Over the Range

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 Published by Utah State University Press

 Francaviglia, Richard V.
 Over the Range: A History of the Promontory Summit Route of the Pacific Railroad.
 Utah State University Press, 2008.
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In the early 1800s, when the words rail road began to be heard in the United States, much of the area west of St. Louis and east of Spanish California was terra incognita for most Americans. At that time, the term rail road (or, somewhat later, railroad) referred to any method of transport that relied on rails laid horizontal to the ground and upon which wheeled vehicles could roll. At this early date, the rails were wooden, but might also be made of iron. Horses or mules likely provided the power to haul cars over such a railroad. By around 1820, however, people began to envision railroads in a more modern way: the rails would be lengths of iron, or perhaps sheet metal, strapped onto wood stringers, and the power would be steam. Although most of the early railroad development occurred in England, this new form of transport had especially strong advocates in the United States, where distances were vast and resources seemingly unlimited. By the mid to late 1820s, even before a railroad was built in the United States, a few visionaries actually believed that this iron road would take the westward moving nation to the Pacific Ocean. Fairly primitive and not especially dependable railroad technology did not dampen their enthusiasm. The fact that Mexico and Britain claimed much of this country west of the Rocky Mountains did not deter their ambitions. After all, intrepid explorers were constantly bringing back encouraging reports about the opportunities and resources in this far western frontier.

One of these explorers was John Charles Frémont, who made his way westward into the area around the Great Salt Lake in the summer of 1843. At this time, Frémont was far from American soil as he moved...
Over the Range

along a poorly defined boundary between Mexico and Britain. His goal was to find better routes of travel for the people who hoped to settle the Oregon country of northwestern North America—an area claimed by Britain but highly desired by would-be settlers from the westward-expanding United States. But Frémont also had an ulterior motive that was part of a larger agenda of national expansion—to help claim this portion of the North American West for the United States.

Unbeknownst to Frémont and his exploring party at this time, the huge desolate region they now entered was an area of interior drainage: About a quarter-million square miles in size, this region was peculiar in that none of the rain or snow that falls here reaches the sea. As the Frémont party gazed across the area, they saw tall, snow-covered mountains (most of which ran in a north-south direction), broad slopes covered with grasses and desert brush, and vast valley bottoms covered either by sheets of water like the Great Salt Lake or, more commonly, glistering flats of salt. Fascinated by the landscape here, Frémont became obsessed with figuring out what lay in this huge area that would soon be called the Intermountain West.

Frémont knew, and acknowledged, that many others had traveled into portions of this region long before he arrived. These visitors included early Spanish explorers in the 1770s and mountain men and trappers who searched for beaver pelts here in the 1820s and 1830s. Frémont also knew that the area was not only remote but poorly mapped. In fact, one of his missions was to map a large portion of the area that was claimed, but essentially unoccupied, by Mexico. Less than a year later, Frémont confirmed something he had deduced from earlier explorers. In early 1844, he proved to his satisfaction that the region’s streams and lakes had no outlet to the sea. Frémont coined the term *Great Basin* for this region of mountains, desert playas (dry lakes), marshy areas, and scattered lakes. These water bodies were remnants of much larger (and deeper) lakes that had occupied almost half the surface area during the last ice age. That cooler and wetter period had ended just about 10,000 years ago when the climate became warmer and drier. By the mid-1840s, American pioneers trekking to the Oregon country traversed a portion of this area. Most of them, too, considered it a desolate place; getting through it was the dues they had to pay in order to reach a fabled land—the lush green valleys and fir-clad mountains of the Pacific Northwest. Thankfully, Britain gave up claims to this area without firing a shot, but Mexico was not easy to intimidate. The maps by German-born master cartographer Charles Preuss, that resulted from Frémont’s reconnaissances in extreme northern Mexico, helped set the stage for the United States taking the region after the bloody, but relatively short,
Envisioning Promontory

U.S.-Mexican War of 1846–48. In that war, Mexico lost about half its territory, almost a million square miles of land that included the Great Basin. There was intense interest in this area as Americans wanted to know more about the region they had just acquired and that Frémont knew so much about.

Frémont’s maps were a perfect source for such information. Under the direction of Preuss, Frémont’s expedition of 1844 had mapped as much of the region as they could. By 1848, the Frémont-Preuss map summarizing the state of knowledge about the entire Interior West was published, and it helped the American public visualize the Great Salt Lake and environs (fig. 1–1). On this map, their notations stated that the Great Basin was sparsely inhabited by “miserable” Indians—by which they meant that the native peoples had little in the way of possessions—and they lived a difficult life in a region of marginal resources. The map
also showed “Mormon settlements” which were of intense interest to Americans as the Mormons were said to be building a “New Jerusalem” in the desert near the Great Salt Lake.

The Mormons played (and still play) a major role in this part of the West, and their claims here predate the United States’ victory over Mexico in 1848. In fact, well before the U.S.-Mexican War began, the area was eyed by the Mormons, or members of the Church of Jesus Christ of Latter-day Saints. The Mormons knew about, and used, the best maps they could find. With earlier maps prepared by Frémont and S. A. Mitchell in hand, the Mormons arrived at the eastern edge of the Great Salt Lake in July 1847. Led by Brigham Young, the Mormons had fled persecution in the Middle West and now sought a place where they could settle and worship unmolested. The Mormons believed that they had left the United States, which had betrayed them by refusing to protect them from mobs. Upon their arrival in Utah, the Latter-day Saints now had the entire region pretty much to themselves—or so they thought. The Indians offered little resistance at first, and the main battle the Saints would have to fight was the physical environment. However, shortly after the Mormons developed their first community (Great Salt Lake City) and began spreading into the Great Basin, gold was discovered in California. That discovery, in February 1848, reshaped the new nation. Although the U.S.-Mexican War was just about to end, and the entire area would soon become part of the United States, few, including the Mormons, could anticipate the effect that the Gold Rush would have on the interior North American West. In 1849, thousands of people found their way to California, either by sea or by land. Some of those who crossed overland entered Utah east of the Great Salt Lake, on the Mormon Trail, circled north to avoid the forbidding Salt Lake Desert, and continued southwestward to follow the Humboldt River Valley in what would later (in 1864) become the state of Nevada. The Gold Rush of 1849 was yet another event in history that brought calls for better—which is to say, faster and safer—forms of travel from the settled eastern United States to the Pacific Coast. By this time, about 1850, it was well understood that the most desirable way to travel on land was by rail.

The opening of the Great Basin to Anglo-American settlement coincided with growing federal interest in the Intermountain West. Most of the federal expeditions to the area, in fact, were both military and scientific in nature. This was the age of what historian William Goetzman calls the “soldier-scientist.” The relatively young discipline of geology was one of their skills, and it helped the nation open the West to development. Less than ten years after Frémont’s initial exploration of the area, and at just the time that Congress was being lobbied to support the
Envisioning Promontory

exploration of a railroad route, a team of geological and topographical researchers found themselves on the shore of the Great Salt Lake—a huge inland sea that was among the West’s signature landmarks (fig. 1–2). This expedition, like many at the time, focused on resources that could speed the area’s development and sustain a railroad as part of the process. The expedition, charged to learn more about the area around the lake, including its mineral resources, vegetation, and climate, was led by Captain Howard Stansbury, for whom Stansbury Point and the Stansbury Mountains are named. As tensions began to mount between the Mormons and the federal government over who would control the region, some saw Stansbury’s presence as a way for the United States to increase its visibility on the Mormons’ doorstep. Stansbury was wise enough, however, to employ Mormons as part of his survey team. It was, in fact, Stansbury, who helped put the area around the Promontory Mountains on the map, as it were. In a remarkable reconnaissance under difficult conditions, Stansbury helped demystify the unusual geography of this enigmatic lake, into which one particularly prominent feature—the brooding Promontory Mountains—extended.

As seen on Frémont’s 1848 Map of Oregon and Upper California, the Promontory Mountains are easily the most significant landmark in the northern part of the Great Salt Lake, a long peninsula separating Bear
River Bay on the east from Spring Bay on the west. These mountains also continue northward, becoming more fragmented as they rise above the surrounding countryside. Delineated in more detail on a modern map at a much larger scale (fig. 1–3), the mountains are still the most apparent feature at the northern end of the lake. That increased detail is a result of technology that enables the accurate depiction of the topography, vegetation, and other features of the environment.

To today’s airline passenger gazing down from an altitude of 36,000 feet, the Promontory Mountains appear as stark and forbidding as they did in Frémont’s time (fig. 1–4). In this northeastward-looking air view taken in December 2006, the mountains separate the waters of Spring Bay and the northwestern end of the Great Salt Lake (lower left) from the shallow margins of Bear River Bay (center right). The mantle of windblown snow
and the mountain’s steep-sided canyons accentuate Promontory’s harsh character in this view. This was, and still is, a place where nature dominates. The average airline passenger looking down on this scene would have no idea that this was the place where history was made in 1869. To the untrained eye, it looks much like other beautiful, if bleak, scenery that passes below a jet airliner traveling at about 400 miles per hour.

To imaginative observers on foot (or horseback) in the 1840s and 1850s, though, the silhouette of the Promontory Mountains looked like a huge whale nosing its way into the Great Salt Lake. The nose of these mountains makes contact with the lakeshore at a place that would soon be called Promontory Point. Travelers would also have noted an island, named Fremont Island after the famed explorer, toward which the whale appeared to be diving. Although these mountains are easy to imagine
as one huge, dark-colored whale, they are quite complex. Divided into two separate mountain ranges—the Promontory Range and the North Promontory Mountains—the mountains seem to be two cavorting whales; that is, the smaller Northern Promontory Mountains seem to be chasing the bigger Promontory Range southward into the lake. Where the tail of the Promontory Range and the nose of the North Promontory Range meet, there is a lower, relatively smooth, valley-like swale. Called Promontory Summit, this area is the lowest—and hence easiest—place to cross over the Promontory Range. Much like a pass between the two separate ranges, this is where history was made in 1869.

The name of Promontory Summit deserves some interpretation. According to the dictionary definition, the word *promontory* signifies a high point of land or rock projecting into the sea or other water beyond the line of coast, a headland. It can also be a bluff, or part of a plateau, overlooking a lowland. Note that two factors are present in these definitions: a promontory is a *landmark* that towers above the surrounding land and, according to the first definition, is actually a *point* of land that juts out into a body of water. The very concept of a promontory, then, is closely tied to a *place* that is both a landmark and very specific in location. The term *Promontory Point*, where the mountains actually reach the

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**Fig. 1-4**

December, 2006, aerial photograph of the north end of the Promontory Range (*center*) and a portion of the Great Salt Lake near Spring Bay (*lower left*) and edges of Bear River Bay (*center right*). View looks north-northeast from airliner at 32,000 feet altitude.
Envisioning Promontory

Lake, is, in a sense, redundant; after all, a promontory is a point. As an astute writer observed in the early 1870s, the name Promontory Point “. . . appears a strange bit of tautology.” In this case, however, it is understandable, for the mountains themselves are the promontory (that is, the high land that rises abruptly to form a landmark). Promontory Point, then, is the place where the southern end (or tip) of the Promontory Mountains meets the Great Salt Lake. Promontory Summit, on the other hand, is that location within the Promontory Mountain range(s) where a route of travel can cross the range at the lowest point to avoid strenuous mountain climbing. The term summit here refers to the elevation of the mountain pass, while the highest point in the range would be, and is, called the peak. In the Promontory Mountains, the summit or pass lies at about 4,909 feet (1,496 meters) above sea level, while the peak stands at about 7,760 feet (2,365 meters). As seen on a map showing the area’s general topography (fig. 1–5), the Promontory Mountains are the most prominent topographic feature in this area.

There are, however, many important geographic features from the Wasatch Mountains westward all the way to the western edge of the Great Salt Lake Desert. Leaving Brigham City and vicinity and skirting the northeast edge of the Great Salt Lake, one first arrives at the aptly-named Little Mountain after crossing the Bear River Valley (fig. 1–6). Like most of the mountains in this area, Little Mountain is a block of sedimentary rocks originally laid down in a marine environment but now high and dry—a result of faulting resulting from the stretching of the western North American continent. Little Mountain provides a hint of the uplifted topography that is so characteristic of the Great Basin. Geologists use the terms horst and graben for such topography, a horst being an uplifted block of terrain and a graben being the lowered valley adjacent to it. Continuing westward, one encounters the Blue Spring Hills, and then crosses Blue Creek, which is at the southern edge of the Blue Creek Valley and its northern extension, Howell Valley. Lying west of here is the Promontory Range, which so impressed Stansbury.

Westward of Promontory, the land descends in a sweeping arc just northeast of Spring Bay. This is called the Hansel Valley, which is bordered on the west by the Hansel Mountains and on the east by the North Promontory Mountains. West and north of this range, one finds the broad Curlew Valley, which reaches, at its southern edge, the north shore of the Great Salt Lake and the large salt flats. Farther west from the Curlew Valley, the land rises again into the Baker Hills and Hogup Mountains. Still continuing westward, there is a broad swale called the Sink of Dove Creek. West of this swale, the Matlin Mountains rise, as do Red Dome and the Terrace Mountains. These prominent features
A stylized map of the area west of the Wasatch Mountains shows the prominence of the Great Salt Lake and the Promontory Mountains.
provide a stunning view of the Great Salt Lake Desert to the south and the Great Salt Lake to the southeast. A series of springs sustained travelers at Lucin, at the southern edge of the Grouse Creek Mountains and the Muddy Range. Farther west, Nevada looms on the horizon. We are concerned here with the area ultimately selected as the route for the first transcontinental railroad, between the Wasatch Mountains and the Nevada state line.

Working with a team of scientists and surveyors, including some Mormons like the talented Albert Carrington, during the summer and fall of 1849, Stansbury was the first to describe the area in considerable detail. Traversing the area in and around the Promontory Mountain Range, Stansbury was primarily concerned with the physical environment. As a geologist, he was especially impressed with the variety of rocks that undergirded the spectacular landscape here. Of the southern Promontory Mountains, for example, Stansbury noted that “[t]he rocks were porphyry, gneiss, dark slaty shales, and metamorphic sandstone.” However, he also noted that “[a]fter proceeding some miles to the north, dark limestones with white marble veins occurred, alternating with clayey shales.” Being interested in the topography, Stansbury also
Envisioning Promontory

commented on “lofty escarpments” in these mountains. Those escarpments were, at least in part, due to faulting. As in all areas of mountain building, the Promontory Range and vicinity has many fault lines. These faults tend to run in a north-south direction. Covered by sediments, most are not visible; however, lines (or scarps) can be detected in the countryside where the topography on one side is at a different elevation or position than the other. These faults are one indication that Promontory is earthquake country. Earthquakes, however, have been widely spaced in time and variable in magnitude. The mountains in this area did not rise quickly but rather in many small jolts that only lifted them inches at a time over millions of years.

In his famous report on the area surrounding the Great Salt Lake, Stansbury’s team sketched what may be the first drawing of the site where the transcontinental railroad would ultimately run. Positioning themselves toward the end of the peninsula that comprises the Promontory Mountains, they looked northward, surrounded on three sides by water. Stansbury’s “View Looking North West from Promontory Point . . .” (fig. 1–7) reveals the rugged backbone of the Promontory Mountains, and, in the distance, the hills rising from the Curlew Valley at the northern end of the lake. It was here, over the low summit between this southern range of the Promontory Mountains and its continuation northward—just out
of view in this sketch—and thence along the sweeping edge of the lake’s Spring Bay (seen in the background of the sketch), where the transcontinental railroad would be built about two decades later.

Stansbury also knew that the mountains here displayed vast slices of earth history. The geology of the area (fig. 1–8) reveals the Promontory Mountains’ connection to the region’s long geological history. On their dark and contorted slopes, the Promontory Mountains did indeed represent powerful geological forces and vast amounts of “deep” time—that is, time measured in millions of years. These mountains consist, for the most part, of sedimentary rocks precipitated in ancient seas some 250 million years ago. Over time, the precipitated lime hardened into dense limestone. Then, through various episodes of crustal movement,
those limestone layers began to be pushed upward to become dry land. As part of the Great Basin province, these mountains of strata were then faulted, or broken, so that the uplifted mass was no longer one smooth, horizontal set of layers, but rather huge angular chunks of terrain.

The Promontory Mountains represent a slice of time—an originally water-deposited environment, now frozen in stone, set about a mile above sea level. These mountains consist of about 2,600 feet of Mississippian age limestones that are uniformly crystallized and nearly black in color. On top of these lie the resistant, cliff-forming Lodgepole formation, about 430 feet thick, which is, in turn, topped by the Deseret limestone that also contains some siltstone and sandstone. One of the region’s characteristic rocks, the Great Blue limestone, is dark gray to
blue. It crops out in the North Promontory Mountains, where it forms rough, grayish ledges (fig. 1–9). As it turned out, Promontory was a good name for the mountains because their tough, erosion-resistant limestones form such spectacular prominences.

The Promontory Mountains are even more spectacular because they rise from the Great Salt Lake and the lowlands adjacent to it. That low-lying area, filled with America’s largest salty inland lake (ca. 1,700 square miles), contains more than a remnant of a much-larger Lake Bonneville. It is, in part, the dumping ground of fine material washed down from the mountains over millions of years. In this area, which is typical basin and range country, the mountains rise like islands above the salt flats. Like most of the mountain ranges in this geological province, the Promontory Range is aligned rather close to north-south. Glimpsed from an airplane or seen on a relief map, these mountains seem like a herd of caterpillars marching in a north-south direction, as one imaginative observer put it. Between these ranges are long valleys. Some, like those flanking the Promontory Range, are filled with salty lake waters. Most, however, are like the Curlew Valley, with dry salt beds at the southern edge. Those many large, salty areas in northwestern
Utah are remnants of former lakes that existed in the fairly recent geological past. This cooler, wetter period lasted from about two million years ago to about 10,000 years ago, when the lake levels began to drop. Visible on many of the mountainsides in this area are distinctive lake terraces (fig. 1–10); these represent ancient beaches or shorelines when the lake levels were higher. The bench-like terraces are common on the flanks of the Promontory Range, which witnessed the slow receding of these waters. To many casual observers, these perfectly level terraces look man-made. To those who know the area’s past, however, they reveal a fascinating story of wetter times followed by increasing aridity that left miles of beaches high and dry.

Among the prominent topographic features west of Promontory is Monument Point, or Monument Rock. This resistant geological feature stands above the plain of the Great Salt Lake at the northeastern end of Spring Bay. Monument is an appropriate name for this mass of dark-colored limestone and marl. The dictionary defines a monument as “a memorial stone or building erected in remembrance of a person or event.” Its name and meaning to native peoples is not known, but early Anglo-American travelers were impressed enough by its prominence.
and sepulcher-like form that it became a landmark for them by the early 1850s. By the next decade, as we shall see, Monument Rock would feature in the surveying and building of the transcontinental railroad.

As the scientists and surveyors moved through this area in Stansbury’s time, they also were aware of fairly recent volcanic activity. In arid and semi-arid areas like this, the results of volcanic action can be visible for thousands of years because the vegetation is so sparse. Numerous basaltic buttes are visible in the broad, gently sloping Curlew Valley west of the Promontory Range and south of the Raft River Mountains. These may be the eroded remnants of a much larger lava flow, and their dark gray to brownish-black rock shows the characteristic columnar jointing of basalt. Like most basaltic flows, these suggest relatively peaceful explosions. However, some of the volcanoes closer to the Hansel Valley had evidently exploded violently (some, perhaps, under a portion of Lake Bonneville), spewing clouds that left deep deposits of volcanic ash that can still be seen in places. At Monument Point, for example, geologists identified a “superb exposure of Hansel Valley ash . . . where wave-cut bluffs expose the marl section on both sides of the point and the ash forms a thin brown layer that can be traced for considerable distance.” Some commercially valuable rocks and minerals occur in the Promontory region, too. In the Raft River Mountains, for example, deposits of marble and sandstone yield distinctive building stone. These mountains also contain small deposits of precious metals, notably silver.

About twenty-five miles to the east of the Promontory Mountains, the spectacular Wasatch Mountains rise to around 10,000 feet above sea level, in effect, dwarfing the topography near the lower Promontory Range. Composed of sedimentary and other lifted and faulted rocks, the Wasatch Mountains represent the eastern margin of the Great Basin and the westernmost margin of the Rocky Mountain chain. In between the Wasatch Mountains and the Promontory Mountains lies a wide alluvial valley, through which the Bear River runs to meet the Great Salt Lake. Along with the well-watered slopes of the Wasatch Mountains, this valley was recognized even in Stansbury’s time as a superb location to grow crops of many types, including fruit trees. This alluvial land at the base of the well-watered Wasatch Mountains is still among Utah’s richest farming areas.

Like the explorers and the early Mormons, the non-Mormons who filed into the Great Basin near the Great Salt Lake were well aware that the region was home to native peoples. Stansbury caught glimpses of these native inhabitants, whom he called “Shoshonee Indians.” On Wednesday, October 24, 1849, Stansbury noted that his exploring party arrived at a brackish spring just west of the mountains, “where there
had been a camp of Indians the night before.” Stansbury believed that the Indians fled the site when they heard “the report of some guns that had been discharged in our camp.” Even at that relatively early date, the Indians knew they were easy prey to firearm-wielding whites. When Stansbury reached this hastily abandoned campsite, he found numerous things of interest, including “[a] quantity of some species of seeds they had been beating out [which] lay in small heaps around . . . .” He also “found an old water-bottle . . . ingeniously woven of a sort of sedge-grass, coated inside with the gum of the mountain pine, by which it was rendered perfectly water-tight.” Stansbury and his men later found “some similarly shaped vessels, and made of the same material, that would hold nearly two gallons.” The word ingeniously confirms that Stansbury recognized and appreciated the Indians’ survival skills.

In exploring this area, Stansbury also described a “Utah digger” Indian man and his wife and child. Stansbury noted that the family was dressed in the style common to the Indians here. The man, for example, was “. . . quite naked, except [for] an old breech-cloth and a tattered pair of moccasins.” Stansbury noted that “[h]is wife was in the same condition precisely, minus the moccasins, with a small buckskin strap over her shoulders in the form of a loop, in which, with its little arms clasped around its mother’s neck, sat a female child, four or five years old, without any clothing whatever.” Given the modesty of Anglo-Americans during this early Victorian era, the fact that Indians were semi-clothed, as the whites put it, was not only “proof” of their lack of proper morals, but also proof that they were culturally impoverished. Like many travelers, Stansbury noted that the Indians appreciated some cloth that he gave them to cover themselves. Stansbury no doubt felt some relief that he could help improve their moral and material situation. At this time, it would not have occurred to Stansbury and other white travelers that the Indians had lived here for a very long time without their help. The Indians had arrived about 13,000 years earlier to become the Paleo-Indians of the Clovis period. During this time, about 12,000 to 9,000 B.C., the Indians commonly lived at sites at the ancient shorelines of the retreating lakes. It is tempting to think that the Indians survived for at least ten thousand years here in much the same condition, but changes did occur.

Evidence exists in many places of early Native Americans, usually where habitations existed. In addition to temporary brush shelters, Native Americans occupied rock shelters and caves near the Promontory Mountains. A rock shelter on the east side of Blue Spring Hill yielded stone chips, a mano, and scrap bone. Artifacts found at a cave site included projectile points, animal bones, potsherds, and
grinding stones. At Salt Creek Marsh, archaeologists found two indications of human settlement—obsidian flakes and fire-cracked rock. From this type of evidence, archaeologists divide the area’s long prehistory into three periods.

Over several thousand years, the Paleo-Indian peoples’ culture evolved. By about 9,000 B.C., their lifestyle had developed around the large mammals that roamed the area. They hunted now-extinct game, including bison, camels, ground sloths, and mammoths in what archaeologists call the Bonneville Period (ca. 9,000 to 7,500 B.C.). By the time the Pleistocene lakes were in full retreat, the environment was changing and becoming more diverse. More effective food harvesting and the use of spear-throwers occurred during the Wendover Period (ca. 7,500 to 4,000 B.C.). Bow and arrow hunting became common toward the end of the next period, 4,000 B.C. to 500 A.D., the Black Rock Period. In the Formative Period, from about 400 A.D. to 1,300 A.D., the practice of horticulture began and pottery was made. Because European American discoverers often named things found in the environment, it should come as no surprise that a portion of this lifestyle in Utah is called the Frémont Culture (named after the Fremont River, which was, in turn, named in honor of explorer John Charles Frémont). During this period, horticulture declined and hunting and gathering increased. A common pottery type from this period is called “Promontory Gray[ware]” after its development in the vicinity of the Promontory Mountains. By around 1,200 A.D., ancestors of the modern-day Numic-language-speaking Shoshone Indians began to arrive, and the Frémont Culture peoples left. Today’s Shoshone Indians, particularly the Northwest Band, are the descendants of these new arrivals. They are, in fact, the peoples that Frémont and other explorers like Stansbury encountered here (fig. 1–11).

Given the early explorers’ interest in both natural and cultural history, they believed many of these Indian peoples had regressed from the people who had built the pueblo communities of the Southwest. This was not true, but it helped explain the gap they perceived between what they called “civilized” and “primitive” Indians. Moreover, one senses in the writings of explorers, an urgency to modernize the Indians’ behavior (and beliefs) and describe them quickly before they inevitably vanished in the face of progress; this was a common theme as the Indians were susceptible to diseases and constantly besieged by would-be settlers anxious to use their resources and appropriate their land. Being part of the advance guard of civilization, however, most of the newly arrived European Americans believed that the native peoples in this area were living on borrowed time and held them in low regard. To a European
American culture emphasizing material progress, the native peoples of the Great Basin seemed not only impoverished, but also especially primitive. The local Indians near the Great Salt Lake were semi-nomadic and seemed to exist on the edge of starvation. To the horror of the European Americans, the Indians harvested grubs and even the larvae of flies that swarmed at the edges of the lakes in the Great Basin. Most of the Indians lived in brush shelters and some lived in caves. Moreover, they often moved from place to place as they hunted small game or foraged for seeds and nuts. Anglo-Americans called the Indians here “digger” Indians. Although regarded as negative and insensitive today, this term reveals that the Anglo-Americans marveled at the Indians’ ability to subsist on things dug from the ground. At the same time, Anglo-Americans disdained the Indians for not practicing agriculture that could free them from a seemingly hand-to-mouth, dismal existence.

For their part, the Indians were superbly adapted to live under skies that brought little precipitation and periods of intense heat or
bone-numbing cold. Widely spaced plants covered their landscape, but it impressed the typical explorer as completely barren. This was especially true of the low-lying areas near salt lakes or dry lake beds, such as the country at the northwestern edge of the Great Salt Lake. However, studied more carefully, most of the area was not barren, but sparsely vegetated. The Indians here, most of whom were part of the Shoshone tribe or nation, knew the area’s landscapes and resources far better than the new arrivals did. Consequently, the white people who moved through the area, and even the settlers who stayed here, often learned about local edible plants and herbal remedies from the Indians. One example is “squaw” or “Indian” tea, now called “Mormon” tea.

Despite their better knowledge of the area, the Indians were at a disadvantage as their numbers were small and their resources relatively scarce. Unlike the Anglo-Americans, who brought livestock to tend and seeds to harvest as crops, the Indian lifestyle largely depended on local flora and fauna. When conditions were better elsewhere, the Indians simply moved to those places. The Anglo-Americans, however, had a different perspective that was difficult to reconcile with that of the Indians. The Anglo-Americans not only hoped to settle the land permanently, they also claimed the land upon which they wanted to settle. With their greater numbers, better weapons, will to settle, and desire to own land, the Anglo-Americans were on a collision course with the native inhabitants, whose numbers dwindled through warfare, disease, and famine. By the mid-1850s, the region’s Indians were in frequent conflict with the whites. Although the Indians won a few of these battles, they would ultimately lose the war to control the entire area. The Indians who survived did so by adapting to the newcomers, avoiding conflict, and ultimately becoming more closely connected to the new economy that offered some stability in a physical—and now cultural—environment that was in constant flux.

By 1861, the United States government produced a map showing the location of the different bands of Indians in the Utah Superintendency. On it, the Indian population in today’s Box Elder County is divided between the “N.W. Bands [of] Shoshonies” and the “Goshoots.” Located in the northern part were the Shoshone, whose territory on the map includes portions of the northern Wasatch Mountains. On this map, the Shoshone inhabited the little settlement called “Ogden Hole” (northeast of present-day Ogden), the Promontory Mountains, and much of the country comprising the northwest corner of the Great Salt Lake. At a point near the mountains at the west edge of the lake, however, a dividing line runs east and west. South of this line, and the Shoshone territory north of it, the Goshute (or, as their name is sometimes written,
Gosiute, or Goshoot) are shown as occupying the area of today’s southwestern Box Elder County. In reality, though, much of the area of the “Lake Desert” (as it is called on the map) was likely very lightly populated and perhaps not as tightly defined as the Superintendency claimed. In fact, the Goshutes and Shoshones were closely related; they spoke the same language and intermarried. Although this remarkable map is so worn in places that it is difficult to read, and would have been even more difficult to reproduce here, it does substantiate the presence of native peoples in and around Promontory. Those names “Shoshonies” and “Goshoots” on the map suggest that the Indians’ territories were recognized. With time, and the pressures of development, all of the Indian tribes here were relocated to reservations of villages farther from Promontory, leaving far fewer of them in this area. For example, the Northwest Shoshone Indians were moved to Washakie, Utah, and the Goshutes to the area west of the Great Salt Lake. Those actions were controversial, but they did spare many Indians from violence.

Not all Anglo-Americans in the area near the Promontory Mountains were anxious to fight the Indians. The Mormons—who claimed that the Indians were descendants of the Lost Tribes of Israel who had migrated to the Americas about 2,500 years ago—originally hoped to accommodate and convert the Indians to their Christian religion. That worked to some degree, but even this ideological belief was not sufficient to avoid bloodshed, as the warfare that occurred here tragically confirms. That, however, was in the early to-mid-1850s. By the mid-1860s, Indian conflict had considerably died down in this part of Utah, unlike in the area along the Union Pacific line farther east. Whereas that westward-building railroad faced considerable resistance in surveying and building its railroad line across the Great Plains of Nebraska Territory, the Indians in western Utah and Nevada were far more peaceful at the time the transcontinental railroad was built through the area.

As early as the 1850s, when scientists and surveyors like Stansbury tramped across this area, that beautiful farmland along the Wasatch Front contrasted with the desolation found in the area near, and west of, the Promontory Mountains. In fact, much of western Utah is arid or semi-arid, and its desert and steppe (grassland) vegetation is classified as the type that grows in “cold” deserts. The winters here, in other words, are fairly severe, with occasional temperatures well below zero. During cold spells, even the daytime highs may be well below freezing for weeks, and the nighttime temperatures can fall to minus 10 degrees for a week or more at a time. During cold snaps, when the air is still, ice fogs can occur. The Indian term for this frosty, foggy weather is “pogonip.”
Great Basin Sage (*Artemisia tridentata*), a distinctive plant seen here near Promontory Summit, was important to Native Americans and also served as fuel for Anglo-Americans. Note the woody trunk of this mature plant.

the varied topography here is always a factor in the weather. Sometimes as the pogonip settles close to the ground, leaving the valleys ice-box cold, the mountaintops are bathed in warm sunshine.

To understand this area, we should recall that the relationship between land and water in both space and time defines everything here. The Promontory Range is both mountain and peninsula. Other mountain ranges isolated from land by water are islands rising from the Great Salt Lake. Even the swale between the Promontory Range and the North Promontory Mountains was once covered with water, meaning that in Pleistocene times the Promontory Range was also an island. Today, this area is well above lake level, and covered with grasses and shrub-like vegetation. Note, too, that the more thickly vegetated areas on the map are at the higher elevations. In the Promontory area, those green (i.e.,
Envisioning Promontory

forested) areas consist of juniper and pinyon pine trees. These higher areas receive more moisture than the lowlands.

Adapted to grow in these cold semi-arid lands, the sagebrush (*Artemesia tridentata*) (fig. 1–12) thrive in the middle elevations, along with grasses and pinyon pine in the higher elevations. West of Promontory is real desert. This is especially apparent in the area embracing the northern arm of the Great Salt Lake, a broad low-lying area of the Curlew Valley where the transcontinental railroad was ultimately constructed; this remains some of the most desolate country in the entire Intermountain West, especially where the fluctuating lake levels in historic times left saline soils in their wake. Low shrubs such as greasewood, which John Charles Frémont discovered in the mid 1840s, cover this area. In the broad saline and alkali plains north of the Great Salt Lake, greasewood (*Sarcobatus*) dominates, but one can also find other desert plants such as shadscale (*Atriplex confertifolia*) here. These, too, were new plants to scientists who traversed the area in the 1850s.

Early travelers to the Great Basin noted the importance of the sparse vegetation. Writing in 1849 with Frémont’s report in hand, American mapmaker S. Augustus Mitchell noted that “[t]he wild sage is the only wood; it grows of large size, being often one foot in diameter, and from six to eight feet high.” Mitchell added that sagebrush “serves for fuel . . . and for some sort of covering for the feet and lets of the miserable inhabitants in cold weather.” Sagebrush served one additional purpose for the native peoples, namely “[i]t is also the material of which they construct their diminutive wigwams.” In using the term *wigwam*, Mitchell revealed his eastern United States roots. In the Great Basin, such brush shelters are often called “wickiups.” In using the term *miserable* for the native peoples here, Mitchell revealed his prejudices and his belief in material progress as the measure of a culture.

Consider in more detail the varied vegetation communities—called ecoregions today—found near the Promontory Mountains. A map of these ecoregions adjoining Promontory (fig. 1–13) reveals that they are correlated with altitude or elevation and other factors, such as proximity to the Great Salt Lake. Generally, much of the area is arid or semi-arid in appearance, but there are two exceptions. Because the mountains intercept the moisture moving into the area and are cooler, pinyon pine and juniper trees often grow here. This is apparent in higher slopes of the Promontory Mountains, on which woodland and shrub vegetation are found. Ironically, although the lowest portions of the area possess the driest, hottest climate, they may be relatively wet places because all snowmelt and runoff from the mountains winds up there. These areas adjacent to the Great Salt Lake possess typical wetlands vegetation of
Fig. 1–13
Detail of Ecoregions of Utah Map showing area at the north end of the Great Salt Lake. See text for explanation of numbered areas.
Over the Range

reeds and rushes. Along the freshwater streams, such as Blue Creek, one can find lush riparian vegetation, including cottonwood and willow trees in places (13g on the map). However, in stark contrast to these green marshlands and ribbons along streams are the salt deserts, which may seem devoid of vegetation but often have growths of salicornia and salt grass. These areas (13a on the map) occur at lower elevations and have poorly drained, clay-like soils.

Mostly, however, the region features broad swaths of gently sloping terrain covered by scrubby vegetation. At lower elevations are the shadscale-dominated saline basins (13b on the map), where shadscale, winter fat, and greasewood plants thrive. In terms of elevation, these areas generally lie below the sagebrush basins and slopes (13c on the map). Here, usually on well-drained slopes, the Great Basin sagebrush dominates the landscape with its characteristic silvery bluish-green color. Promontory Summit, at an elevation around 4,800 feet, is a typical sagebrush-covered landscape. Sagebrush may reach heights of six or
seven feet in this area. Soils in this zone tend to be less saline, and better drained than soils in the shadscale and desert salt plains. The presence of sagebrush usually indicates conditions in which grasses can also thrive. Usually, sagebrush-covered areas contain grasses, though they may be easy to overlook. In a few places, usually those elevated, well-drained areas at the bases of mountains where fires triggered by lightning may occur, broader swaths of grass may be found. At the higher elevations near Promontory, at about 6,000 to 8,000 feet above sea level, one finds areas of scrubbly pine trees (13d on the map). In the highest elevations near Promontory, including the Raft River and Wasatch mountains above 9,000 feet, one finds tall pine and fir trees in dense forests (80b and 80c on the map).

The landscape around Promontory, then, is far from uniform. From the sagebrush- and grass-covered slopes at Promontory Summit, one can gaze up into the higher elevations of the Promontory Range and see pinyon pines and junipers (fig. 1–14), while a glance out to the Great Salt Lake reveals sweeping vistas of more sagebrush, and, at lower elevations, shadscale-covered terrain and finally, rimming the lake itself, fairly sterile salt flats. And yet, at a place like Locomotive Springs, a patch of green reveals the reeds and sedges of dense wetland vegetation that today, as in Stansbury’s time, attracts, and provides sanctuary for, waterfowl (fig. 1–15). These environmental distinctions are important. Although some might consider the environment of Promontory to be
monotonous, it is actually quite varied. Moreover, despite centuries of use by humans, it remains an important mosaic of habitats worthy of careful development and protection.

This area in the nineteenth century was actually a remarkable habitat that sustained Indian populations who had learned its secrets. Not surprisingly, however, it was here that early pioneers left vivid descriptions of a God-forsaken place unfit for human habitation. That, of course, was not quite true, as the Shoshone Indians found enough to subsist on here as they moved from place to place. But land is always judged by one’s experiences with other, more familiar, places, and to most westward-moving European Americans, this was no more than a very desolate place to get across—quickly. For their part, though, the Mormons embraced the challenge of settling this area, for it resembled the landscape they had read about in the Bible. Shortly after their arrival, they named the river flowing from Utah Lake into the Great Salt Lake the Jordan River—named after, of course, its counterpart in the Holy Land—the River Jordan. It is the landscape near Promontory, stretching for hundreds of miles in all directions, that the Mormons considered their promised land. Like that fabled land, it, too, could blossom as the rose—provided enough concerted energy was expended irrigating land and tending crops.

Like other European Americans arriving in this area, the Mormons first relied on the assessments of earlier authorities. By the mid-1840s, in fact, two specific sources of information spread the word about the suitability of the Great Basin for settlement. The first, of course, was John Charles Frémont’s widely read report, which characterized the bottom lands in the portion of the region adjacent to the Bear River as being “extensive; water excellent; timber sufficient; the soil good, and well adapted to the grains and grass suited to such an elevated region.” Frémont’s report noted other well-watered areas but characterized much of the region as sterile and covered with sand. Still, it suggested that Americans could make a go of it here, provided they knew the land and its resources.

The second source of information was Lansford Hastings’s briefly popular *Emigrant’s Guide to Oregon and California* (1845). Hastings described the entire region between the Wasatch Range and Sierra Nevada using a broad brush that also characterized the section of it near Promontory: “about one third of the whole section,” he wrote “is susceptible to cultivation, while about two thirds, including the arable lands, are well suited to grazing purposes . . .” At this point, it seems that Hastings had accounted for the entire (or three-thirds of the) area. However, throwing mathematical accuracy to the winds, he decided to add a sarcastic comment about “the remaining third, [which] for
Envisioning Promontory

extraordinary fruitfulness, and entire destitution, of all fecundity, can be surpassed only by some portions of Oregon, which are seldom if ever surpassed in worthlessness.”

Being farmers, many of the early travelers here evaluated the land in terms of its agricultural potential. They realized that the landscape from the base of the Wasatch to the western edge of the Great Salt Lake was quite diverse. With Stansbury’s report in hand, they could see that the land near the Wasatch consisted of a series of old lake terraces that stood above broad alluvial plains. This well-drained area possessed great potential for agriculture. This is broadly called the Wasatch Front, and the Mormons would turn it into a well cultivated Eden where crops and fruit trees thrived. Farther west, the land leveled off toward the forbidding Great Salt Lake. The area adjacent to the Bear River (near present-day Corinne) was especially fertile; the soils were fine, and water was always available. They quickly learned that, as one gets closer to the Great Salt Lake, the soils in this area became increasingly alkaline, and the area could only serve as marginal grazing lands. The Promontory Range was the next major feature they encountered, and it rises high enough to possess well-drained soils. Water, however, is scarce in this range; only a few springs were known. Westward from Promontory, the land spreads out in a broad plain at the edge of the Great Salt Lake. For miles, the plain here consists of a powdery alkaline soil that was once the bottom of the lake during wetter times. The soil is good enough to sustain crops only well above this lake plain. Although this was, in fact, one of the bleakest portions of the Interior West, it would later become the area selected for the transcontinental railroad.

Most travelers who encountered the Promontory Mountains in the 1850s found them to be quite desolate. Despite their bleakness, they were undeniably fascinating to those who looked at them a bit more carefully. This was a land of seemingly bare—some called them naked—hills and mountains where the bedrock geology was exposed. During the last half of the nineteenth century, the American public became more interested in geology; that helps explain why even government reports like Stansbury’s were read with interest by the reading public. As they learned from reports and first-hand observation, the area near Promontory was not only of scientific interest, but also somewhat mysterious. It was a land of mirages made all the more apparent by the Great Salt Lake, whose blue waters and white salt flats frequently played tricks on both eye and mind. The mystical connection becomes more apparent when we recall that during this period the Great Salt Lake was often compared with a lake in the Bible—the Dead Sea. Like the legendary Dead Sea, the Great Salt Lake is a body of saline water in a desert land. It
is, however, far less salty and dead than its Middle Eastern counterpart.

The area also appealed to the romantic early Victorian imagination in search of the sublime, and the Promontory Range was particularly fascinating. Travel writer Franklin Langworthy penned one of the more detailed and romantic descriptions on Promontory in the early 1850s:

**A LONG PROMONTORY**

September 1st.—Sunday.—Still pursuing our course, at the base of the mountain, which rises like a wall of naked rocks on our right. Towards the northern end of the lake, I perceived that a high mountain promontory makes out from the shore, in a direction nearly south, almost dividing the lake into two parts. This promontory cuts off the prospect, so that we can see only the sheet of water between it and the eastern shore. This sheet varies in width from five to twenty-five miles. At the city we can see past the southern extremity of the cape, and obtain a view of the broad expanse beyond it. The lake is there of such extent, that the sun seems, at setting, to sink beneath its briny waves.¹⁷

With its flaming sunsets and spectacular vistas, the Great Salt Lake had special appeal to the romantic mindset in Victorian times. That stunning inland sea and its stark adjacent mountain ranges, like the Promontory Range, therefore, must be considered in the context of the human history unfolding here in the 1850s and early 1860s. In addition to the romantic descriptions of travelers and adventurers, the area also presented considerable economic potential. By this time, two very different kinds of economic activities were occurring in Utah Territory. The first—agriculturally-based settlement by the Mormons—was strong in the Salt Lake City area but had also spread into other parts of the region, including small parts of what would soon become Nevada. However, Nevada was consciously pursuing a different path—the development of precious metals including silver and gold that the Mormons were now instructed to avoid. This second type of enterprise, mining, would thrive in the rich mountains of the Great Basin—even in Utah, where the Oquirrh and Wasatch mountains and other ranges yielded precious metals. Gentiles (non-Mormons) developed most of these mining, but they were located well south of the Promontory Mountains.

The Mormons’ aversion to quick wealth was based on church doctrine, reaffirmed after some Latter-day Saints developed gold fever following the discovery of gold at Sutter’s Mill in California; Mormons, in fact, were among the first who actually found that gold. By the early
1850s, church President Brigham Young realized that precious metals might distract Mormons from building up Zion in the Intermountain West, but that did not mean that the Mormons were backward. On the contrary: As early as 1852, Young advocated the railroad as a force that could help the Mormons meet the challenge of “the gathering”—that is, bringing Saints to Zion to practice their religion in these “last” (or latter) days. Railroads, then, were of interest to everyone in Utah Territory—miners, farmers, merchants, Mormons—but it would take considerably more time, and more maneuvering, before the iron horse was ready to arrive in the Great Basin and scale the Promontory Mountains.