Exploring the historical record

Outside the bounds of our stakeholder council and our consultations and our field work we dipped into the realm of armchair sleuthing. The target of this investigation was history, nature, and the influence of the early human presence in the Laguna de Santa Rosa.

The work of others in the field of historical ecology, provided the catalyst for an investigation of the Laguna's early record. This investigation focused initially on research using historical maps, and that work uncovered a large collection of important early cartographic works showing how the *Lagunas* (plural, for there were several water bodies in the watershed) changed dimensions over time. Eventually the research focused less on maps and more on the written record. This entailed finding and reading the accounts of early visitors. Buried in these accounts of life, political events, society and culture, were observations on natural resources, climate, landscape and wildlife.

An investigation of indigenous uses of the land in the *pre-contact period*, was not undertaken. Some anthropologists have suggested that today's stereotypical depiction of Indian life underestimates the influence and manipulation to the landscape under their care. In particular, these arguments suggest that the use of fire, thinning and pruning, harvesting, hunting, and other activities related to sustaining a supply of building materials and food, created an artificial landscape that was perhaps not as altered as our own, but was nevertheless far from the wilderness of Eden. Was the landscape, first recorded by the Spanish explorers and pioneering Mexicans, pristine or was it altered? Given more time, research in this area would certainly be fruitful.

Was the landscape pristine or was it altered in the *pre-contact* period?

The principal timeframe of this investigation was the *contact period*, the extended time in which explorers and settlers first visited the region: this was the period just before the beginning of large landscape changes. For California this extended time frame can conveniently be divided into the Discovery period (Drake to Serra; 1579–1768), Mission period (1769–1822), Rancho period (1823–1845), Emigrant period (1846–1851), and early Settlement period (1852–1860). These periods were each accompanied by

different economic activities that created distinct land use patterns across the Laguna and California.

For Alta California as a whole, the Discovery period gives us fleeting glimpses of California at time when conditions are as close to pristine as we will ever know. For the San Francisco Bay area, the Mission period provides us with the best record of what the area from Monterey to Yerba Buena originally looked like: important inferences can be made by comparing this nearby region's similar climate and landscape with selected portions of the Laguna. For the Marin-Sonoma area as a whole, the early Rancho period provides the closest geographically correct record of a landscape "untouched-but-for-the-Indians." In contrast, the Emigrant period provides a mixed record where moderate industry is beginning to shape pockets of the land. Finally, the Settlement period gives us a final glance backward at a wilderness which was soon to be gone forever.

Research was concentrated on the Mission and Rancho periods, the periods during which the landscape changed stewards, from Indians clustered in *rancherías* to Mexicans organized around *ranchos*. This is the time when the stewardship of the land itself shifted from vegetation management to husbandry; from the care of root-, seed-, berry-, and nut-bearing plants to the care of cattle, horses, and to some extent sheep.

A time of shifting stewardship from vegetation management to husbandry

The accounts examined included those of the early explorers from Nueva España, the Padres of the Alta California Missions, the rancheros of the post-secularization Mexican era, the capitalists and naturalists from Russia visiting the coast and eyeing the interior, the first overland American emigrants, the captains of round-the-world voyages, the merchants and traders from Boston, and the visiting naturalists, spies, pirates, and ambassadors of France and Great Britain.

The geographic area covered by this investigation was always centered on central and northern California, sometimes ranging as far south as Monterey and as far east as the Tulares-San Joaquin-Sacramento, but mostly concentrated on the San Francisco Bay area; special emphasis was placed on the areas in present day Marin and Sonoma Counties, and of course our keenest interest was on the prairies from Mission San Rafael and the Petaluma Rancho to the future town of Healdsburg, and from the Mission San Francisco Solano to the hills of *Livantuyolomí*, near present day Sebastopol.

The geographic focus of research was Sonoma County

What emerged from this research was a different way of looking at history. The traditional dateline-view of history, where each year's activities leave their mark, provides a good method for the march of political events, but is a less satisfying approach for understanding changes

to the landscape. Landscapes evolve in patchwork patterns, with some patches left untouched long after others have undergone major change. An ecosystem-view of history, where each of the landscape's ecological communities acts as their own focal points, is a more satisfying approach. The four main ecosystems, which are described in earlier chapters, were used as frameworks for this historical ecology study. The four ecosystems of this framework are: the perennial wetlands—lakes and year-round streams; seasonal wetlands—floodplains, vernal pools, and intermittent water courses; riparian forests—the thick vegetation directly adjacent to waterways; and oak savannahs—the grassland prairies studded with Valley oaks.

An ecosystem-view of history rather than a traditional dateline-view of history

Our expectations were fully met: indeed, what we had hoped to find was far less than what we actually discovered. We knew that the area had bears and elk and an abundance of waterfowl; we knew that tules dominated the wetlands and that oaks were the mainstay of the plains; we expected to find stories of hardship and heartbreak; and we hoped to find stories of rare mammals and interesting plants. What we did find was much more. Yes the bears were here in great quantities, enough to be a nuisance to the early travelers and a bane to the first cattle ranchers. Yes the elk were here too, and not just in isolated pockets, but in vast numbers filling the countryside so that every newcomer remarked upon their presence. Yes the ducks and geese and multitudes of nameless waterfowl did fill the skies from November to April. And yes the tules did dominate the wetlands, and what wetlands! —vast tracts that covered the Tulares of the San Joaquin valley, the freshwater Delta, the upper Petaluma, and the lagoons of Sonoma County. And the oaks were the mainstay of the plains, not just locally but far to the south of San Francisco Bay and far to the east of present-day Sacramento. All the stories are true. And more.

Bears, elk, ducks and geese

Beyond the expected, we discovered, a truly romantic period: a time where stately trees reposed in park-like settings; a place where the word abundance didn't adequately capture the extraordinary number and diversity of wildlife; a landscape with a soil whose unbroken fertility yielded plentiful natural grains and fruits and nuts.

It was also a period of hardship: it was a time when great dust clouds followed every summertime traveler, and unbelievably deep mud impeded every winter traveler's progress; it was a place with a climate of extremes of drought and flood that destroyed as quickly as it gave, and checked the landscape's productions, and brought an odd sort of balance that to the newcomer felt somehow precarious.

And there were some unexpected "finds" in the readings too. The presence of condors oddly caught us off-guard, but they were here; the presence of beaver too was a surprise; neither were plentiful in Sonoma County, but both are on record. Pronghorn antelope too were on the Santa Rosa Plain, and not just in small numbers. And who would have guessed that the Russian River had sturgeon or that San Francisco Bay had eels? And where have all the scorpions gone?

Condors, beaver, antelope and sturgeon

But more than the mere presence of these unexpected creatures, what surprised us most was the depiction of the ordinary. This was a landscape where wild oats grew so tall that a man on horseback could just see over their tops; a landscape where jackrabbits darted about in such numbers that "population explosion" seems to barely fit; a landscape where the park-like spacing of the oaks seemed to be so perfect that traveling amongst them was a delight; a landscape where riparian forests were thick and impenetrable; a landscape where tules covered vast acreages of marshland forming extensive areas of natural refuge.

Wild oats, jackrabbits, oaks

Riparian forests and tule marshland

And the final surprise was just how accessible all this information was. While fully expecting dry and boring accounts, what was instead encountered were descriptive and narrative passages of beauty that made for light reading.

Excerpts

The lengthy excerpts presented here were chosen in the hope that the author's voice would be heard directly. They are presented with accompanying explanatory notes that help to supplement and further document the various wildlife habitats and plant communities that the author was witnessing. These excerpts are just a few of the gems that await the interested reader; see appendix E for more natural history excerpts organized categorically from a naturalist's perspective.

Tule is a name given by Spaniards to a kind of bulrush. They grow very large, sometimes an inch in diameter, … they are called marshes, because they grow on the lowest ground and are covered in the rainy season with water, which continues till evaporated by the heat of summer. These are the haunts of incalculable thousands of wild geese, ducks, brandts, cranes, pelicans, etc., etc.

John Bidwell
January 8, 1842

Tules

John Bidwell was a member of the first overland party to cross the Sierras and reach California in late 1841. The group began their journey in Missouri and finished at Dr. Marsh's place, situated at the foot of Mt. Diablo. Bidwell immediately found employment with John Sutter who had just completed the purchase of Fort Ross from the Russians as they departed the California scene. As Bidwell traipsed around Napa, Marin and Sonoma counties, on his way to and from Fort Ross in early 1842, he just skirted the Laguna de Santa Rosa's southern edge. His written record of California draws from this set of experiences. His description of the tule habitat is significant because it is so unlike anything else he observed in his 2000-mile transcontinental trek.

Tules as a waterfowl paradise

The tule habitat, which bordered California's numerous *lagunas*, was host to many different species of birds. Alexandre Dumas writes, in 1850, "These (marshes) are covered with tule, a growth indigenous to all low and humid regions of this country. To devotees of waterfowl this is a veritable collector's paradise, for these lagoons swarm with duck, cormorant, stork, kingfishers, and magpies of every kind & description."

Tules for canoe construction

The uplands directly adjacent to tules became population centers for the Indians, as Auguste Duhaut-Cilly tells us in 1827, "the Indians usually choose to place their villages on firm ground surrounded by those marshes known to the Spaniards as *tulares* on account of the great quantity of reeds growing in them." The record goes on to tell us that "Yolo" means *people of the tules*. But the Indians were ridiculed for their flimsy canoes made from tule, even though they had the superior advantage of being assembled with little effort, and disposed of just as easily. Duhaut-Cilly shares this common prejudice: "The boats they use for traversing the water or for fishing are surely the worst in the world, each made of two bundles of reeds eight feet long and tied together by cross-pieces of wood. This kind of raft, called a *balsa* in the country, is maneuvered by means of double-bladed paddles that they dip in the water first on one side and then on the other."

Government-sponsored destruction of tule swamp lands

Although Sonoma County's standing as prime tule-country was always secondary in extent to the vast tracts found in the Sacramento-San Joaquin Delta, our present day celebration of this habitat holds more importance precisely because so much of it has been lost elsewhere. In 1850, James Carson writes, "The Surveyor General, estimates the swamp lands of the State at 2,622,400 acres." The government-sponsored destruction of this habitat was intentional: "By an act of Congress, approved Sept. 28th, 1850, all the swamp land or overflow lands in California were donated to the State; provided that the proceeds of said lands, whether from the sale or by direct appropriation in kind, shall be applied *exclusively*, as far as necessary, to the purpose of reclaiming said lands by the means of levees and drains."

The road lay directly up Petaluma and Russian River valleys. Past the ranches—along the sides of interminable fields of corn and grain—through the splendid park-like groves—sometimes across the open plain, at others winding around the base of the hills which make up from the eastern side of the valley.

Santa Rosa, was reached by sunset … By the time supper was dispatched … the moon had risen over the mountains, and was flooding the valley with her glorious sheen, tipping the fine old oaks with a silvery fringe of light, and laying their solemn shadows along the grass and across the road.

(Further on) There are few places in all California, where a more magnificent view can be obtained, than the one seen from this ridge. The whole valley of Russian River lies like a map at your feet, extending from the southeast and south, where it joins Petaluma valley, clear round to the northwest. The course of the river can be traced for miles, far away; alternately sweeping its great curves of rippling silver out into the opening plain, or disappearing behind the dark masses of timber. From one end of the valley to the other, the golden yellow of the plain in diversified by the darker tints of the noble oaks. In some places they stand in great crowds; then an open space will occur, with perhaps a few scattered trees, which serve to conduct the eye to where a long line of them appears, like an army drawn up for review, with a few single trees in front by way of officers; and in the rear, a confused crowd of stragglers, to represent the baggage train and camp followers. Here and there, among the oaks, the vivid green foliage, and bright red stems of the graceful madrone, can be seen; and on the banks of the river, the silvery willows and dusky sycamores.

"A trip to the California Geysers" by Panoramics
Appearing in *Hutchings California Magazine*, January 1860

Riparian ribbons

Upon first reading we see the author's use of the park metaphor and his poetic description of the oaks as they stand on the plain, both thoughts finding resonance with so many other authors of the period. But from high atop the Mayacamas, the vista that presents itself reveals a pattern not recognizable from up close: here the author sees a wide plain crisscrossed with trees standing in formation as if for muster call. These long lines are the creek flanks, we learn elsewhere, that are populated with willows, alders, ash and sycamores.

Willows, alders, ash and sycamores

John Bidwell tells us in his journal of 1842 that when approached up close these riparian ribbons "are often so densely interwoven along banks of rivers that a bird can't fly through them." Others noted that even when the adjacent uplands are treeless, there were always woods to be found along the streams.

Densely interwoven trees

The coppices and plains are covered with small grey crested partridges, which live in society like those of Europe but in coveys of three or four hundred. They are fat and of excellent taste.

Jean François de La Pérouse
1786

California Quail

The first visitors to Alta California used Monterey as their port of call. From their log books and journals we read about the abundance of game in the nearby plains, especially the inland areas on the road to Santa Clara and San Francisco, an area bearing many similarities to the upland regions of the Laguna's watershed. La Pérouse was only one of a long list of visitors who were delighted at the beautiful, and as-yet-unknown to naturalists, California Quail.

As a game-bird, the quail was on every sportsman's list, and as a commodity it found its ways into the market at $9 per dozen, eventually gracing dinner tables in San Francisco. But beyond game, the quail's curious tuft, or crest, found its way into Indian basketry as a prized bit of ornamentation.

The Quail's prized feather

Quails find refuge from raptors and other predators, in low brushy tangles of berry bushes and overgrown grape vines. As a scratcher, the quail's principal food is found in open farm fields and grasslands. This need for two types of adjacent plant canopies was first noted by Paul-Emile Botta in 1827: "The *Tchacaca* live in the fields on the edges of the forests …"

Tchacaca

Of course later on the California Quail joined the Grizzly Bear, California Dogface Butterfly, California Poppy, and Purple Needlegrass as an official state symbol.

We had not proceeded far from this delightful spot, when we entered a country I little expected to find in these regions. For about twenty miles it could only be compared to a park, which had originally been closely planted with the true old English oak; the underwood, that had probably attended its early growth, had the appearance of having been cleared away, and had left the stately lords of the forest in complete possession of the soil, which was beautifully diversified with pleasing eminences and vallies; which with the range of softly rugged mountains that bounded the prospect, required only to be adorned with the neat habitations of an industrious people, to produce a scene not inferior to the most studied effect of taste in the disposal of grounds …

Our riding was attended with some inconvenience, on account of the fox earths, and burrows of rabbits, squirrels, rats, and other animals; but our sure-footed horses avoided every danger, notwithstanding we rode at a brisk pace. Having passed through this imaginary park, we advanced a few miles in an open clear meadow, and arrived in a low swampy country; through which our progress was very slow, the horses being nearly knee-deep in mud and water for about six miles.

George Vancouver
November 20, 1792

Park-like prairies

The one metaphor used consistently throughout the 19th century to describe California's great oak habitats is that of the English park. Explorers and settlers arriving on the scene for the first time were always taken by surprise at the wide open prairie upon which the magnificent oaks stood watch. To these newcomers, who were so accustomed to the impassible vine-choked forests and thick undergrowth that characterize so many temperate regions of the world, this clear passage through valleys and plains was remarkable.

The excerpt from Vancouver's journal is the first to use the word "park", but it so perfectly captured the essence of the landscape that others repeated and embellished upon it: in 1824 Otto von Kotzebue says of the passage from Fort Ross to San Rafael, "the luxuriant trees stood in groups as picturesque as if they had been disposed by the hand of taste"; in 1827 Auguste Duhaut-Cilly says, "These trees are sometimes grouped so attractively that they might have been planted by a skilled designer … This magnificent wood, planted by nature, is not encumbered with lianas or brush"; in 1837 Edward Belcher remarks, "… on the immense park-like extent [the oaks] were to be seen disposed in clumps."

Disposed by the hand of taste

Immense park-like extent of oaks

Of the Santa Rosa Plain we hear directly from W. S. Sandels, in 1841, "I went by way of the Santa Rosa farm to visit Señora Carrillo, the widowed mother of Mrs. Vallejo. One of her active and excellent young sons accompanied me over these beautiful prairies, wooded and watered more like an English park than a wild county farm land."

The scenery continued to remain unchanged so that by 1850 when Frank Marryat rode overland from Sonoma Valley to Santa Rosa the familiar phrases rang true: "The scenery still improves in beauty as we approach Sonoma, the valleys are here sprinkled with oak trees, and it seems ever as if we were about to enter a forest which we never reach, for in the distance the oaks, though really far apart, appear to grow in dark and heavy masses."

It seems ever as if we were about to enter a forest which we never reach

Even the ever-staid William Brewer, under the employ of the California Geological Survey in 1860, conducting the first formal survey of California, (travelling 7,564 miles on horseback, 3,101 miles on foot, and 4,440 miles by public conveyance in the process!) can't resist adding, "… it winds into a flat … surrounded by low rolling hills and covered with oaks scattered here and there, like a park. And *such* oaks! I wish you could see them … surely the most magnificent trees one could desire to see."

Surely the most magnificent trees

The abundance of game there is such that I speak of it with some reluctance, fearing that the reader who can make comparisons may accuse me of exaggeration.

The truth is not always believable.

But I will not draw back before the truth. Hardly had we put foot on shore when all sides, to the right and to the left, we stirred up great bevies of quail, a species of crested partridge that I have mentioned elsewhere and that has an excellent flavor. Hares and rabbits moved in bands across the fragrant and flowering fields that carpeted the slope of the hill. In the midst of such great numbers there was no need for a hunting dog. A hare that in France would cost the hunter and his pursuing pack several hours of toils and fatigue requires here only a little silence and care. Moving step by step through heather and bushes, we never went thirty meters without seeing the chance to kill one of these animals, and several times it happened that we killed two with one shot. The mere difficulty of choosing a victim can be troublesome. In the end such easy sport became tedious, and some of us made it more difficult by shooting single balls.

Auguste Duhaut-Cilly
April 1827

Abundance of hares

The French captain of the *Héros*, Auguste Duhaut-Cilly traveled up and down California, from San Diego to Sonoma, between 1826 and 1829. He spent much of his time traveling overland and experiencing the beauty and harshness of a place very different from his homeland; this disparity kept his senses sharp, and lucky for us he captured these fresh impressions in his daily journal.

Although this quote is taken from outside the Laguna, it captures so well the expressions of plenty that others wrote about, that it could easily pass for a fair description of our own wildlife abundance—Sonoma and Marin counties did have similar jack-rabbit populations. And in fact Duhaut-Cilly did spend considerable time in Sonoma County at both Fort Ross and at Mission San Francisco Solano. It was at the mission in Sonoma that he wrote of the Indians: "… the women wear only a cloak made of rabbit skin twisted into strips and sewn together. This garment is very warm, being quite thick …"

Cloak made of rabbit skin

Many others have been surprised by the huge quantities of hares found on the plains of San Francisco Bay. Francis Drake was the first to note, in 1579, "a multitude of a strange kind of conies." Sebastian Vizcaíno, in 1602, mentions "there is much wild game, such as … rabbits and hares." George Vancouver, in 1792, describes the peril to the overland rider posed by the numerous rabbit burrows. Kyrill Timofeevich Khlebnikov, in his 1832 report from Fort Ross, concludes that rabbits are "among the most important of the region's quadrupeds." And Frank Marryat and others made profitable occupations from supplying San Francisco restaurants with game, including rabbits and hares, from the fertile plains of Sonoma County.

A multitude of a strange kind of conies

Regionally important food source

Here are also innumerable quantities of wild oats, which I am told grow nearly all over California, and grow as thick as they can stand, producing oats of an excellent quality.

John Bidwell
January 8, 1842

Don Raymond's main object in mounting us was that we should at once appreciate the beauty and extent of the Santa Rosa Ranche … it was a pleasant gallop over the wild oats, in a pure air, and through a lovely country.

Frank Marryat
August 1850

Frequently the grass through which we were obliged to cut a trail attained a height of nine to ten feet.

Alexandre Dumas
June 26, 1850

Wild oats

The stories of grass "which entirely hide a man on horseback" are such a staple of the early 19th century landscape that it is hard to doubt their accuracy. Many likened these fields to cultivated farms "which seemed to grow as though planted by a skillful hand", but in fact they were wild oats. The current classification of this grass as an exotic seems to be erroneous, and indeed a close examination of the accounts points to its presence here before the arrival the Mexicans; other theories are being developed to explain this apparent misalignment.

But from the earliest time the scenic beauty of these fields was recognized—Eliza Gregson remarking, "when we came to green valley (Sebastopol) it seemed almost like a paradise … grass and clover and flowers in abundance the grass as tall as myself." But not everyone appreciated the vitality of these wild oats. Ferdinand Wrangel laments, "… wild oats grow in such abundance that they smother wheat …"

Almost like a paradise

Of its habitat value, William Sherman noticed, "As soon as the fall rains set in, the young oats would sprout up, and myriads of ducks, brandt, and geese, made their appearance." And Frank Marryat, speaking of the Santa Rosa Plain, observes, "here and there a drove of elk or antelopes" hiding in the tall grass.

Ducks, brandt, and geese in the oat fields

Elk and antelope hiding in the tall grass

It's easy to understand why the wide valleys were referred to as prairies. As a backdrop to the majestic Valley Oak they form the perfect natural complement as Edward Belcher notes in 1837, "… [the oaks] were to be seen disposed in clumps, which served to relieve the eye, wandering over what might otherwise be described as one level plain or sea of grass."

Leaving Sonoma at daylight, we passed through Sonoma Valley, which in many places, but a few hundred yards in width and studded with groups of oaks and flowering evergreens, has all the appearance of a private park bounded by mountains—the herds of deer, of which now and then we catch a glimpse, strengthening this resemblance. After following the trail for fifteen miles, we ascended a rise from which we had a view of Santa Rosa Valley. It was a continuation of that we had traversed, and was divided from it only by a small stream, which marked the boundary of either. From our elevation, the twenty miles of well timbered land, of which Don Raymond [Carrillo] was owner, stretched before us: large herds of cattle were grazing on the plain, and near the mountains which bounded the ranche, "manadas" of wild horses could be perceived, with here and there a drove of elk or antelopes."

Frank Marryat
August, 1850

Wildlife on the Santa Rosa Plain

Frank Marryat, a native of England, visited California as a '49er, but instead of rushing to the Washoe diggings, he took time to settle into the rhythm of California and lived for a year in Sonoma County near the Russian River. A professional writer and self-styled Thoreau, his intention was to find the genuine character of the golden country that had so captured the world's imagination. From his cabin in the woods he frequently hunted waterfowl and game in the Laguna de Santa Rosa, and traversed the watershed to visit the handful of pioneering neighbors who were just beginning to inhabit the area.

Frank Marryat, a self-styled Thoreau

His amateur standing as a naturalist is compensated for by his careful observations and eye for detail. In this excerpt we have both the park metaphor, so often used by others to describe the spacing of the oaks, and the mention of antelope and elk, which within two year's time disappeared forever.

Marryat writes page after page of delightful prose, sharing rancho-period anecdotes, bear stories and hunting tales, while providing picturesque imagery and descriptive notes that give us a complete picture of Sonoma County at the frontier of a new age.

Our road back was over a more elevated country than that of the morass, leading through a continuation of the forest of oaks, but greatly inconvenienced by the many holes in the ground before noticed; and our good friend and guide the sergeant, apprehending that the approach of night might make us liable to accident, was induced to conduct us through a lower country …

George Vancouver
November 22, 1792

The underground world

One of the major habitats that often goes unnoticed is the underground world of tunnels, chambers, and cavity openings. This habitat has been disced, plowed and otherwise disturbed to such an extent that the wildlife it supports has been greatly reduced.

The historical record is clear enough regarding the super-abundance of hares on the oak prairies, and Vancouver leaves no doubt about where they sought refuge: "Our riding was attended with some inconvenience, on account of the fox earths, and burrows of rabbits, squirrels, rats, and other animals."

Fox earths and burrows of rabbits, squirrels, and rats

Ground squirrels, once abundant in Sonoma County, are no longer the problem they once were, simply because our extermination efforts have been so effective. In 1851, Frank Marryat laments "*the onions were a failure*; they had come up, but the ground squirrels had proved so numerous as to destroy all vestige of the young plants."

Numerous ground squirrels

And today's gardeners are still fighting the same battle that Tikhménef, at Fort Ross, was fighting in 1833: "The continuous ravages of mice and gophers, which devoured the root of the grain, also caused considerable losses of supplies already scant."

But there is another tale from the underworld that is curious and rare. Auguste Duhaut-Cilly in 1827 relates, "We shot several rabbits as well as a kind of owl that has its nest in the ground and lives there in families."

Owls that nest in the ground

In our own time, stories of badgers in the Laguna, near Brown Farm, have been confirmed. But tales of bobcats in the Laguna, another species that finds refuge underground, are heard less frequently today as the availability of unpaved and undisced land is diminishing.

The reality of California's rain-free summers has encouraged many different species to adopt the underworld as their home base. And these species come from throughout the animal kingdom: ground nesting birds; insects, including beneficial wasps; *herps*, including the endangered California Tiger Salamander; and of course the many mammals, small and medium, that are so familiar to us.

California's rain-free summers

But "the" feature of that nine miles was the dust, dust!, DUST! The road has been much used, hauling grain, and from fence to fence the dust is from two to six inches deep, fine as the liveliest plaster of Paris, impalpable clay, into which the mules sink to the fetlock, raising a cloud out of which you often cannot see. Each team we met was enveloped in a cloud, so that often you could not see whether it was a one-, two-, four-, or eight-horse team we were meeting; the people, male and female, were covered with dust—fences, trees, ground, everything covered.

William Brewer
November 3, 1861

We walk a ways, then get in, ride two miles, then get out and walk two more in the deepest, stickiest, worst mud you ever saw, the rain pouring. I hardly knew which grew the heaviest, my muddy boots, or my wet overcoat.

William Brewer
March 1, 1862

Fragile soil

Dust and mud were a part of every traveller's life when visiting the Bay Area in the 19th century, but its severity astonished many of the early visitors. *This was something to write home about*.

California's oak savannas, so idyllic in their unbroken state, revealed their fragile character when cut with horse hooves and wagon wheels. In California, the "fertile fields of succulent grasses," which dry up each summer, leave only a thin layer of humus to accumulate over the years. The rich compost of roots and leaves that built up the soil in the East was, here in California, only a thin mixture of decaying grasses and forbs.

Since the time of the Dust Bowl Era in the 1930s, we've focused much attention on the problems of soil loss, erosion, and muddy waterways. To our credit, the severe problems created by roads, construction, and open tilling during the 19th century are no longer of such magnitude. Vigilance and wise stewardship are our best allies in maintaining clean dust-free air and clear running streams.

During the mating season of the birds many of the boys were out in the fields, along the streams and through the woods in quest of new and rare specimens of the marvelous handiwork and energy of our feathered friends.

It was lots of fun to wander carefree, far and wide, intently scanning every bush, tree, clump of grass, or tule patch, for the birds had a way of hiding their nests in the most unlikely places and great was the joy when our efforts were rewarded. Of course a nest full of young birds or a setting of eggs that were about to hatch were never molested, for there was even in those glorious days honor among thieves.

Our collections contained the nests and eggs of humming birds, wild canaries, linnets, finches, sparrows, blue birds, pee-wees, thrushes, robins, brown birds, black birds, orioles, larks, doves, quail, beemartins, roadrunners, swallows or mud daubers, blue jays, woodpeckers, yellow-hammers, owls, hawks, crows, mud hens, kildees, and many others we were unable to name or classify. The rarer they were and the harder to get, the greater the prize with bubbling joy in proportion.

William C. Shipley
c. 1884

Bird diversity

Dr. Shipley grew up in Healdsburg during a golden time of swimming holes, fishing spots, virgin redwoods, and the occasional wayward bear. Eventually living to the age of 88, he managed to take time to reflect upon that lost era in a series of newspaper articles that were republished in book form in 1938. His writing is romanticized even beyond that of Frank Marryat, but the basis for his descriptions of the countryside, being first hand observations of the 1870s onward, can't be disputed.

In this excerpt we are struck by the variety of birds in the area: listed are birds of meadow and wood, raptors of the air, stream bank dwellers, and many of the common species whose presence we take for granted. What distinguishes this listing from others is that it doesn't repeat the litany of waterfowl and migratory birds that awed so many of the early writers: we are reminded more of Gordon Bolander's bird list of sightings in the Laguna near Guerneville Road.

Common birds that we take for granted

The great variety of birds attested to by so many, from early times through today, highlights one of the Laguna's key features: habitat diversity. The needs of each species for different sources of food—whether fish, insects, small mammals, seeds or fruits—gives us an indicator of the diversity of plants that were and are present. The needs of each species for nesting and refuge further points to the diversity of plant structures—overstory, understory, open field, marshland, and waterborne—that our restoration efforts should attempt to reestablish.

Habitat diversity is one of Laguna's key features

Then I heard what seemed like the gallop of a horse approaching. In an instant, over on the opposite side of the stream, passed an animal of enormous size, on whom I fired at random. To appease my conscience, I fired twice. Then I remained motionless, as if petrified by the report of the very rifle I was holding. Almost immediately was heard a low whistle; from which I realized that Aluna wanted me to come to his assistance…

[the following day] While lunching under a green oak and while our horse fully loaded was munching some twigs from a shrub of which he was especially fond, we sighted a dozen vultures which were circling about in a strange manner. Their band was rapidly increasing and from twelve their number soon increased to twenty or twenty-five. From their course they seemed to be following the trail across the prairie of some animal who, from time to time, was compelled to stop. At such times they too would stop, ascend, then come down & nearly alight on the ground; the next instant they would fly off as if frightened…

Here the prairie was at its thickest; even by raising up on my tiptoes my head was barely on a level with the grass; but I was guided, as I have said, by the band of robbers. Gradually I moved on ahead…

In accordance with my suggestion he [Aluna] had gone at daybreak to examine the place where I had fired on my elk, and here, just as I had expected, found my animal had apparently been wounded, a fact relatively easy to trace from the trail of blood left in his flight…

Alexandre Dumas
July 1850

Hunting on the Santa Rosa Plain

Alexandre Dumas' *A Gil Blas in California* is a Gold Rush tale, first published in France in 1852. The author apparently used the journal of an unnamed countryman who had for a brief period earned a livelihood in California as a professional hunter. Although Dumas himself never visited California, his ghostwriter clearly had.

To help the writer get started with his newly chosen profession he teamed up with a more experienced outdoorsman, Aluna, who patiently showed the novice where and how to make a go of it. In this excerpt, we pick up the thread of his narrative, in July of 1850, sometime after midnight, as he's bivouacked somewhere on the Santa Rosa Plain.

In this tale we have many of the same elements that are so frequently mentioned elsewhere: the elk on the prairie, the vultures tracking their hoped-for meal, the tall grass acting as an immense open field of protection. Throughout Dumas' journal we see evidence of the abundant game found in the hills, prairies, and wetlands of Sonoma and Napa counties. He goes on to relate several bear stories, hunting for numerous types of waterfowl, bringing down "squirrel, hare, & partridge", and even tracking a wolf. All of this was destined for the palettes of the San Francisco masses. The tale is a melancholy one for us, and even Dumas himself comes close to repenting, realizing towards the end of the year that he had to move to other valleys as the area had been pretty much depleted.

Vultures tracking their hoped-for meal

Depletion of the area's game

Pre-contact records

The Laguna's watershed, being tucked away in a remote valley, neither on "El Camino Real" nor on any emigrant trail from Mexico, the Sierras or Oregon, was infrequently visited during much of California's Exploration and Missionary periods. Being neither a port nor a navigable waterway further helped to keep the watershed in isolation. Exploration by the Spaniards was halted by the impassability of San Francisco Bay, itself not discovered until 1769.

An infrequently visited part of California

The exploration of the land to the east of San Francisco Bay was conducted in 1770 by Pedro Fages but could not proceed north of the Carquinez for want of boats. The Bay itself was explored for the first time in 1775 by Juan Manuel de Ayala and his first sailing master José de Cañizares. Father Vicente Santa María's journal of that surveying expedition provides us with the first descriptions of what is today Marin and Napa Counties. (Galvin 1971)

San Francisco Bay halts exploration north of the Carquinez

Only two other explorers are known to have come even close to the watershed prior to that time. Francis Drake made a short inland journey in 1579, from what is now known as Drakes Bay, to places within Marin County, and Sebastian Rodriguez Cermeño, who was shipwrecked in 1595, made similar forays to procure enough food to enable his crew to retreat from the wilderness back to Nueva España. The 180 year span between Cermeño and Ayala was a period of undisturbed indigenous use throughout the entire northern California landscape. Only beginning in 1775, did the first tentative descriptions of the land north of San Francisco Bay come into place.

180-year span of undisturbed indigenous use

Early explorers

The earliest written records of exploration within the Laguna are from the Mission period; they were penned by Russians entrepreneurs, presidio soldier-scouts, and mission padres. Exploration proceeded from three directions, just skirting the edge of the Laguna itself: one from the coast and up the Russian River, a second from the San Rafael mission overland to Bodega, and a third overland from Petaluma to Sonoma. From these perimeter vantage points, the Laguna proper came into view but remained untraversed. After the establishments at Bodega-Fort Ross and the missions at San Rafael and Sonoma were in place, the Laguna became an area of speculation and encroachment for the first time, with the Russians

Exploration of nearby areas

seeking inland valleys suitable for farming, and the newly-independant Mexicans attempting to check the Russian advance by encouraging settlement of the area. Neither attempt was at first successful, as the indigenous people of *Livantuyolomí* fiercely protected their homeland.

There were two trails blazed through unexplored Sonoma County which originated just to the south of the watershed in present day Marin County. One originated in the as-yet unestablished San Rafael area belonging to the Olompalies and proceeded northwest via Two Rock to Rumiantsev, the present day town of Bodega Bay. Views of the Laguna from the mid-point of this overland trail would have mostly seen the Gossage and Blucher regions of the watershed. A second trail was blazed from the land belonging to the Petalumas northeast towards the tribal lands of the Sonomas, Napas and Suisunes; this trail skirted the edge of the tidal marsh, remaining just south of Sonoma Mountain's southern terminus. Views of the Laguna from this trail would have included the Cotate, Taylor and Matanzas regions. A third route, the one employed by the Russians, was up the Slavianka, a rough route because the river's water was not navigable in many stretches, towards present-day Healdsburg, through the land of the Sotoyomes, and on one final occasion to the summit of Mount St. Helena. This route would have had views of the River, Piner, San Miguel, Foothills and Montane regions of the Laguna.

Olompali-Rumiantsev trail

Petaluma-Suisun trail

Slavianka route

The first of the Russian observers was Georg Heinrich von Langsdorff who accompanied Nikolai Petrovich Rezanov on an early visit to California in 1806. Langsdorff was the ship's physician and biologist and held credentials as a correspondent member of the Imperial Academy of Sciences. Two year's later, in 1808, Ivan Kuskov traveled 45 miles up the Russian River in search of suitable settlement sites.

First Russian explorers

In 1816, Otto von Kotzebue, in a round the world scientific voyage, stayed in the area long enough to provide a detailed account, and, more importantly, he brought with him the naturalist Adelbert von Chamisso, the artist Louis Andreyevich Choris, and the entomologist-zoologist Johann Friedrich Eschscholtz, each of whom contributed to the written record.

Russian naturalists

In the mid-1820s, Dmitry Irinarkhovich Zavalishin, traveled the overland route from Fort Ross to the Spanish settlements.

In 1833, Ferdinand Petrovich von Wrangel, while manager of the Russian-American Company enterprise, renewed the possibility of inland settlements by journeying up the Russian River again. Together with Peter Kostromitinov he conducted studies of the wildlife, geography and

anthropology of the Russian River and the Santa Rosa Plain, which were published by the Imperial Academy of Sciences.

Upon conclusion of his six-week visit to Fort Ross, Father Ioann Veniaminov journeyed overland on August 23-25, 1836, probably on the same Two Rock route, to the San Rafael mission and onward to San Francisco. (Gibson 1971)

In 1836, Yegor Chernykh describes the desirability of the inland valleys over the fog-bound coast. In a document to his Russian Imperial superiors he extols the virtues of the Russian River Valley and quite possibly the Santa Rosa plain, "Twenty verstas inland from Ross there are truly blessed plains: the best lands, a variety of timber, rivers with fish, lakes; fogs would not be able to affect a crop there. These places are not yet occupied by the Californians." (Gibson 1968)

Russian designs on the Santa Rosa Plain

Finally in 1841, just prior to the Russian pullout, Chernykh joined Ilya Gavrilovich Voznesenskii to survey the Russian River and its tributaries as far as Healdsburg before ascending and naming Mount St. Helena on June 12th. Voznesenskii's interest in flora and fauna was prosecuted extensively both overland and by boat, taking him as far as Sutter's New Helvetia (present day Sacramento).

Meanwhile, the Spanish, not having sufficient means to put an end to the Russian's trespass, followed a course of détente. Relations remained warm, including some unofficial trading and some look-the-other-way dealings with respect to the Russian fur industry's encroachment in the area. But officially New Spain continued to keep a watchful eye on the foreigner's activities. This led to developments of interest to the Laguna. First, were the scouting and spying expeditions, then the establishment of the two nearby missions and their attempt at an agricultural outpost, and finally the intentional and strategic encouragement of settlement in the watershed.

Spanish countermoves in Sonoma County

The Russian founding of Fort Ross in October of 1812 came immediately to the attention of the Spanish at the San Francisco presidio when in December, on the brink of starvation the Russians sent a messenger overland to the Marin headlands to signal for help from the San Francisco residents. This help arrived in the person of Sergeant Gabriel Moraga who went to Ross in January of 1813. (Emanuels 2001) His overland route is not recorded, but probably fell short of a visit to the Laguna watershed at that time. Later though, in 1818, Moraga did help to select the site for Mission San Rafael, and he personally reconnoitered the region to its north.

But the first written record of a Spanish sighting of the watershed itself comes from Mariano Payeras, who on May 31, 1819 climbed Mount

First Spanish sighting of the Laguna

Tamalpais and gives us this description: "I climbed the highest hill to the east, and from it I could see the entire area, and especially the Canyon of the Olompalies, six leagues by land from here; the Plain of the Petalumas, 12 leagues away; and where the mountains to the northwest start to run from north to south. Both east and west of the Petalumas, some beautiful plains are found. As the view indicated, and as the Indian Pacífico explained, and as Father Gil also told me, it possesses good grass, a large river, and other watering places." (Cutter 1995)

Of the overland trail to Fort Ross, Payeras tells us "The only horse path through this area via Olompali and Petalumas is all level and reputed to be 20 leagues long, that is, 12 to Bodega and eight to Coscon or the Russian presidio. All of this can be traveled, both there and back, in three days going on horseback with remounts."

Moraga traverses the area north of Petalumas

The actual exploration of the watershed may have been undertaken by Gabriel Moraga as Payeras goes on to entice us, "Only Lieutenant Moraga has traveled to the north of Petalumas, … there seems to be only one definitely good location with water and a river from the Petalumas and Sonoma on up, and another location with an arroyo and some useless lands, but these sites must be explored thoroughly in order to determine accurately what is really there."

Argüello and the *Pila de San Giorje*

One of the earliest first-hand views of the watershed by the Spanish occurred in 1821 when Luis Antonio Argüello led an expedition far to the northern end of California, through the Sacramento Valley, and back, via the previously unexplored Coastal Ranges. Argüello's mission was to check on the rumor of an English or American settlement in the region, a rumor which turned out to be unfounded, as the only human populations encountered were scattered Indian *rancherías*. The Russian outpost, whose presence was already recognized, was skirted to avoid confrontation. The final leg of Argüello's journey appears to have traversed the Laguna on the afternoon of November 10th and the morning of November 11th. The geography is somewhat sketchy throughout his journey, but his naming of the Font of Saint George, which coincides with the Christian day honoring the saint, comes intriguingly close to sounding like one of the Lagunas. "As they (the heathen) hid themselves in the woods and stream, I considered it more prudent to leave them and continue my march in order to scout a circular pool of water to which I gave the name *Pila de San Giorje* on the banks of which I camped in order to continue through the same valley in which to make my retreat on the morning of the eleventh day." (Fisher 1992)

On a subsequent traversal of the watershed by Argüello in 1823, as reported in the recollections of José María Amador, the expedition's route proceeded from east to west through the heart of the watershed. Amador, more intent on describing the warpath than on describing nature is not very helpful, telling us only, "The Indians surrounded us on all sides, but we continued our march until we reached a place called *Livantuyolomí*." (Hewitt 1877)

Argüello's 1823 visit to *Livantuyolomí*

First settlements

In addition to the Russian settlement at Fort Ross (1812-1841), the Russian-American Company established three agricultural outposts in the interior of Sonoma County, away from the coastal fog, which so greatly inhibited the success of their wheat growing attempts. All three farms were outside of the Laguna de Santa Rosa watershed proper: Khlebnikov Ranch was north of the Estero de Americano, Kostrominitov Ranch was on Willow Creek, and Chernykh Ranch was in a valley situated just west of the present day town of Graton on Purrington Creek.

Nearby Chernykh Ranch

The Alta Californians bypassed the Laguna watershed, first setting up an *asistencia* in San Rafael on December 14, 1817 and later setting up Mission San Francisco Solano at present-day Sonoma on July 4, 1823.

The first land grant given in the watershed was to Rafael Gomez in 1831 for the purpose of checking the Russian advance into the Santa Rosa Valley, but he failed to build a house or otherwise develop the land as required: his grant was subsequently invalidated. The padres at the Sonoma mission, a five-hour horseback ride away, attempted a similar maneuver a few years later—in order to check both the Russian encroachment and the settlement designs of M.G. Vallejo—building a barn and trying their hand at hog farming, with unrecorded results.

First unsuccessful attempts at settlement

In 1834, a renewed attempt was made by Governor Figueroa to put an end to Russian designs by transporting 120 colonists from Mexico to the "City of the Future", officially christened "Santa Ana y Farias", to be situated in the Santa Rosa Valley on the banks of the *Arroyo Potiquiyomi*, the creek now known as Mark West. This was a political disaster resulting in the expulsion of its directors, José María Hijar and José María Padres, and the complete dissolution of the colony.

Mexican "City of the Future" dissolves

At the same time, in 1834, just outside the watershed, the 15 league Petaluma Rancho was formally granted to Mariano Guadalupe Vallejo, who then established northern California's first power base, and who was directly responsible for the eventual settlement of the Laguna area. The

first pioneer with staying power arrived in 1837 in the person of María Ignacia Lopez de Carrillo and her twelve children. She chose the spot at the confluence of Matanzas and Santa Rosa Creeks, which today is the city of Santa Rosa, and which was formally granted to her by the governor on September 30, 1841 under the name Cabeza de Santa Rosa.

Vallejo's settlement legacy

Land grants were slowly given out to friends and relatives of Vallejo throughout the Laguna watershed, Sonoma County, and the surrounding country.

1836: John Wilson received the 4 league *Los Guilicos* grant; and Juan Bautista Roger Cooper received the 10½ league *Levantahyume* grant, later known as *Rio Ayoska* or *El Molino*.
1840: Lázaro Piña received the 11 league *Agua Caliente* grant; and William Mark West received the 1½ league S*an Miguel Rancho*.
1841: Henry D. Fitch received the 8 league *Sotoyomi Rancho*.
1844: Joaquin Carrillo received the 3 league *Llano de Santa Rosa* grant; Jean Vioget received the 6 league *Blücher Rancho*; and Juan Castañada received the 4 league *Cotate Rancho*.
1845: Juan Nepomuceno Padillo received the 4 league *Roblar de la Miseria*.

Gold fever curtails further emigration

Settlement quickened pace within the Laguna's watershed during the post-1846 American emigration period. Two years later, gold fever emptied coastal California, while attracting the masses to the Sierra foothills. Disappointed prospectors returning from the gold fields began arriving in 1851. During this emigration hiatus, Frank Marryat arrived, remained for a year, and penned his romantic and humorous account of life in the wilderness. The detailed account of the Laguna, the Santa Rosa Plain and the Russian River, obtained from Marryat's journal of 1850, describes the landscape just on the cusp of its transformation.

Sotoyomi, Potiquiyomi, Livantuyolomí, Cainamero and Guilitoy

Although some of the indigenous people of the Laguna watershed were indoctrinated into the Mission system, and others were employed at Vallejo's Rancho Petaluma, there still remained the independent *rancherías* of the Sotoyomi, Potiquiyomi, Livantuyolomí, Cainamero and Guilitoy who owned the buffer areas that neither the Russians nor the Spanish could effectively exert control over. The landscape thus remained uncultivated until at least 1836 when a regional peace treaty was negotiated. The few pioneer homesteads to be established between 1836 and 1846 were polka-dots on the landscape, with their principle industry consisting of free-ranging of cattle, sheep, and horses. When reviewing the record of the early explorers, it is evident that the scenery and wildlife recorded in their journals fairly depict the Laguna under the stewardship of the Indians.

Post-settlement era

The Laguna and the adjacent Santa Rosa Plain, that just 160 years ago was bursting with wildlife, would be unrecognizable today to the inhabitants of that time. So what happened to this picturesque land, and when did the plenitude disappear? From the records examined, it appears that the decline was rapid and included at least three main components: the intentional extermination of the grizzly, the full scale slaughter of the elk for tallow, and the over-harvesting of game for the tables of San Francisco restaurants. Later on, the loss of habitat due to human encroachment dealt a final punch to the area's wildlife, effectively preventing the sparse remaining populations from re-establishing their former balance.

Rapid decline of the abundant wildlife

The extermination of the grizzly is so thoroughly documented by so many authors that it leaves the reader with no doubt about the intention, methods, timing, and locality of their demise. William Heath Davis devotes many pages to bull and bear baiting, bear hunting, bear scares, and the methods employed by Indians and vaqueros in trapping bears (Small 1967); the French merchant Auguste Duhaut-Cilly provides ample first hand observations, made during his travels here in 1827, of the grizzly's former range and concentration (Frugé 1999); Julio Carrillo's own bravado with bears on the Santa Rosa Ranch were widely reported; while William Robert Garner provides the quintessential summary of the topic in his newspaper article of November 29, 1846. (Craig 1970)

Extermination of the grizzly

But compared to the predictability of the grizzly's demise, the slaughter of the elk comes as much more of a surprise. Elk venison was of course considered to be a tasty menu item, "The young fat elk furnishes a very juicy and sweet venison" (Hittel 1863), and would have been reason enough for their decline. But this decline was greatly hastened by California's only profitable Rancho-era industry: hides and tallow. The mechanism for rounding up unfenced spring-fed cattle to prepare them for slaughter was the *vaquero*—the world's finest cowboys who rode hard and lassoed harder. With the Boston merchants regularly sailing out of Monterey for Central and South America, the rancheros found a steady market for cattle hides and tallow. With the industry so well developed it became only a matter of time before elk, whose tallow was cleaner and made for finer and more expensive candles and soap, to become roped into the system.

Slaughter of the elk

As early as 1827 Paul-Emile Botta tells us "In these three months (June, July, and August) the Spanish colonists engage in hunting in order to provide themselves with tallow, which these animals have in great

Elk provided white, solid tallow of the best quality

abundance. This tallow is white, solid, of the best quality … It is a good revenue for California." (Bricca 1952) Another visiting Frenchman, Auguste Duhaut-Cilly, tells us just how profitable it was, "They pointed out to me a youngster of sixteen, who had taken twenty-three deer (elk) in one day. Assuming that each one produced three 'arrobas' of tallow, this young man had earned for his day's work one hundred thirty-eight piasters, about seven hundred francs. From the soldiers of this garrison I purchased four thousand francs worth of this product (131 elk), garnered from their hunt." (Frugé 1999)

The Elk's glory is sadly recorded

Just a quarter century later, the end of the elk's glory is sadly recorded by Frank Marryat when in June of 1851, a few stragglers are discovered in the wetlands between Sonoma and Petaluma, "News was brought one day that a band of elk had been seen near the place, and upon this the whole population turned out. Independently of the fact that I feared being shot by some of the party, among whom were several boys, armed with rifles, I knew that the Elk does were heavy at this season, and I had no mind to assist in a butchery. The drove was headed about nightfall in marshy ground, and about *eighteen does* were killed." (Winks 1962)

Interestingly we learn from William Heath Davis that "the native Californians were not fond of hunting, and so deer were little disturbed save by the few hunters who came into the country from other parts." (Small 1967) But this was to change overnight with the arrival of the industrious Americans from the east beginning in 1846.

San Francisco bills of fare

Soon sportsmen were making a profitable venture out of the smaller game when the elk and antelope were exhausted. The hungry '49ers were being treated to a nightly feast as Frank Marryat reports in December of 1851, "The San Francisco bills of fare present at all seasons great variety, and no one has a right to complain who has but to choose from bear, elk, deer, antelope, turtle, hares, partridges, quails, wild geese, brandt, numerous kinds of ducks, snipe, plover, curlew, cranes, salmon, trout, and other fish, and *oysters*." (Winks 1962) Much of this came from the wilds to the north of the Bay. As one who heavily participated in it, Alexandre Dumas' ghostwriter leaves no doubt as to where the best hunting was, telling us in June 1850, "At length we all agreed that the scene of our hunting activities should be the rolling plains extending from Sonoma to Lake Laguna, and from the ancient Russian Colony to the Sacramento." (Wilber 1933)

An anonymous source records some additional details regarding the commerce of Sebastopol in 1850: "To supply fresh meat to San Francisco was the business of many hunters about the bay and its tributaries. Some men came, with their whale boats, up the long, winding Petaluma estuary,

set up a camp, and not only hunted, but solicited game from the interior. Enormous quantities of game, large and small where shipped out of the region. Prices are of record on this scale: Good-sized deer or antelope, $20; hind quarter fat elk, $40; quail, $9 per dozen; and ducks, $12 per dozen. Bear meat, especially the huge grizzly, was a stock article, and sold at a good figure. James Hudspeth supplied some game for the Petaluma creek men that first year." (Anonymous 1925).

Enormous quantities of game shipped out of the region

Another day

Additional research into the historical record is warranted to more fully understand the restoration potential of the Laguna watershed. In particular the accounts of the visiting Russian and British naturalists through 1841 appear to hold promising discoveries. The serious work of David Douglas, John Frémont, Karl Theodor Hartweg, and John Milton Bigelow should also be examined. Also unexamined but certainly of value would be Father Altimira's 1822 overland journey from San Rafael to the future Mission San Francisco Solano, José Figuero's exploratory trip of August 1834 to the City of the Future, and Mariano Vallejo's own history of California.

Other promising accounts to be researched

With today's appreciation for the value of wildlife, there is plenty of public support to see land management programs focused on increasing wildlife abundance. Clearly the historic record provides a sound basis for the possibilities. While no one is suggesting the return of dangerous carnivores close to our ranches and homes, the case can easily be made for the creation and support of programs designed to refashion selected pockets of the Santa Rosa Plain and the Laguna into areas of high wildlife productively.

Refashioning the Laguna into an area of high wildlife productivity

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