

The Grapevine Compromise

FELICITY BARRON



WRITER'S COMMENT: With every new fact I learn from an environmental science class, my brain always goes straight to work, imagining how I could best explain it to my father. He's intelligent and always listens to what I have to say, but he's a handyman and a small-town planning commissioner, who doesn't have much experience in science or academia and has grown calloused against all the ecological horror stories the news has thrown his way through the years. In other words, he's an excellent representative of the general public, which scientists desperately need to communicate with effectively if we ever hope to make cooperative, global conservation plans work. So, for this assignment, I endeavored to write to a lay audience, with my father in mind. Hopefully, the past, present and predicted future of the Grapevine watershed is explained here in a way that could capture the interest of the average American, who may have driven through this watershed, not yet aware of all the life just under their noses.

INSTRUCTOR'S COMMENT: I can't say that Felicity Barron stood out from her fellow students from the first day of class because I never saw all of the students together in a classroom. As were many courses in Fall 2021, UWP 102G, section 001 was both remote and asynchronous, completely separated from any actual place. I haven't been to the Grapevine watershed that she writes about; like anyone else who's driven I-5, I've merely passed through it. My fleeting vehicular encounters might as well have been virtual. Felicity has written an essay that makes that place real to me for the first time, both the ecological balance that makes it a haven for endangered fauna and the precarious balance in which competing human agendas are currently held. She

was helped in accomplishing this by the attentive reviews and honest (though virtual) discussions of her peers. All of the students in the class deserve recognition for their thoughtful discussions conducted in trying circumstances, and all had their part in Felicity's recognition here.

—Laurie Glover, University Writing Program

The well-traveled California Interstate Highway 5 runs through the entire length of California, Oregon, and Washington, from Mexico to Canada's border. The stretch that winds past the Tehachapi mountains, between Los Angeles County and the City of Bakersfield, forms a major thoroughfare for travel between Northern and Southern California. This section is colloquially called "The Grapevine" for its looping course through the mountains. While the area around this portion of the interstate is easily recognizable by name to many Californians, the Grapevine watershed that the I-5 runs through is a largely underappreciated plot of untouched nature, harboring an oasis of endangered biodiversity.

The word "watershed" is simply the common North American term for a drainage basin or catchment. Thus, watersheds are areas of land, divided up according to where the precipitation falls on them and eventually flows. For example, the land making up both sides of a river is considered one watershed. Similarly, the Grapevine watershed's defining boundary is the top ridge of the Tehachapi mountain range, as any rain or snow that falls on the North-facing slope flows down in a northerly direction and collects in a small seasonal stream. More precisely, the Grapevine watershed encompasses half of the mountains, both the low slopes, and the relatively flat, open area at their base.

The Grapevine watershed is a primarily undeveloped, chaparral ecosystem, characterized by warm weather, shrubs, and very little precipitation. Such sparse rain is a two-fold problem for the animals that live there. First, because rain is rare, standing bodies of water for animals to drink from are few and far between for most of the year. Second, the water scarcity can't support tree growth nor any dense foliage, which leaves animals without any natural shelter from hot sunlight or predators. Only the animals that have evolved over thousands of years to survive these conditions can live in such a seemingly uninhabitable environment. To tolerate the lack of precipitation, these carnivores and omnivores

don't drink water at all. They instead rely on the liquid of their food to provide them with hydration. These same animals have adapted to dwell in underground burrows, which keeps them out of the sun and out of predators' sight.

Today, these specialized creatures face a different problem: habitat loss. Before European encroachment in the 1700s, the animals of the Grapevine watershed were widespread across Southern California and part of the Central Valley. Now, most of their historic range is uninhabitable for them, converted to agricultural land and concrete cities instead. Because the Grapevine watershed has, as of yet, been left almost entirely undeveloped by human enterprise (more so by chance than for any given reason), it's one of the last places left available for many Southern California native chaparral species to live. Most of the flora and fauna in the Grapevine watershed still thrive locally, but too many of the species found here are down to critical numbers nationwide. They're approaching an extinction threshold, a population size too small to maintain constant or positive population growth, and many species with the most important roles in the ecosystem are now classified as endangered at the state or federal level. Such at-risk species include burrowing owls, San Joaquin kit foxes, and the San Joaquin kangaroo rat. All are facing extinction due to habitat loss from change in land use. In particular, burrowing owl populations in the U.S. have declined for thirty years, despite being ranked a species of special concern in California and being federally protected. In the Grapevine watershed, burrowing owls are an important top predator for the ecosystem, as they feed on small mammals, insects, lizards and amphibians. By eating whichever food source is most plentiful to them at the time, burrowing owls prevent any single prey species population from becoming too large and dominating the others. If, for example, one lizard species began to outcompete another in predating on insects, the burrowing owl would hamper that dominant species' growth and keep them from overconsuming the native bugs. Essentially, the high biodiversity of the Grapevine watershed wouldn't exist without the burrowing owl, and thus, their steadily decreasing population size may bring drastic, negative consequences on the ecosystem.

Another native to the Grapevine watershed, the San Joaquin kit fox, is currently at even higher risk of extinction, as only approximately seven thousand individuals are left in the wild. The San Joaquin kit fox's range once extended from the Tehachapi mountains all the way North to the

base of Mt. Diablo, near modern-day Oakland. However, due to decades of ongoing habitat destruction, today they're left only with fragmented pockets of land to survive in. The Grapevine watershed is one of these final pockets.

Vast open space to hunt, large dirt patches for digging elaborate nests, the absence of any predators, and flourishing small mammal populations all together form the necessary environment San Joaquin kit foxes need to live. They're an interesting species, in that they're the nation's smallest native canine, but more pragmatically, their presence on the Grapevine watershed indicates that the watershed is currently in good condition overall, as the San Joaquin kit fox is considered an umbrella species. This means it functions as a paradigm for the animals of their habitat as a whole. Because the San Joaquin kit fox shares many of the same resource requirements as other California chaparral species, conservationists measure the fox's wellbeing in any one area to use as a proxy of the health and abundance of other species in the food web as well. Therefore, the fact that the Grapevine watershed has retained its San Joaquin kit fox populations indicates that the other species in the community are still receiving all the resources they need too.

Most crucially, the presence of the San Joaquin kit fox reassures conservationists that the endangered San Joaquin kangaroo rat still survives on the watershed. "San Joaquin kangaroo rat" is a blanket term for three extremely similar subspecies of kangaroo rat, all found in the same area, all with powerful hindlegs that allow them to hop like an Australian kangaroo, and all performing practically equivalent ecological roles. So, biologists refer to them collectively as one species. They're considered a keystone species, meaning the San Joaquin kangaroo rat has a relatively massive importance on the ecosystem's health. First, as its diet is made up primarily of seeds, the San Joaquin kangaroo rat disperses the next generation of trees and shrubs through its excrement, ensuring a diverse mixture of plants grows in any single area. Secondly, as prey, this little mammal is a staple food source to a wide array of creatures. Hawks, snakes, condors, eagles, and coyotes consume them, and according to the Endangered Species Recovery Program at CSU Stanislaus, San Joaquin kangaroo rats make up the largest portion of the San Joaquin kit fox's diet. And third, after death, San Joaquin kangaroo rats' abandoned burrows are inherited by other burrowing animals in the community. Many species, such as the burrowing owl, don't build their

own homes from scratch. Instead, they search for pre-existing holes dug by kangaroo rats or ground squirrels. For these three reasons, if the San Joaquin kangaroo rat were ever eradicated from the area, the Grapevine watershed would quickly degrade, rapidly losing biodiversity.

Luckily, the Grapevine watershed retains its healthy ecosystem today, but that's only because it has had the good fortune of never being completely paved or plowed over. For most of history, Kitanemuk Native Americans were the only people living on this land. Their communities were located in the Tehachapi mountains and foothills by Castaic Lake until the 1840s, when Mexico divided up over 200,000 acres of that space into five land grants to give to Mexican citizens. The land changed hands again almost immediately after however, when Mexico lost against the U.S. in the Mexican War (1846–1848). By the end of it, Mexico had lost approximately one third of its territory (property later becoming the states of Utah, Arizona, Nevada, New Mexico, and California). Soon after, the U.S. gave a large portion of land on the Grapevine watershed to U.S. Lieutenant Edward Fitzgerald Beale for his contributions to the war. This property today is called "Tejon Ranch." Reportedly because Lt. Beale had made friends with some of the Native Americans settled on or nearby Tejon Ranch, he decided to establish a reservation on a 75,000-acre plot, and named it the Sebastian Indian Reserve. This was his first accomplishment as the newly appointed Superintendent of Indian Affairs in California after the war. Thus, Beale created the first Native American reservation in California.

Beale's goal was to establish a self-sufficient, agriculture-based community on the reservation, but most of the eight hundred or so new occupants originated from hunting and gathering tribes. Recognizing the problem that posed, Beale hired European-American farmers to teach them agricultural skills and about homemade textile production. However, cultivation turned out to be largely unsuccessful, as frequent drought, insect infestations, and floods made farming in this area exceptionally difficult. Thus, after only eight years, as soon as Beale took up a different government position, the reservation was quickly shut down by his successor. Incoming White settlers then complained that the Native Americans were taking up land that they'd prefer to try farming themselves, so by 1864, the inhabitants were marched off the land at gunpoint by U.S. soldiers, all the way to Tulare County. After that, various White settlers came, built wooden houses, planted modest

farms, then left again. The Grapevine watershed's aridity is, and was, not conducive to farming, so too few people ever lived on the watershed at any single point in time to form communities or lasting neighborhoods. And the natural ecosystem had no problem adapting to the sparse sprinklings of human newcomers.

Much later, in 1912, Lt. Beale's son sold Tejon Ranch to a group of businessmen, and in 1936, the Tejon Ranch Company was incorporated. The property remained in its natural state for almost a century after that, except for the construction of Interstate Highway 5 in the 1960s. Only at the turn of the millennium did the Tejon Ranch Company begin working on two new housing development projects along Interstate 5. The first of these, "Centennial," is set to be built just outside the watershed but in an area that's still part of the endangered Grapevine watershed species' range. However, the second, "Tejon Mountain Village," will be placed well within the watershed, in the Tehachapi mountains. Tejon Ranch Company initially faced massive pushback by environmental justice organizations from all over the state and country in 1999. Plans were stalled until 2008, when finally a deal was brokered between the Tejon Ranch Company and five major groups: the Sierra Club, The Natural Resources Defense Council, California Audubon, Planning and Conservation League, and the Endangered Habitats League.

While most housing development projects are destructive to the local environment and further contribute to global climate change, the environmental justice organizations at odds with the Tejon Ranch Company saw these two development projects as especially capricious. First, Tejon Ranch and the Grapevine watershed contains over twenty federally recognized endangered species whose biggest threat is habitat loss. Second, building housing communities in the middle of nowhere may be appealing to potential residents who'd enjoy scenic views and can afford long commutes to work, but the nonprofit groups opposing the projects asserted that these new, remote communities would leave a massive carbon footprint. Current greenhouse gas emissions have already exceeded a safe amount and now harm ecosystems across the globe. Any human activities that further push the gaseous carbon levels up will increase the frequency and extent of both natural disasters and shifts in species' habitat ranges in response to warmer temperatures. The opposing organizations knew, and emphatically explained, that climate change poses a threat to the Grapevine watershed ecosystem, as well as to every ecosystem around the world.

Quite notably, the housing projects are extremely remote and would require homeowners to drive over fifty miles a day to reach a city wealthy enough to provide high-paying jobs. Tejon Ranch Company's suburban housing won't be affordable to the average minimum-wage worker, such as those who keep the local distribution centers and truck stop restaurants running (which are currently the only existing or planned commercial infrastructure on Tejon Ranch). Instead, they live in the distant cities outside Tejon Ranch. As such, both the Tejon Ranch residents *and* workers will be forced to make long commutes to and from work each day, essentially creating a new, giant source of greenhouse gasses. These isolated communities will produce an astronomically larger carbon footprint than a community built on the outskirts of a metropolitan area would. Somewhat surprisingly, however, it wasn't the minor improvements to the energy efficiency of the housing projects (which helps lower the housing projects' overall carbon footprint) that the company proposed which sold the deal. In 2008, the opposing organizations agreed to allow Tejon Ranch Company to build their projects without any further pushback only after Tejon Ranch Company created a federally recognized, nonprofit land trust called the Tejon Ranch Conservancy. The company then proceeded to give them 240,000 of their 270,000 total acres.

Today, a few small Native American groups, fighting for rights to Tejon Ranch land, and the Center for Biological Diversity, are still unappealed. The Center is larger and better funded than the Native American rights groups, and so the organization has persisted for years in pursuing lawsuits against Tejon Ranch or the Kern County Board of Supervisors who approve new construction on the watershed. Occasionally, the Center wins these lawsuits. The organization's members believe that all development is unacceptable encroachment and that there's no room left for compromise when it comes to habitat loss. Membership is formed around the belief that humanity has already taken more than its fair share of Earth's resources, and so asking for, or *taking*, yet more is blasphemy. So far, the Center's lawyers have successfully stalled building by pointing out small administrative mistakes that Tejon Ranch Corporation has made during permitting and by alleging that the project's environmental impacts report contains inaccuracies. Additionally, in 2014, Tejon Ranch Corporation proposed a third housing project, called "Grapevine," to be built along the I-5 as well, between Centennial and Tejon Mountain Village. This only raised the Center's discontent.

As of 2020, the projects remain stalled, but the Tejon Ranch Company displays no intention of giving up yet. Once the Center cannot find any more small flaws in the paperwork over which they can sue Tejon Ranch Corporation, there'll be no legal recourse left to prevent them from beginning construction. The Center's no-growth mindset aligns neither with the attitudes of the landowners, nor the local government of Kern County, so the Center's unlikely to prevail in the end. Ultimately, though building Tejon Mountain Village, Grapevine, and Centennial would mean further shrinking the land and resources available to wildlife, the Tejon Ranch Company's proposals are not a final nail in the coffin for the Grapevine watershed ecosystem. Plus, while the projects' carbon footprint is undeniably ridiculously large, the projects do minimize commute times in one way: by being built right along the highway, rather than further out into the mountains. Either way, by no-growth environmentalist standards, this compromise may still seem like the opposing organizations have chosen to settle. Given the plethora of problems that humanity's negligence has already caused (e.g. climate change, sea level rise, hunting animal species to extinction, air pollution, deforestation, introducing invasive species, etc.), any further harm to the last preserved locations left in California may seem outrageous. Alternatively, to those who sympathize with the plight of being rich with land that possesses high profit potential, any obstacles that outside organizations or governments may present, standing in the way of a landowner (in this case a corporation) doing what they choose with their private property, may seem more atrocious. Yet, many Californians likely fall somewhere on the spectrum between these two extremes. The value in protecting keystone species on the brink of permanent extinction is not easily ignored, and neither is the importance of protecting property rights. This compromise is a rare dispute resolution that proves that bargaining within a capitalist economy, and going through the court of law to reach a mutually acceptable agreement can actually work. With this deal, the organizations that opposed Tejon Ranch Corporation's initial plans will have to accept that the burrowing owls, San Joaquin kit foxes, and the San Joaquin kangaroo rat will lose even more habitat to new suburban houses, Starbucks locations, and golf courses, but they gained a guarantee that the majority of this crucial land will be protected from similar destruction in the foreseeable future. Meanwhile, though the Tejon Ranch Corporation has been impeded from attaining

unfathomable riches that could've come from developing all 270,000 acres of their property, they gained plenty from the deal as well. For one, Tejon Ranch Company's now allowed to get away with destroying critical habitat for personal profit. Besides that, they gained good press from the large land donation, they possibly eased the strain of high housing prices in adjacent cities by providing more homes to buyers, and they added market value to their new properties by securing natural scenery that's guaranteed to remain unsullied for years to come. Essentially, neither party in the dispute is completely content, which is a good litmus test for a fair compromise. But this is still too rare an outcome, in the twenty-first century, for us to assume that we've finally become an intelligent, civil, and peaceful society that effectively coexists with nature. Therefore, this deal sets a precedent. It's an example of a fair compromise between purely human and purely ecological interests that should be looked to moving forward by other communities facing similar important decisions in resource management.

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