	1977	1996



bald eagle	<i>Haliaeetus leucocephalus</i>	Delisted	Endangered	None	1986
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	None	Endangered	None	None
coastal California gnatcatcher	<i>Polioptila californica californica</i>	Threatened	None	2007	None
bank swallow	<i>Riparia riparia</i>	None	Threatened	None	1992
least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	Endangered	1994	1998 (Draft)
<b>Mammals</b>					
Mountain Lion	<i>Puma concolor</i>	None	Candidate	None	None