Humboldt River Chronology

Part II – Pre-Twentieth Century

2,000,000 Years Ago to 10,000 Years Ago (Pleistocene Epoch)

The prehistory of the Humboldt River Basin is marked by profound changes in climate and hydrology. Ancient lake shorelines have provided invaluable information into the scope of these changes. For example, shoreline altitudes of a number of pluvial lakes (e.g., ancient Lake Lahontan) in the northern and western Great Basin[1] have indicated successively smaller lakes from the Early to the Late Pleistocene Epoch.[2] This decrease in lake size suggests a long-term drying tend in the region's climate over the last two million years. Calculations based on differences in lake areas suggest that the highest levels of these pluvial lakes would have required a regional effective moisture of up to three times greater than the effective moisture level estimated to have existed in the Late Pleistocene. These previously unknown peak lake elevations (highstands) reflect significant changes in climate, tectonics and/or drainage basin configurations that could have facilitated the migration of aquatic species throughout the Great Basin.[3]

Lake Lahontan's Early Pleistocene surface level (4,590 feet MSL) was more recently estimated to have been over 200 feet above its Late Pleistocene shoreline (4,380 feet MSL), a surface elevation widely recognized as this lake's highstand. At this higher elevation, the Early Pleistocene Lake Lahontan would have extended its reach further up the Humboldt River from the Late Pleistocene highstand, which had been estimated to have reached just above Red House (about five miles above Comus). This earlier lake highstand extended up the Humboldt River Valley by another 45 miles to just above Argenta, thereby submerging the Battle Mountain area beneath nearly 70 feet of water. Other evidence shows that Lake Lahontan may have extended even further up the Humboldt River, possibly by another 28 miles to the lower end of Palisade Canyon.[4]

75,000–10,000 Years Ago (Late Pleistocene Epoch)

During the Wisconsin Age of the Late Pleistocene Epoch, and as recently as 12,500 years ago, the upper reaches of the Humboldt River Basin in the Ruby Mountains lay under heavy glaciers while much of the lower Humboldt River Basin, to include Lovelock Valley and all of the Humboldt Sink, was covered by pre-historic Lake Lahontan.[5] This 8,665 square-mile Ice Age lake, along with the much larger 19,970 square-mile Lake Bonneville,[6] which covered most of northwestern Utah and parts of eastern Nevada, represented the Great Basin's major Ice Age lakes. The cooler temperatures, lower rates of evaporation and more abundant precipitation (i.e., higher "effective" moisture) that were prevalent during this period provided a more lush and hospitable environment for both flora and fauna. Now, the Great Salt Lake remains as a reminder of the prehistoric presence of Lake Bonneville, and Pyramid Lake and Walker Lake remain in western Nevada as the only major lake remnants of Nevada's Lake Lahontan.

During the Late Pleistocene, Lake Lahontan experienced several peaking enlargements at approximately 65,000, 45,000, 30,000, and as recently as 12,500 years ago, and at other times nearly dried up.[7] At its peak surface Late Pleistocene elevation, which occurred approximately

65,000 years ago, Lake Lahontan covered an area equal to almost eight percent of the State of Nevada's present total surface area. This Ice Age lake was fed by the flows of the Truckee, Carson, Walker, Humboldt, Susan and Quinn rivers.[8] It attained a maximum surface elevation of approximately 4,380 feet above mean sea level (MSL), and reached a maximum depth of at least 886 feet where Pyramid Lake (terminus of the Truckee River), the lowest point in the system, now remains.[9]

Lake Lahontan also covered the Lahontan Valley wetlands (Stillwater National Wildlife Refuge and the Carson Lake and Pasture in the lower Carson River Basin) to a depth of 500-700 feet.[10] Also in the lower Carson River Basin, Lake Lahontan covered the site of the present-day Fallon townsite by almost 420 feet, and in the Walker River Basin it created a pool in Walker Lake some 520 feet deep.[11]

In the Humboldt River Basin, the late Pleistocene Lake Lahontan cut some 100 miles off the Humboldt River's current 300-mile length, covering the sites of Humboldt and Toulon Lakes by approximately 490 feet. Further upriver, Lake Lahontan submerged the present-day site of Lovelock by nearly 400 feet, and also submerged the Humboldt River bed at the present-day site of the City of Winnemucca by nearly 120 feet. From Winnemucca, Lake Lahontan extended up the Little Humboldt River, past the Sand Dunes formation and up into Paradise Valley by some 26 miles. Beyond this point, Lake Lahontan extended further up the Humboldt River main stem by some 32 miles to a point about five miles above Comus to the present-day location of Red House. At this location the lake formed a bay of approximately 30 square miles and extending some six miles immediately to the south of Red House.

At its peak surface elevation, the north-south extent of Lake Lahontan stretched from just below the Nevada-Oregon border in the north to just south of Walker Lake to present-day site of Hawthorne, Nevada, a point some eight miles past Walker Lake's present southern shoreline. In the west, Lake Lahontan extended up the Carson River to a point just below the present-day community of Dayton. Also in the west, Lake Lahontan extended up the lower Truckee River canyon from Wadsworth towards, but not quite reaching, the Truckee Meadows and the present-day cities of Reno and Sparks, Nevada, to a point near the present-day location of Lockwood near Lagomarsino Canyon.[12] Just to the north, Lake Lahontan also spilled westward over into eastern California filling the Honey Lake sub-basin. To the east, Lake Lahontan's reach extended some 100 miles up the Humboldt River Valley, reaching the present-day location of Red House.[13]

50,000 – 40,000 Years Ago (Fauna and Flora)

Animal bones found in a cave located high in a mountain range approximately 65 miles southwest of Elko, Nevada, have provided scientists with a rare glimpse of the late-middle Pleistocene Epoch ecosystem in the Great Basin before the last big Ice Age, some 18,000 years ago. The mouth of the cave is a small opening on a steep outcropping overlooking a canyon in the Sulphur Spring Range in the vicinity of Baily Pass (6,812 feet MSL). The variety of bones indicates that the cave was the home to a succession of predators. The cave's cool, nearly constant 40-degree temperature and the bones' encasement in the moist, clay floor, resulted in a remarkably well-preserved environment. The bones include cheetah (only the second set discovered in Nevada), camel, llama, horse, mountain sheep, pronghorn antelope, wolves, weasels, badgers, coyotes,

lizards, bats and birds. The oldest bone fragments have been carbon-dated back to about 42,000 years ago; however, only the cave's upper sediment layers have thus far been excavated. The cheetah bones provided scientists with one possible explanation of why the pronghorn antelope developed such speed. The predators that used the cave had a high vantage point from which to spot their prey moving about in relatively open land below as they crossed the Baily Pass just to the east of the cave. Research suggests that the climate during this period was considerably cooler and wetter than today with extensive grassland areas, thereby supporting the proliferation of large grazing animals prevalent during this period.[14]

11,200 Years Ago (Prehistoric Human Occupation)

The record of man's existence around Lake Lahontan, including the lower Humboldt, Truckee and Carson River Basins, began at Fishbone Cave, located on the eastern shore of the dry lake bed of Winnemucca Lake in the Truckee River Basin. Excavation of the cave produced bones of horses, camels, and marmots, as well as burned human bones. Little else has been revealed about these Paleo-Indians who lived on the shores of Lake Lahontan and its remnant bodies of water near the end of the Pleistocene Epoch. This period of time corresponds to the approximate period when the last land bridge existed between Siberia and Alaska. For extended periods during the late Pleistocene's Wisconsin Age, a period that lasted from 75,000 to 10,000 years ago, the world's oceans were approximately 300 to 330 feet lower than they are today. During certain intervals within this period, namely approximately 40,000 to 35,000 years ago, 28,000 to 23,000 years ago, and finally at about 13,000 to 10,000 years ago, the Asian and North American continents were connected by a land bridge and migrations of prey and pursuing hunters were possible along a route down the Pacific coastline, which was relatively free of ice fields and glaciers.[15]

7,000 Years Ago

The two vast sinks of the Humboldt and Carson River drainage systems, the marshy remnants of Ice Age Lake Lahontan, along with the lower Humboldt River Basin's Humboldt and Toulon Lakes, served as life-sustaining resources of food and materials for prehistoric man. Generations of prehistoric peoples occupied caves located on the lower slopes of the Humboldt Mountain Range in the lower Humboldt River Basin. Archeological evidence has revealed that the Lovelock and Ocala Caves served as homes to man from 2,000 B.C. to about 1840 A.D. The artifacts left behind tell of the successful adaptation to a lakeside environment. Leonard Rock Shelter, located not far from these cave sites and now a National Historic Landmark, has shown human occupancy dating back 7,000 years.[16]

7,000–5,000 Years Ago

Toward the end of the Pleistocene Epoch, about 12,000 to 14,000 years ago, temperatures across the Great Basin began to rapidly increase, reaching the Holocene maximum between 5,000 to 7,000 years ago. Changes in the species composition of plant communities in the Great Basin included the migration of single-leaf pinyon pine (*Pinus monophylla*)[17] from the south. The pinon pine, an important food source for aboriginal peoples, would later become one of two trees[18] designated as the official state tree in Nevada.[19] The other official state tree, the bristlecone pine (*Pinus aristata*), gradually retreated upward into the cooler montane climate zones.[20]

6,900 Years Ago (Circa)

The Mount Mazama eruption (tephra)[21] that created Crater Lake (Oregon) also produced a distinctive widespread layer of ash found in many archeological sites and eroding stream channels in northern Nevada and particularly within the Humboldt River Basin. The ash from this eruption formed a visually distinctive marker horizon in sediment and soils with unique chemical and petrographic characteristics which allow it to be distinguished from all other known tephra beds in the area. Consequently, it has become a particularly useful chronological benchmark throughout much of the basin.[22]

Pre-History

Various tribes of Northern Paiute (Pah Ute) and Western Shoshone Indians inhabited the middle and lower reaches of the Humboldt River Valley. Iron Point, located along the old channel of the Humboldt River nearly five miles southeast of Comus Siding and near the old Southern Pacific (now Union Pacific) railroad tracks, marked the traditional boundary between the Paiute (to the west) and Shoshone (to the east) Indian tribes. Rabbit and antelope drives were held by the Indians along the Humboldt Valley in the fall and winter, while seeds and roots were collected in the spring and summer. Native Lahontan cutthroat trout formed an important food source and were trapped virtually throughout the entire Humboldt River system. Pinon pine nuts were available on mid-level slopes above the river and basin valleys.[23] The first explorers of European descent did not arrive in the Humboldt region until 1828 when a group of fur trappers representing the Hudson's Bay Fur Company, led by Peter Skene Ogden, crossed from the Quinn River drainage system in the north into the Little Humboldt River sub-basin by way of Paradise Hill Pass. By 1829, after two subsequent visits, Ogden had explored the Humboldt River from its sink to its headwaters and provided the first written description of this portion of north-central Nevada.

Recorded History

The history of early settlement patterns and the rise in water-related issues within the Humboldt River Basin can be divided into five chronological periods with considerable overlap between them. These include: (1) early exploration and fur trapping; (2) emigration and the development of the region's first transportation routes; (3) early mining activities; (4) the early development of agriculture and livestock grazing;[24] and (5) the present era including the return of mining and its effects on the basin's hydrology, economic development, population growth and intensifying controversy over water resources within the basin.

1823 Most maps of this period showed vast regions of unexplored territory in the western United States between the Rocky Mountains and the Central Valley of California. Some more imaginative cartographers also depicted the existence of the mythical San Buenaventura River, a large river which was believed to run due west from the Rocky Mountains, across the barren desert expanse of western Utah and northern Nevada, eventually flowing into San Francisco Bay.[25] The seed to the myth of the San Buenaventura River was originally planted by early Spanish missionaries who had explored the area around the Great Salt Lake in 1776 and imagined a mighty inland waterway stretching from the Rocky Mountains, through the lofty Sierra Nevada,[26] and onward to the Pacific Ocean.[27]

1826 **(Fall)** Jedediah Strong Smith, leader of a party of fifteen trappers of the Rocky Mountain Fur

Company, traversed the southern portion of Nevada along the Virgin and Colorado Rivers, ending up at the San Gabriel Mission near the present site of Los Angeles, California. Disregarding the Mexican government's request to return the way he had come, Smith left Los Angeles in early 1827 and headed north through the San Joaquin Valley. Then, with only two other companions, he crossed the Sierra Nevada near Ebbetts Pass, crossed the Walker River and skirted Walker Lake to the south,[28] coming within ninety miles of the Humboldt Sink and the lower reaches of the Humboldt River. This central route through Nevada may well have brought Smith's party within sight of the upper Reese River drainage and the Toiyabe Range and Toiyabe Dome and possibly brought them through the extreme southern reach of the Humboldt River Basin. After enduring incredible hardships crossing the central portion of Nevada in 44 days, Smith finally returned to his Great Salt Lake trapping headquarters in early July of 1827.[29]

1828 **(November)** Peter Skene Ogden, a fur trapper for the Hudson's Bay Company, led a party of trappers comprising the Fifth Snake Country Expedition to the south from the Columbia River basin.[30] Entering Nevada near present-day Denio, Ogden traveled southward along the Quinn River and then entered the Little Humboldt River sub-basin on November 9, 1828 via Paradise Hill Pass. This represented the first known visit by Europeans to the Humboldt River Basin. Proceeding down the Little Humboldt River and through Paradise Valley, Ogden discovered the Humboldt River main stem, arriving near the vicinity of present-day Winnemucca, located in Humboldt County, Nevada. Knowing neither its origin nor its destination, Ogden named the Humboldt River "Unknown River".[31] Here he found the Humboldt River lined with willows and well-stocked with beaver. He explored the river to the west for several days until arriving near the present-day site of Mill City, located some 30 miles downstream from Winnemucca.[32] At first the weather was accommodating and his party enjoyed a few good days of trapping. However, as a harsh introduction to this region's highly variable autumn weather conditions, a sudden blizzard forced a hasty retreat eastward along the Humboldt River Valley towards the Salt Lake Valley[33] and his planned winter camp at Ogden's Hole (Huntsville), Utah. In early December, Ogden and his trapping brigade became the first Europeans to enter the Carlin Canyon, which is located some six miles upstream from Carlin and seven miles downstream from the Humboldt River's confluence with its South Fork. Joseph Paul, one of Ogden's trappers, died nearby, becoming the first white man to die and be buried in the Humboldt River Basin. On December 12, 1828 Ogden passed the location of present-day Elko, covering the distance from Mill City in one month.[34] Called many names – Ogden's River, Mary's River, Paul's River, Barren River, Swampy River and initially Unknown River – the Humboldt River was ultimately (1848) named by John C. Frémont for Baron Alexander von Humboldt, a German scientist whom Frémont admired, but who had never even seen the river.[35] Nearly traversing the entire width of the Great Basin, this river valley would soon become the most important transportation corridor for early emigrants on their way to California and Oregon.

1829 **(April 8)** Having wintered in Utah's Wasatch Mountains, Peter Ogden returned to the Humboldt River again by way of the Little Humboldt River and Paradise Valley. For these expeditions, Ogden had been ordered to trap out streams of beaver as he went, effectively leaving a "fur desert" for American companies and free trappers, thereby discouraging them from any further westward thrusts.[36] Not pressed by adverse weather as in the previous November, his party followed the Humboldt River along its course through the sloughs of

Lovelock Valley and then on to the Humboldt Lakes and the Humboldt Sink, where he arrived at the end, or terminus, of the river system on May 29. Due to the boggy nature of the Humboldt River through the lower Lovelock Valley, Ogden proposed the new name "Swampy River".[37] During this expedition, Ogden recorded the following observation along the Humboldt River above Rye Patch Meadows: [May 17] "…Large flocks of pelicans seen this day…" Then later on June 1, he recorded the following at the Humboldt Sink: "…discharge of Unknown River [i.e., the Humboldt River] in Unknown Lake [Humboldt and Toulon Lakes, or possibly the Humboldt Sink] on both sides is one continued swamp covered with frogs, toads and garter snakes…in wild fowl, although the country is well adapted for them, not over numerous. Pelicans are however the reverse, particularly in the lower part of the river and they have noble sport pasturing on frogs and toads."[38] From the Humboldt Sink, Ogden retraced his route, leaving the Humboldt River Basin on June 11 by way of Paradise Hill Pass.[39]

1829 **(Winter)** Peter Skene Ogden conducted his sixth and last Snake Country Expedition late in the year. Definite dates are unknown because Ogden's journals and maps for this expedition were later lost in a boating accident on the Columbia River. During this expedition, Ogden retraced his route from the north to the Humboldt River and the Humboldt Sink. He was not able to trap along the frozen river. From the Humboldt Sink, Ogden left the Humboldt River Basin, proceeding to the southwest toward the Carson Sink, then to the Walker River and finally into California.[40] Ogden's Humboldt River Basin explorations of 1828-1829 were of significance as they traced the Humboldt River virtually from source to sink and produced the first maps and written descriptions of northern and central Nevada. Along with his successor, John Work, Ogden effectively disproved the existence of the mythical San Buenaventura River.[41] Despite Ogden's earlier exploration of northern Nevada, which preceded the arrival of John C. Frémont (1844) by almost 15 years, little would remain within Nevada to bear Peter Ogden's name. Later explorers would typically receive considerably more recognition than this pioneering British fur trapper, explorer, and adventurer.[42]

1831 **(Spring-Summer)** John Work succeeded Peter Skene Ogden to the command of the Hudson's Bay Company Snake Country fur trapping brigade. He traversed much of the middle and upper reaches of the Humboldt River from Beowawe to the vicinity of Iron Point, where the trappers cut directly north across to the Little Humboldt River and from there out of the Great Basin.[43] John Work continued Ogden's work providing important written descriptions of northern and central Nevada and particularly the Humboldt River Basin.[44]

1833 **(August)** Joseph Walker, chief lieutenant for Captain Benjamin Louis Eulale de Bonneville, both of whom were employed by the Hudson's Bay Company, led a party of explorers and trappers along Ogden's "Unknown River" (the Humboldt River) all the way to California via the Humboldt River, the Humboldt Sink, the Carson Sink, and then up into the Sierra Nevada by either the Carson River or the Walker River.[45] Known as the Bonneville-Walker party, this represented the last important fur-taking expedition to the Humboldt. It was during this expedition that the Humboldt River was named Barren River due to the virtual absence of trees along its banks.[46] This represented the first recorded east-to-west passage through Nevada using the Humboldt River Valley, a route later travelers and emigrants would soon follow.[47] Unfortunately, in October on their way down the Humboldt River, the group was threatened by Paiute Indians resulting in a massacre of Indians near Humboldt and Toulon Lakes.[48] The ill will created by Walker's party precipitated another fight with the Indians in

this same vicinity on their return trip in 1834. Despite these incidents, this expedition was of special importance because it demonstrated that the Humboldt River Valley was a viable route to and from California.[49] In this regard, the river valley effectively cuts through the numerous north-south extending mountain ranges making up the basin-and-range topography of the Great Basin.

1833 Zenas Leonard, while traveling with Joseph Walker and other trappers, he reported on the unique fishing habits of the Indians at the Humboldt Sink: "These Indians…subsist upon grass-seed, frogs, fish, etc…Fish, however, are very scarce – their manner of catching which is somewhat novel and singular. They take the leg-bone of a sandhill crane, which is generally about eighteen inches long, this is fastened in the end of a pole – they then, by means of a raft made of rushes, which are very plenty – float along the surface of these lakes and spear the fish. They exhibit great dexterity with this simple structure – sometimes killing a fish with it at a great distance. They also have a kind of hook by which they sometimes are very successful, but it does not afford them as much sport as the spear. This hook is formed of a small bone, ground down on the sandstone, and a double beard cut in it with a flint – they then have a line made of flax. This line is tied nearest the beard end of the hook, by pulling the line the sharp end with the beard, catches, and turns the bone crossways in its mouth."[50]

1834 **(June)** On their return trip, Joseph Walker's Bonneville-Walker party was involved in another massacre (see August 1833 entry) of Paiute Indians near the Humboldt Sink.[51] As a result of these first two large-scale battles between Indians and Europeans in Nevada, Walker bestowed the name Battle Lakes on Humboldt and Toulon Lakes.[52] From the Humboldt Sink area, Walker's party proceeded up the Humboldt River Valley to just above Deeth and then up Bishop Creek, leaving the Humboldt River Basin and entering into Thousands Springs Valley via Thousands Springs Creek. This route would eventually prove to be important for California emigrants wishing to avoid the approximately 10 extra days required for the Hastings Pass (now Overland Pass) route (referred to as Hastings Cutoff), which by-passed the Ruby Mountains around the southern end. During this trip Walker and J.B. Chiles blazed the wagon trail for the Walker-Chiles party, a route which would bring countless wagon trains into the Humboldt River Valley on their way to California over a 27-year period from 1843 to 1870.[53]

1837 Washington Irving's book titled *Adventures of Captain Bonneville in the Rocky Mountains and Far West* was published, arousing widespread interest in the Great Basin. This publication also resulted in the commissioning of Captain John C. Frémont to explore the territory more extensively.[54]

1841 **(May)** The period of emigration and the development of early transportation routes began with the Bidwell-Bartleson emigrant party,[55] which made the first successful crossing of the Great Basin, reportedly without even a guide or a map.[56] In May of this year, about fifty emigrants assembled at Sapling Grove, Missouri, near the Missouri River. Their destination was California. Initially, John Bartleson was elected to be their captain, but after Bartleson split off from the main party, a schoolteacher, John Bidwell, assumed leadership. Without a guide and very little knowledge about the country they would be crossing, the party chanced upon a group of missionaries headed for Oregon and thereby were guided nearly to Fort Hall in present-day Idaho. Just before Fort Hall, thirty-two men, one woman, and a child separated from the party, left the Oregon Trail and headed for California across the overland trail through Nevada. The party entered Nevada near Pilot Peak, located twenty miles due

north of present-day Wendover, Nevada, traveled west through Silver Zone Pass in the Toano Range and camped on the eastern side of the Pequop Mountains at the site of the Big Springs Ranch. Here they abandoned their wagons and proceeded west into Clover Valley.[57] Instead of heading north towards Humboldt Wells (present-day Wells) and the upper reaches of the Humboldt River (then called Mary's River) the party headed west and then southwest on a route which would take them along the eastern slope of the Ruby Mountains. As the Bidwell-Bartleson party had abandoned their wagons, they were able to use the steeper Harrison Pass (or, very possibly, a pass some two miles further to the north) to cross the Ruby Mountains, thereby saving themselves some 50 miles and about 3-4 days in travel time over the less steep Overland Pass further to the south.[58] Crossing this pass, they entered Huntington Valley and the Humboldt River Basin. From the vicinity of Harrison Pass, the emigrants came down Town Creek and then Corral Creek, passing nearby present-day Jiggs, then traveled down Smith Creek and then down Huntington Creek. After traveling about 30 miles from Harrison Pass, they intercepted the South Fork of the Humboldt River. After another 20 miles they finally came to the Humboldt River main stem, but only after passing through a very narrow 5-mile long canyon. At this point they were nearly eight miles downstream from present-day Elko. This route would later comprise the Hastings Cutoff route, except future wagon trains could not cross Harrison Pass and would have to go nearly 25 miles further south to Hastings or Overland Pass.[59] Following the dry streambed of the South Fork in late summer, the party headed north and camped in its deep canyon, with John Bidwell reporting: "The creek became perfectly dry and its banks rose to high perpendicular precipices, so that there was no other road than the dry bed of the stream…we encamped in a place, affording a little grass and water – where we could see nothing but the sky."[60] Coming down the Humboldt River, the party divided and was then reunited.[61] Many of the party fell ill and were subsequently befriended by local Indians who gave them pine nuts and fish. After crossing the Humboldt and Carson Sinks, they reached the base of the Sierra Nevada on the West Walker River in October. The party spent two weeks crossing the mountains, probably at Sonora Pass.[62] Finally, on the last day of October 1841, six months after their trip had begun near Independence, Missouri, they reached the San Joaquin Valley in California without loss of life. Reports of their successful crossing of the Great Basin and the Sierra Nevada would inspire others to attempt the passage west.

1841 John Bidwell recalled in 1877 the 1841 trek down the Humboldt River: "We descended the Humboldt River seeing more or less Indians who did not appear to be hostile…The country was almost destitute of game. We saw scarcely any deer or antelope. The whole region has been recently burned over…At this place too, there was little or no grass as the mountains had recently been burned over…Some kind of game, of which there was scarcely anything. There was nothing for game to live upon because fires had destroyed everything that would burn, and the country was literally desolated…"[63]

1841 The narrow canyon along the South Fork of the Humboldt River just upstream from the main stem of the Humboldt River would soon become the west end of the disaster-laden route called the Hastings Cutoff, first traversed relatively easily without wagons by the Bartleson-Bidwell party. This wagon route took emigrant trains the long way around the south end of the Ruby Mountains, across Overland Pass (then Hastings Pass), and then back north along Huntington Creek, eventually joining the main stem of the Humboldt River downstream from the site of present-day Elko. In all, it added an extra ten days of travel as

compared to the northern routes established by Joseph Walker which met the Humboldt River at Humboldt Wells. In 1846 Lansford Hastings guided a party through this narrow defile of the South Fork of the Humboldt River and out along the Humboldt River main stem. The ill-fated Reed Donner party, which had considerable difficulty in getting through the Wasatch Mountains in Utah, followed this same path later in 1846. By 1850, however, the dangers of the Hastings Cutoff route were recognized and it was all but abandoned in favor of a more northern route.[64]

1843 Joseph Walker, famous mountain man and guide, brought the Chiles Party down from the Goose Creek-Thousand Springs area to the Humboldt River along the same route used in his 1834 expedition through the Great Basin. This trip defined the Humboldt River route as the California Emigrant Trail, a route which soon replaced the longer and more dangerous Hastings Cutoff route. For the next 26 years, Walker's was the preferred route until the joining of the Central Pacific and the Union Pacific railroads at Promontory Point, Utah, in May 1869.[65]

1844 **(May)** An emigrant party left Council Bluffs, Iowa, in May on their way to California. In crossing the Great Basin they became the first party to use the direct route to California via the Humboldt River, the Truckee River, Donner Lake and Donner Pass. Upon arriving at the headwaters of the Humboldt River they were met by a Paiute Indian named Truckee who offered to guide them.[66] Unlike earlier emigrant parties crossing the Great Basin, however, when the Stevens-Murphy-Townsend party arrived at the Humboldt Sink, instead of turning southwest across the dreaded Forty-Mile Desert towards the Carson Sink and then following the Carson River towards the Carson Pass, they turned west towards another river which their Indian guide had described. By doing so they arrived at the Truckee River near Wadsworth. Upon reaching this point, they were so appreciative of their Indian guide's services that they named the river after him.[67]

1845 Beginning in this year, the springs of Humboldt Wells (present-day site of Wells) were first visited by hundreds of covered wagons each year. Wagons came via Town Creek from the headwaters area of Bishop Creek, which had provided earlier access to the Humboldt River further downstream. After 1849 the trail down Bishop Creek, which had by-passed Humboldt Wells altogether, was seldom used.[68] Between 1845 and 1870 these refreshing springs allowed early emigrants to rest and refit after their arduous journeys up Raft River, past the City of Rocks, across the Goose Creek Range and down Thousand Springs Valley. It also provided a much-needed respite before the grueling 300-mile trek down the Humboldt River Valley. The ruts of the old emigrant trail winding down to the springs at Wells may still be seen on the nearby slopes. The City of Wells, first established as the water stop of Humboldt Wells on the Central Pacific Railroad in September 1869, was named for these springs. Its name was shortened to Wells in 1873.[69]

1845 **(December)** John C. Frémont undertook his third expedition into the west and his second into the Great Basin region.[70] The Third Frémont (Great Basin) Expedition would separate at Whitton Spring (now known as Chase Spring) in Independence Valley east of the Ruby Mountains in eastern Nevada. The main group, under Theodore Talbot and guided by Joseph Walker, crossed the Ruby Mountains at Secret Pass and proceeded down Secret Creek and then Soldier Creek to the Humboldt River, intercepting the main stem near present-day Halleck, Nevada. A smaller party under the command of Frémont and guided by Kit Carson headed off to the south down Ruby Valley, crossing the Ruby Mountains at Harrison Pass,

eventually arriving at Walker Lake nineteen days later. Three days later the Talbot-Walker group, which had come all the way down the Humboldt River, joined Frémont at Walker Lake. It was during this expedition that Frémont assigned the name Humboldt Mountains to the formidable Ruby Mountain Range. This name would survive for only nine years, however. In 1854 Colonel E.J. Steptoe would rename the range based on the discovery of "rubies" (actually garnets) found in a stream draining the eastern slopes of the Ruby Mountains.[71]

1846 **(May 12)** The Donner wagon train party[72] left Independence, Missouri, dawdled their way west and soon became one of the last wagon trains on the trail that year. In addition to their leisurely pace, the party soon became bedeviled by a number of difficulties during their trip. First, they became lost traveling through the Wasatch Mountains in Utah, and then they failed to find the Humboldt River. In their confusion, they added an extra 100 miles to their journey circling the southern end of the Ruby Mountains before turning north again and meeting the Humboldt River near the site of the present-day City of Elko. Subsequent feuds, a murder of one of their members, encounters with roving bands of hostile Indians, and abandoned provisions plagued this unfortunate group of emigrants down the Humboldt River Valley.[73] Finally, on October 19, 1846, the near-starved party entered the Truckee Meadows via the lower Truckee River Canyon, proceeded around the eastern hills enclosing the valley (the Virginia Range) and tarried for five days at Donner Springs on the north side of Rattlesnake Mountain. On October 25, 1846, the party again began their trek west and made history by becoming stranded in incredibly deep snow of the Sierra Nevada.[74]

1846 **(June 29)** Jesse and Lindsay Applegate headed south from Willamette Valley, Oregon, seeking a less hazardous route to that region from the east. On July 21, 1846, they came to a large meadow (Lassen Meadows, also referred to as Rye Patch Meadows) on the Humboldt River at a point now very near the upper reaches of Rye Patch Reservoir. They thereby established the Applegate Trail (which was referred to as the Applegate-Lassen cutoff at its juncture with the Humboldt River). During the remainder of 1846 and for the next two years, Oregon-bound emigrants using the Humboldt River route (California Emigrant Trail) successfully traveled this trail.[75]

1848 John C. Frémont published his *Geographical Memoir and Map* upon which he appended the name Humboldt to the river that had, up to this time, generally been known as Ogden's River, or Mary's River, after the Indian wife of one of Peter Ogden's fellow fur trappers. The name was derived from the Prussian explorer-naturalist Baron Alexander von Humboldt, whom Frémont greatly admired but who had never seen the river that was eventually named for him. Due to the widespread distribution and acceptance of Frémont's map, from that time forward the name Humboldt became firmly attached to the river.[76]

1848 The Treaty of Guadelupe Hidalgo was signed with Mexico ending the Mexican War and ceding to the United States what was to become the "Southwest" United States, consisting of all or parts of the future states of California, Nevada, Arizona, New Mexico, Colorado, and Wyoming. While no fighting took place in Nevada, Americans in California, assisted by John C. Frémont, staged a successful revolt against Mexico.[77]

1848 **(January 24)** Gold was discovered by James W. Marshall and a construction crew at John Augustus Sutter's sawmill on the South Fork of the American River at Coloma, California. This discovery would precipitate the greatest gold rush and westward migration in American history. Reports of the discovery did not begin to circulate widely in the eastern United

States until late summer 1848 when it was too late to begin the long overland trip to California. In December, the discovery received widespread attention when President James K. Polk spoke of the rich gold fields in his message to Congress.[78]

1849 The rush to the gold fields of California began in earnest and an unprecedented era of westward migration began, giving rise to the name Forty-Niners to these early California-bound fortune seekers. In January 1849 alone, more than 50 sailing ships left East Coast ports on the extended journey around South America and Cape Horn to California.[79] California's population would virtually explode over the next four years from approximately 14,000 persons in 1848 to over 100,000 persons by 1850 and to 250,000 persons by late 1852.[80] These overland travelers used the natural transportation corridor laid down by the early trappers and explorers of the Humboldt River. At the Humboldt Sink, those travelers electing the more southern route of Carson Pass (Carson River West Fork) and Sonora Pass (West Walker River) found that the Forty-Mile Desert, located at the western end of the Humboldt Sink, presented an imposing and forbidding barrier to their passage. Similarly, those traveling the more direct Truckee River route found that Donner Pass in the Sierra Nevada afforded a no less formidable impediment to overland travel through this area.

1849 Many of the early emigrants coming down the Humboldt River Valley felt mislead by the available guidebooks and early favorable testimonies of this place. On July 20, 1849, Bennett C. Clark noted in his diary: "…came to the river and nooned – grass only tolerable. We begin to be greatly disappointed in our calculations of finding good grass on this measly Humboldt [River] as Mr. Ware [author of a guidebook] had prepared us to expect. Let no traveler hereafter be governed by Wares Guide as it is perfectly worthless." The bitterness was not limited to the guidebook writers, however, and even the integrity of John C. Frémont took a drubbing: "I would ask the learned and descriptive Mr. Frémont and the elegant and imaginative Mr. Bryant, where was the beautiful valley, the surpassing lovely valley of Humboldt? Where was the country presenting the most splendid 'agriculture features'? Where were the splendid grazing, the cottonwoods lining the banks of their beautiful meandering stream, and every thing presenting the most interesting and picturesque appearance of any place they ever saw?" (Vincent Geiger)[81]

1849 In addition to the well-documented hardships on the early emigrants coming down the Humboldt River Valley, the oxen, mules and horses certainly suffered even more. Grass was oftentimes scarce except on the headwaters and selected other places along the route. As noted somewhat derisively in this year in the diary of Elisha D. Perkins: "The stream itself does not deserve the name of river being only a good sized creek…For the first days travel in its valley the grass is splendid, then the valley begins to narrow and feed to get poorer and less of it all the rest of its course, till for the last 80 miles, except in special spots we could hardly get enough for our mules to eat and water barely drinkable from saline and sulphurous impregnation and having a milky color. I think Baron [Alexander von] Humboldt would feel but little honored by his name being affixed to a stream of so little pretension."[82]

1849 The stretch of the Humboldt River Valley from present-day Winnemucca downstream to Lassen Meadows (also referred to as Rye Patch Meadows), a distance of approximately 35 miles, was a particularly torturous part of the journey for early California emigrants. Along this stretch the early emigrants probably suffered more than anywhere else along the entire river. They had now been on the Humboldt River for over 200 miles. Their supplies were low, feed for the stock animals was very scarce, they encountered more sand slowing their

pace, water became worse when and where it was available, and the dust was unbearable. Depressing spirits even more was the knowledge that the Forty-Mile Desert awaited them at the river's end. Lassen Meadows, located near present-day Imlay, presented a desert oasis to the emigrants as there was plenty of grass for all. This was also where the Applegate Trail[83] (Applegate-Lassen cutoff) took off for northern California and Oregon. Interestingly, it was also the location of Nevada's first postal service. As noted for this year in the journals of one J. Goldsborough Bruff: "On the right about one hundred yards from the [Great] Bend [Lassen Meadows], the Desert Route branches off, and in the forks of the road [with the Applegate Trail veering to the right and the route down the Humboldt River heading off to the left], I observed a red painted barrel standing – I rode up, to examine it – it was a nice new barrel, about the size of a whiskey-barrel, iron hoops, and a square hole cut in the head; and neatly painted in black letters, upon it, 'Post Office.' On looking in, I found it half full of letters, notes, notices, etc. Near this was a stick and bill board, also filled with notices – These were chiefly directed to emigrants in the rear, hurrying them along, giving information about the route, telling who had taken this or the southern [Humboldt River] route, etc. By these I ascertained that few had taken the southern road."[84]

1849 **(August 19)** As reported by Israel Hale at Lassen (Rye Patch) Meadows: "…A few miles back we saw a large smoke and on approaching near to we found the grass and willows in the [Humboldt River] valley were on fire, but we soon discovered that it had not burned to any extent. Grass and willows are the main support of our teams, consequently we were very thankful that the burning was not a general thing…"[85]

1849 After leaving Lovelock Meadows (Big Meadows), the early emigrants came to Humboldt and Toulon Lakes and the Humboldt Sink, an area which was a haven for the ducks, geese, and other waterfowl, but with mud so thick and extensive that it largely precluded the emigrants from using the waterfowl to replenish their dwindling food supply. As noted by Elisha D. Perkins of this area: "The ponds of the sink were covered with all kinds of wild fowl, geese, ducks, curlews, snipes, cranes, etc. Perfectly secure from man or beast, as the ground is a perfect mire in every direction. Continuing around the sink or marsh, in a South East course you come to the 'last wells' at the foot of the marsh and ponds, being the last place where water can be obtained before crossing the desert to Salmon Trout [Truckee River]…While we were encamped at the last wells, after dark, one of our party fired a gun heavily loaded in the direction of the Lake which was only some 100 yards from us, and the noise made by the wings of the frightened birds was like thunder, and we could hear it continuing up the plain as flock after flock take the alarm like the rumbling of thunder after the first heavy roll."[86]

1850 Congress established the Utah Territory comprising most of what is now the State of Utah, most of Nevada, and parts of Colorado and Wyoming.[87] Brigham Young, leader of the Mormon Church in Salt Lake City, became the first Territorial Governor and dispatched Mormon settlers throughout the new territory, establishing the first farming communities and trading posts. The Nevada Territory would not be separated from the Utah Territory until March 1861.

1850 Contrary to some overly-optimistic early reports of the passage along the California Emigrant Trail, in truth the many sloughs and accompanying mud along the circuitous course of the Humboldt River made it very difficult for the emigrants to get to the water and grass. This also helps to explain why today when traveling the present highway system through especially

the lower Humboldt River Valley, one gets only infrequent views of the river itself. As noted in this year in the diary of Leander Vaness Lommis: "Since reaching this stream, we have been most wonderfully deceived…we had pictured to ourselves, one of the most grand and beautiful streams which our country could produce, with beautiful roads running along its pleasant banks, and abundance of the very best of feed, and easy to get, but instead of that, we find a crooked muddy stream, with a wide and swampy bottom so much so that it is utterly impossible to get horses in to the river at scarcely any point, the road is obliged to keep out among the hills, the valley being impassable from the fact of its being so muddy."[88]

1850 Besides making it almost impossible to get to the river for grass and water (see entry above), the sloughs of the Humboldt River created another problem for early travelers: mosquitoes. As noted in this year in the diary of Madison B. Moorman: "Our mules were turned amongst the willows where they were nearly devoured by the mosquitoes…having spent a restless night amidst swarms of hungry mosquitoes. To get clear of which I left my blankets and buttoned around me my India rubber coat, and strolled around through the sage for some time to get clear of the hungry myriads, but I had not lain down more than two minutes before I was literally covered."[89]

1850 Another major complaint about traveling the Humboldt River Valley in these early years at such a slow pace was the monotony and the lack of significant vegetation, i.e., trees. As noted in a number of diary entries in this year: "We have traveled so long among the mountains, and all bearing the same general appearance, that we seemed to be stationary instead of changing our position every day. In looking around me I seem to be in a deep blue ocean of air, with the distant mountains around as the shore" – C.W. Smith. "On the whole length of this river, we have not seen a tree or stick of wood" – William H. Kilgore. "The Humboldt has no timber at all except willow bushes. I did not see a tree along its whole course" – Lorenzo Sawyer. "I have not seen a tree or shrub, except bunch willows, for almost 300 miles, and they tell me we will find none until we reach the Carson River, 100 miles ahead" – John Wood.[90] This is obviously a very different vegetative state than what Ogden first found in 1828 when both beaver and willows were in abundance. It must be appreciated that each year hundreds and even thousands of wagons passed along through the Humboldt River Valley whose occupants literally picked the landscape bare of anything remotely resembling firewood. Any pieces of wood and willow that were too green to burn were fed to the always-famished livestock.

1850 **(August 16)** John Steele, while traveling in a wagon train down the Humboldt River and upon reaching Tabor Creek (Tabor Creek in Elko County, enters the Humboldt River approximately two miles above Deeth) reported on his experiences: "…while nearly all the company were engaged in fishing for salmon [Lahontan cutthroat trout]…" (August 22, 1850) "Our train left camp [near Argenta] at an early hour, and R. McCord and I went to the river, hoping to obtain fish, and thus add to our scanty supply of provisions…During the greater part of the forenoon we waded sloughs, or, tortured by mosquitoes, sat under the shady willows by the stream in nervous expectation, but could not obtain even a nibble. We found a frog and baited our hooks with its flesh, but it was no use, the river seemed utterly destitute of fish. The water was somewhat tinctured with alkali, but it was hard to realize that the same stream, in which a few days ago we found such choice salmon, had been abandoned by everything but reptiles…" (August 28, 1850) "At sunset we turned half a mile from the trail and camped in a small willow shaded glen by the river, which has a nauseous, alkaline

taste, and not a fish is found in its sluggish tide…"[91]

1850 If it wasn't the Humboldt River Valley's lack of good water and grass, or the maddening swarms of mosquitoes, or the boredom and lack of significant vegetation, then it was the extremely fine, powdery dust pulverized from countless hooves and wagon wheels that certainly provoked universal resentment and comment. As noted by Leander Vaness Loomis in her diary in this year: "The road along this river, is so dusty, that it makes traveling very disagreeable. As a general thing the dust along the river is from 6 to 8 inches deep, being of the very lightest kind, so that the least wind will stir it up, and almost blind a person. I have seen it so thick we could not see wagons that were not more than 4 or 5 rods [22 to 27.5 yards] ahead." Likewise, Dr. J.S. Shepherd noted in this same year: "The Dust! No person can have the least idea, by a written description – it certainly is intolerable – but that does not half express my meaning – we eat it, drink it, breath it, night and day, the atmosphere being loaded with it. It effects [affects] people's eyes – but everybody had horribly sore lips – in fact, that is the greatest bane of the route."[92]

1850 Having reached the lower portion of Lovelock Valley, referred to as the Big (or Great) Meadows, the early emigrants had effectively reached the end of the Humboldt River and a place where they could feed and rest themselves and their weary livestock. The Big Meadows was a place of great rejoicing as the survivors at this point had traveled the 300 miles of the Humboldt River from its beginning to its end and conquered all the adversity it had to offer. As noted in the journal for this year of Lorenzo Sawyer: "It would almost seem that these extensive meadows were placed here expressly to supply the means of traversing this desert country. At any rate they are precisely at the point where they are most needed." This was seconded by Eleazer Stillman Ingalls in this same year: "There is an abundance of grass at this point for all the stock that can ever reach here. We have to wade to get it, then cart it to the channel, and boat it across that in a wagon box…Two miles below our camp there are some falls in the river, at which point the meadows terminate." And a year earlier, Vincent Geiger would write of this place: "This marsh for three miles is certainly the liveliest place that one could witness in a lifetime. There is some two hundred and fifty wagons here at all time. Trains going out and others coming in and taking their places, it's the constant order of the day."[93]

1850 As a grim testament of the inhospitable nature of the dreaded Forty-Mile Desert located at the end of the Humboldt River, it was estimated that during this year some 45,000 people used the California Emigrant (Overland) Trail (Humboldt River) with most of them traveling the Carson River route directly across the desert. In their trek across the first stretch, one party reported that they encountered a barren expanse of alkali desert in which previous travelers had left behind 9,771 dead animals, 3,000 abandoned wagons, and 963 graves.[94]

1852 Palisade Canyon, just downstream from the present-day site of Carlin, presented a major obstacle to early emigrant wagon trains. Most of the early wagon trains detoured around this rugged canyon to the north over the Tuscarora Range along a trail which now parallels present-day Interstate Highway 80. As noted by John Hawkins Clark in his diary in this year: "The mountains we are crossing [Tuscarora Range] today stands at right angles with our road and cuts the valley of the Humboldt [River] into two separate divisions, making an upper and lower Humboldt [River] Valley." [This was actually a very insightful observation, as today the Humboldt River is hydrographically divided at the USGS Palisade gage into an upper portion and a lower portion with waters generally increasing in flow above Palisade and

decreasing in flow below Palisade.] "We camped tonight on the summit [Emigrant Pass] of this great mountain, tired, hungry and disappointed, we pitch our tents besides a spring [Emigrant Springs] of good water, but of so scant a volume that we can give no drink to our thirsty and half famished animals. This has been a hard afternoon to ourselves and teams; seven miles of a continuous rise and many places so abrupt that it took all the strength of men and teams to overcome the difficulties of the way." The presumably-required detour, however, may have been based on the time of year and the river's stage (height), as previous to this entry, Vincent Geiger wrote in his diary in 1849: "After arriving at our camp we found we had made a great mistake in coming so far around the bluff [Palisade Canyon]. It was one, however, that all the emigrants had made before us. Some of our men followed the river up [down] and came to our camping place 4 hours before us, it being only 8 miles [versus some 18-20 miles over the entire Emigrant Pass route]. They describe it as being as good a road for wagons as any we have seen, requiring to cross the river twice, but good crossing."[95]

1852 Even along the Humboldt River, water became a critical concern as oftentimes the river's water was not drinkable by man or beast and the distance between drinkable springs was sometimes dangerously far. As bad as the water conditions were, however, it was nothing compared to the total absence of water which generally occurred in dry years. As noted by Gilbert L. Cole of the general quality of the waters of the Humboldt River late in the season: "For about ten days the only water we had was obtained from the pools by which we would camp. These pools were stagnant and their edges invariably lined with dead cattle that had died while trying to get a drink. Selecting a carcass that was solid enough to hold us up, we would walk into the pool on it, taking a blanket with us, which we would swash around and get as full of water as it would hold, then carry it ashore, two men, one holding each end, would twist the filthy water out into a pan, which in turn would be emptied into our canteens, to last until the next camping place. As the stomach would not retain this water for even a moment, it was only used to moisten the tongue and throat."[96]

1853 From Lassen (Rye Patch) Meadows near present-day Imlay, Nevada, the California emigrants who decided to continue on the regular route down the Humboldt River headed toward the site of present-day Lovelock, some forty miles distant. This section of the Overland Trail was the dustiest of the whole route, and grass and good water were almost nonexistent. As Harriet S. Ward wrote in her diary for this year: "Today we have been toiling through the deep dust, as uncomfortable for us all as a person who has never traveled this route can ever imagine, with not a green thing to rest our weary eyes upon. It is a perfectly barren land for forty long miles, and it is distressing to hear the complaints of the poor cattle, which are suffering for want of food.[97]

1854 **(September)** A member of Colonel E.J. Steptoe's detachment searching for a feasible military route across central Nevada found "rubies" (actually garnets) in his gold pan while prospecting one of the streams above Ruby Valley (east side of the Ruby Mountain range) near Hastings Pass (later renamed Overland Pass). The range was then named the Ruby Mountains by Colonel Steptoe, replacing the name Humboldt Mountains assigned by John C. Frémont in 1845 during his Great Basin expedition.[98]

1854 **(November)** John Reese, the first white man known to have explored the Reese River wilds to any great extent, left Colonel E.J. Steptoe's detachment near the present-day site of Battle Mountain and proceeded up the Reese River Valley. Colonel Steptoe's detachment of troops and civilians were returning from a search for a new route for troop movements between

Camp Floyd, Utah, and Genoa, Nevada.[99]

1855 Major Howard Egan, Mormon guide, mountaineer and cattle drover, established a cattle and emigrant trail through central Nevada between Salt Lake City and Genoa, located in the Carson Valley of western Nevada (Utah Territory). In 1859, the Central Route, established by Captain J.H. Simpson and with John Reese as guide, would roughly approximate this same route and become a military road across Nevada. The route traversed the Humboldt River Basin through the Reese River sub-basin and the Reese River Valley, crossed the Toiyabe Range in the east near Simpson Park, then proceeded to Jacobs Spring along the Reese River, and thence across the Shoshone Range in the west some three miles north of Railroad Pass and present-day Highway 50. In 1860 and 1861 the famous Pony Express riders would use this same route across Nevada.[100]

1859 Encountering their first major obstruction coming down the Humboldt River, emigrant wagon trains were forced away from the river below the present-day site of Carlin. Here they were forced to by-pass Palisade Canyon to the north traveling across the Tuscarora Range at Emigrant Pass and then through Emigrant Canyon to the Humboldt River. It was near here that the emigrants crossed the Humboldt River from its north bank to its south bank via Gravelly Ford, named for the gravel in the river bed that made a good crossing for wagons. In this year, Thomas Cramer noted of the Palisade by-pass route: "We left the Humboldt River and struck across the hills [Tuscarora Range] for a stretch of eighteen or twenty miles, through dusty and rough hills and down cannons, and after a weary march of all day and part of the night, we came to the Humboldt River again at a point known as Gravelly Ford." Aside from a good crossing point, Gravelly Ford is better known in history as the location of the Maiden's Grave. As perhaps best noted in one of Southern Pacific Railroad's bulletins: "Just outside Beowawe, Nevada, on a hill covered with twisted sagebrush there is a grave – the Maiden's Grave. The story of Lucinda Duncan, the young maiden who was laid to rest on this lonely hill, is a legend in railroading and Nevada history. And, as in all legends, many questions remain unanswered. How old was Lucinda? Some of the old timers say, 13, others add a few years but most agree she was in her teens…When the men of our railroad (the Central Pacific at the time) were building the Overland Route, they noticed the grave near the track site. On a small marker beside it was carved only the name – Lucinda Duncan…cleaned the area around the grave and surrounded it with a white picket fence. They constructed a cross and inscribed…'The Maidens Grave' and on the other, her name…They kept it clean, and from time to time they would pick flowers and bring them to the grave, a tribute to the young pioneer maiden whose journey ended before she reached the promised land of California." There was, however, another account as to the age of this "maiden".[101]

1859 Jacobsville, located on the banks of the Reese River approximately six miles west of present-day Austin, was founded by George Washington Jacobs, who was the first sheriff of Lander County, as well as a farmer and businessman. Jacobsville soon became the overland stage and mail station and a Pony Express stop in 1860. In the early 1860's it had a population of about 400 people and boasted of the first telegraph relay station, a post office, court house, three stores and two hotels. In 1863 it became the first county seat of Lander County, which comprised practically all of northeastern Nevada at that time. However, that same year, the county seat was moved to the east to the more populated town of Austin. Only a few foundation stones remain of the Jacobsville town site today.[102]

1859 As a result of his solitary exploration of the Reese River Valley in 1854, John Reese was

appointed as a guide for Captain J.H. Simpson, of the U.S. Topographic Engineers, and his party. Captain Simpson had been instructed by General Joseph Johnson, then stationed at Camp Floyd, Utah, to find a route for a good military road to Genoa, located in the Carson Valley in Nevada. The route fixed upon became known as the Central Route, and later it became the route of the Pony Express line. The route crossed through the Toiyabe Range about three miles north of Austin, from Simpson Park to Jacobs Springs, located near the east bank of the Reese River, by way of Emigrant Springs, Yankee Blade, and Midas Canyon. From the Reese River, the route finished crossing the Reese River Valley by cutting through the Shoshone Range about 10 miles west of Jacobs Springs and three miles north of the present Railroad Pass on U.S. Highway 50. After the inception of stage coach operations in July 1861, the Shoshone Range crossing was moved to Mount Airy Pass.[103]

1860 Beginning in this year, silver ore was discovered in the northern areas of the Humboldt and East Mountain ranges near present-day Lovelock. These silver ore discoveries began the ensuing "Rush to Humboldt" resulting in a steady influx of miners to the Humboldt River Basin. This influx would eventually taper off in the 1880's and virtually come to a halt by 1893 following the repeal of the Sherman Silver Purchase Act and the demonetization of silver. Humboldt City and Dun Glen in the Humboldt River Basin and Unionville and Star City, just south of the Humboldt River Basin's boundaries, became the first white settlements to emerge in Nevada north and east of the Comstock-influenced cities of western Nevada.[104]

1860 **(Circa)** The site of Stone House (also Stonehouse), located some two miles southwest of the Humboldt River and five miles northwest of the present-day site of Valmy, served as a camping ground for Indians and passing emigrants traveling along the Humboldt River on the California Emigrant Trail. The site eventually took its name from the ruins on nearby Lone Tree Hill of a building erected in the 1860's by officials of the Overland Stage Company as a dining and overnight rest stop. The Central Pacific Railroad was constructed through this section of Humboldt County in 1868, and the nearby springs provided water for the railroad's engines. A small community flourished here for a number of years to serve the needs of railroaders and neighboring ranchers. A post office operated at the location from November of 1890 to March of 1915.[105]

1860 **(April)** Jones, Russell & Company (soon changed to Russell, Majors, and Waddel) took over Chorpenning's mail contract between Carson City and Salt Lake City, and instituted the famous Pony Express runs between St. Joseph, Missouri, and Sacramento, California. Pony Express stations were set up at Simpson Park, just east of the Reese River sub-basin and the Toiyabe Mountains, and at Jacobs Springs, near the east bank of the Reese River. The Jacobs Springs station was named after George Washington Jacobs, district agent in charge there and later this site was renamed Jacobsville, making it the first town in the Reese River sub-basin. Another Pony Express station was located at a gap through the Shoshone Range about 10 miles west of Jacobs Springs and three miles north of the present Railroad Pass on U.S. Highway 50. The reign of the Pony Express, however, was brief. In October 1861 service was discontinued by the completion of the Overland Telegraph Company line between Sacramento and Omaha, and across Nevada this telegraph line followed the 1859 Simpson Central Route.[106]

1861 It is generally recognized that J.A. Callahan, of the old Callahan Ranch in the Lassen Meadows west of Imlay, established the first irrigation system in the Humboldt River Basin and thereby laid claim to the basin's earliest priority ("first in time, first in right") water right.

These water rights were later transferred to the Southwest Ditch and the Irish-American Canal in the Lovelock Valley (Big Meadows).[107]

1861 Southern sympathizers settled in Buena Vista Canyon after the discovery of silver ore. Appropriately called Dixie, their mining camp's name was changed to Unionville in late 1861 when the will of the neutral and Northern factions of the population prevailed. The town was located immediately outside the Humboldt River Basin on the eastern slope of the Humboldt Range some 15 miles due south of Imlay. Unionville was designated as the seat of Humboldt County, which was itself the product of Buena Vista mining activity. Unionville lost this distinction when the county seat was moved to Winnemucca in 1873. By the late 1870's, most of the local ores were depleted, but Unionville remained a pleasant place, enjoying more amenities and less violence than most mining towns in spite of strong political feelings.[108]

1861 **(March 2)** By an Act of Congress, signed by President James Buchanan, the region of Nevada achieved territorial status, separate from Utah. Later, President Abraham Lincoln appointed James W. Nye of New York to serve as Nevada's first Territorial Governor. The new Territorial Secretary, Orion Clemens, arrived in this year, bringing with him his brother Sam. Finding few employment opportunities in Carson City, Samuel Clemens first tried his hand at mining, then ascended to the Comstock and eventually proved far more adept as a reporter for Virginia City's *Territorial Enterprise*, whereupon he began using the pen name "Mark Twain" on his news stories.[109]

1861 **(April)** James Blake and his brother became the first permanent settlers in the Lovelock Valley area, an area which was commonly referred to as the Big Meadows by early California pioneers. The Blake brothers began the first agricultural operations in this area on 320 acres of what later became known as the Lovelock Slough. Later, in 1866, George Lovelock would buy out the Blake brothers' holdings.[110]

1861 Star City was established in the Star Mining District when rich silver ore was discovered in the area. The city was located approximately eight miles south of Imlay in the Humboldt Range and just outside the Humboldt River Basin. During the boom years of 1864 and 1865, the town boasted 1,200 residents, two hotels, three general stores, a Wells-Fargo office, a church and a dozen or more saloons. The (Queen of) Sheba Mine, located slightly less than two miles northeast of Star Peak and the district's biggest operation, had produced about $5,000,000 in silver by 1868, the year the rich ore began to run out. Three years later, only seventy-eight inhabitants remained in Star City and all that remains today are crumbling foundations and rusted mill equipment.[111]

1861 **(July)** Just prior to the demise of the Pony Express (October 1861), the Overland Mail and Stage Company began service over the Simpson Central Route through the Reese River sub-basin. For the next eight years, until the joining of the Central Pacific and Union Pacific railroads in May 1869 at Promontory Point, Utah, the Central Route through the Reese River Valley was the principal route for stage traffic, mail, express freight and telegraphic communications, not only between eastern and western Nevada, but also between the eastern and western United States. At that time, virtually all the places of white habitation and activity in the entire Reese River sub-basin were along the Overland Stage road, where the company's personnel were engaged in the care and maintenance of the stage stations, equipment, and the large herds of draft animals needed for its operation.[112]

1861 **(November 25)** The Territory of Nevada was created with nine original counties consisting of Churchill, Douglas, Esmeralda, Humboldt, Lyon, Ormsby, Storey, Washoe, and Lake.

Lake County would later be renamed Roop County (1863), and even later (1883) incorporated into Washoe County when the state line was finalized between Nevada and California and showed that the Honey Lake and Susanville areas were actually located within California.[113]

1861 **(November)** The first Nevada Territorial Legislature made it "unlawful to catch fish in any of the waters within the Territory of Nevada, by the use of any drag, or any kind of net, or any fish basket, or pot, pond or weir, or by any poison or by any deleterious substance, or by obstructing, in any manner, the natural transit of fish." Another section dealt with the State's waterfowl: "Section 3 – It shall be unlawful for any person or persons, at any time after the first day of April, and before the first day of September, in each year, to catch, kill or destroy, or to pursue with such intent, any…wild goose, wood duck, teal, or other ducks, brant, swan, sandhill crane, plover, snipe, curlew, yellow hammer, or bittern, or to have in his or their possession, or to expose to sale any of the birds…mentioned in this section, during the season when the killing, injuring, or pursuing of the same, is herein prohibited. Section 4 – It shall be unlawful for any person or persons, at any time to destroy, injure or disturb the nest or eggs of any of the birds protected by this act." [114]

1862 This represented the earliest year in which flooding was recorded in the Humboldt River Basin with widespread affects throughout many of the river system's sub-basins as well. Due to limited human inhabitation, little is known of the effects of the flood.[115]

1862 **(Circa)** Around this time mining activity increased greatly throughout much of the Humboldt River Basin. As a result, many of the steep, thin-soiled slopes of upper basin watersheds became exposed to the ravages of sheet and gully erosion. The virtual explosion of mining operations and the rapid growth of numerous mining camps and towns created a seemingly insatiable demand for building lumber that could only be satisfied by extensive logging of local stands of limber pine from high-altitude drainage areas. As a result of extensive mining and lumbering activities, much of the upper watershed soils were exposed to the ravages of erosion. While second-growth stands have since come in at many of these locations, considerable topsoil losses have occurred through sheet and gully erosion begun during this period. The denudation of the hillsides also encouraged the establishment of well-developed gully systems in these upper watersheds which reduced these areas' ability to hold moisture and hastened the flows downstream onto the meadowlands below, which also suffered the ravages of erosion and meadowland dessication. In addition, the reduced "holding capacity" of the upper basin areas increased these watersheds' sensitivity to the effects of flooding. As a consequence of these early economic activities, as well as the open livestock grazing which followed, much of the vegetal and soil conditions over vast areas of the entire Humboldt River Basin was forever altered.[116]

1862 **(May 2)** Austin, referred to as the mother town of mining camps, sprang into being after William Talcott, Overland Stage employee and former Pony Express rider, discovered silver ore in Pony Canyon near the town's site. Talcott came from Jacobsville, a stage stop six miles to the west on the Reese River. He was hauling wood out of Pony Canyon when he made the strike that set off the famous "Rush to Reese" or the "Reese River Excitement", as it came to be known. With this discovery, the Reese River sub-basin's largely pastoral existence was dramatically altered and a period of intense exploitation of the area's timber, mineral, rangeland and water resources began. A town called Clifton flourished briefly in Pony Canyon, but fast-growing Austin soon took over and became the county seat in 1863.

Early in 1864, Clifton, Austin and Upper Austin were all combined and incorporated as the City of Austin. Before the mines began to fail in the early 1880's, Austin was a substantial community boasting 10,000 people.[117] From Austin, prospectors fanned out to open many other important mining camps throughout northern and central Nevada.[118]

1862 **(May 20)** To encourage the settlement of the Western states and territories and promote the spread of small farms in the sparsely settled West, Congress passed and President Abraham Lincoln signed the Homestead Act. This law, which was amended several times and finally repealed in 1977, provided that anyone who was either the head of a family, 21 years old, or a veteran of 14 days of active service in the U.S. armed forces, and who was a citizen (or had filed a declaration of intent to become a citizen), could acquire 160 acres of land in the public domain[119] and acquire title to it after residing on the land for a period of five years and completing certain requirements as to cultivation. The period of residence was later reduced to 14 months, and entry by anyone already owning 160 acres of other lands was prohibited. The act contained no water-development requirements or restrictions.[120] Later federal homestead laws were essentially modifications of the 1862 act. The subsequent opening of federal property under this act, and the 1877 Desert Land Entry Act (Desert Land Act), created land rushes as immigrants and existing citizens alike were lured by the prospects of owning their own land on very reasonable terms.[121]

1862 As another important incentive to settle the West through the development of effective and efficient transportation and communication systems, Congress pass the Land Grant Act of 1862. This act gave the railroad companies ownership of every other section (one square mile or 640 acres) of land for 20 miles on each side of the rail line. The act also represented the principal inducement to the builders of the transcontinental railroad, which went through the Humboldt River Basin from west to east in 1868-1869.[122]

1862 Livestock raising in the Reese River sub-basin got its start shortly after the start of the Austin mining boom when Lewis R. Bradley, who became Nevada's second Governor (1870-1878), moved to the upper Reese River Valley from California with 500 head of Texas longhorn cattle. Along with his son and two other partners, Bradley began the first large-scale ranching operation in Nevada, eventually stocking the lush meadows of the upper Reese River Valley and the Toiyabe Canyons north and south of Austin with thousands of longhorn cattle.[123] This effectively marked the beginning of livestock raising on a large scale in the Humboldt River Basin. Livestock were ranged year-long on the great expanses of open sagebrush-grass range and along the Humboldt River bottomlands, with little or no supplemental feed produced for the winter months.[124]

1862 Camp (later Fort) Ruby was established in Ruby Valley just east of Hastings (Overland) Pass in order to protect travelers along the Simpson Overland Route. Since 1841, early emigrant wagon trains had been using the route across Hastings Pass and the long trip down Huntington Valley to meet the Humboldt River and the California Overland Trail for travel further west. In September 1869, Fort Ruby was abandoned and its garrison moved to Fort Halleck on lower Soldier Creek, which had been established on July 26, 1867. Finally, on October 11, 1886, Fort Halleck was abandoned and many of the soldiers who had been stationed there became early settlers and ranchers in Ruby, Lamoille, South Fork, Huntington and Starr Valleys.[125]

1862 It was during this year, and continuing into 1863, that J.B. ("Poker") Brown dug a mile-long ditch to connect the Lovelock Slough above present-day Lovelock with the Lowery Slough,

which meandered southward from Lovelock toward Humboldt and Toulon Lakes. Brown used this water on what later became part of the L.N. Carpenter Ranch and the water rights associated with this operation became incorporated in the Rogers Canal system, thereby making these water rights, prior to the construction of Rye Patch Reservoir,[126] the oldest rights to Humboldt River waters in the Lovelock Valley.[127]

1862 The idea of the Humboldt Canal was conceived by Dr. A. Gintz and Joseph Ginaca. Sometimes termed the "Old French Canal", the canal coursed southwestward from Preble, near Golconda, toward Mill City. The waterway, with a projected cost of $160,000, was to be 66 miles long, 15 feet wide and three feet deep, and with a fall of 35 feet. Its primary purpose was to supply water for over 40 stamp mills planned at Mill City, but it was also designed for barge traffic and some irrigation water supply. Construction of the canal began in 1863. Louis Lay, a French emigrant from California, sub-contracted the first segment. Winnemucca founder Frank Baud, another Frenchman, came to work on the project as a teamster. About $100,000, largely French capital, was expended in building the Humboldt Canal to the Winnemucca area, a distance of 28 miles. Because of engineering errors and severe seepage problems between Winnemucca and Mill City, that section was never completed or used. Several portions of the old canal are still visible in the Golconda area, in sections of Winnemucca, and at Rose Creek, south of the city.[128]

1862 **(December 19)** The second Nevada Territorial Legislature made it unlawful for "any sawmill, slaughterhouse, brewery or tannery to obstruct the natural flow of water of any stream, or to allow any sawdust, chips, shavings, slabs, offal, refuse, tan bark, or other offensive matter to enter the stream so as to damage the purity of the water." The law was primarily intended to protect irrigation water for agricultural land rather than provide sufficient water (instream flows) for fish and wildlife. Evidencing the strength of the mining industry, the mines were specifically exempt from its provisions.[129] Regardless of the intent, the law was at best weakly enforced for many years.

1863 Frank Baud, a Frenchman from California, was generally credited with founding the town of Winnemucca, later named after the famous Paiute chieftain in 1866 when a post office was established there. Baud, along with two other Frenchmen, Louis and Theophile Lay, and an Italian, Joseph Ginaca, built a toll bridge across the Humboldt and a general store. The site had first been settled in 1861 and was known by a number of names, including French Fort, Frenchman's Ford, French Bridge, or Ginaca Bridge. During the latter part of the wagon train emigration period it was one of the principal rest stops and supply centers along the Humboldt River.[130] Baud came to the location with Louis Lay from California to work on the Humboldt Canal, a project headed by Dr. A. Gintz and Joseph Ginaca.[131] While the canal itself was a failure, its development brought to the Winnemucca area a group of enterprising young Frenchmen – the brothers Louis and Theophile Lay, Frank Baud, and Louis Dutertre – who were to figure prominently in the future economic, social and water resources development of this area. [132]

1863 **(June 3)** Noting the luxuriant native perennial grasses, which at one time characterized many lowland valleys of the Humboldt River Basin, but would soon be trampled under or grazed bare, the *Reese River Reveille* (Austin) waxed poetic with one of the earliest and certainly one of the more favorable rangeland assessments: "It's a joy to bovines [ox or oxlike] and horse flesh to see the long, wavy grass which abounds in such profusion on the slopes and main ridges of Reese River Mountains, from Austin to Toiyabe Peak, and the devil only knows how

much farther south."[133]

1863 **(June 23)** In noting the Humboldt River Basin's early agricultural pursuits, growing seasons and native grasses, the *Reese River Reveille* (Austin) noted that "Haying will perhaps commence next week on [the] Reese River and in all the lower valleys where grass is forward. In the mountain gorges it will not be ready to mow before the First of July." And reporting on agriculture conditions and natural grasses in Grass Valley, located just to the east of Austin and the Reese River Valley:[134] "There are 17 surveyed ranches of 160 acres each, all tillable or meadow lands [2,720 acres total]. Grass is more than knee high at this time – consisting of blue joint, clover and red-top…"[135]

1863 Golconda, located nearly 20 miles up the Humboldt River from Winnemucca, was settled around this time and was a by-product of the ill-fated Ginaca-Gintz Humboldt Canal. The town later became the headquarters for the Golconda & Western Exploration Company, Ltd. and boasted some 500 inhabitants, six hotels, a newspaper, several stores, many bars, a racetrack and a flourishing tenderloin district at the height of the region's mining boom in 1899. The Golconda mining boom was short-lived, however. By 1900, because of difficulties in treating the Adelaide and Copper Canyon ores, upon which the town had flourished, the mine, mill and narrow-gauge railroad to the mine site were all shut down.[136]

1863 **(August 13)** As noted by James Yager of his fishing and trading experiences along the Humboldt River, probably somewhere near Palisade: "…We spent the evening catching fish with hook and seine. Our seine was made of willow brush. I was in the seine gang. We seined one hundred and forty fish, trout, sucker and some of other kinds. We caught trout eighteen inches long. There was eleven messes represented in the seine and we had plenty of fish for each mess for supper. Our mess had enough for three meals. It was fine sport but the water was cold. The Indians often bring fish to our camps and trade for bread, meat, old cloths, etc.; anything most will buy a fine mess [of fish]. They always have the large and small fish to themselves and always offer the small fish first and after getting off the small fish they often let go the largest for less price…This tribe seldom had anything to trade but fish…The Shu-shon-ees [Shoshones] caught their fish with dip nets, fishing lines and hooks and spears; they sometimes dive after them catching them with their hands…" The following day Mr. Yager reported on his experience above Gravelly Ford: "We spent yesterday evening seining with a seine made of coffee sacks fastened together on each side of a dip net…one fish twenty inches long fell to our mess…"[137]

1863 Paradise Valley, located north of Winnemucca and through which the Little Humboldt River flows, was first occupied by European settlers. Trouble between settlers and Indians started in 1864 and worsened in 1865, subsequently leading to the establishment of Camp Winfield Scott (1866-1870), located about four miles from the present-day community of Paradise Valley. The valley soon became the granary and fruit-raising center for the mining camps of central and eastern Nevada and those of southwest Idaho Territory. Scottsdale, named for the nearby Army Post, was established in 1866. It was renamed Paradise City in 1869 and eventually was called simply Paradise Valley. During the valley's period of mining activity, which extended from 1878 to 1920, the community served as a supply center for the small mining camps of Queen City, Spring City and Gouge-Eye. Today, livestock raising is the valley's main activity.[138]

1863 **(November 28)** The *Humboldt Register* (Unionville) reported on the abundance of waterfowl in the lower Humboldt River Basin: "Humboldt lake [and/or Sink] is a favorite resort of our

sporting men, just now. They go in parties of three to six, and kill hundreds of fat ducks, which are a capital change from our regular corned beef."[139]

1864 Evidencing concern over the growing threat to fish life, the last Nevada Territorial Legislature (before statehood was attained) enacted a closed season for trout during the critical spawning months of January to April. To promote compliance, a reward was offered to those persons reporting out-of-season poaching.[140]

1864 **(April 5)** The *Reese River Reveille* (Austin) noted a new food craze in a local staple of pine nuts: "We see that this luxury of Nevada is appreciated in the lower country, as they are advertised in the [San Francisco] bay papers as a new thing, and that Aurora is doing a good business in shipping them. Pine nuts are certainly a new thing to the American people, and most an excellent thing they are too, in the absence of the many varieties of fruits and nuts we were formerly accustomed to. The Indians do a good business here in selling them."[141]

1864 **(May 7)** In noting early irrigation efforts and the adverse effects of water diversion on native fish populations, the *Reese River Reveille* (Austin) reported that "In [the] Reese River and other streams of this section many dams have been constructed for turning the water [out of the stream] for irrigating and other purposes. We have noticed that when the water is turned out of the main channel into the ditch, the fish, great and small, in the rapidly diminishing water below the dam, make most frantic efforts to ascend the streams, and often becoming so frightened when stopped by the dam that they can be handled without an effort to escape…"[142]

1864 **(June 7)** The first recorded mention of the arrival of sheep in significant numbers into the Humboldt River Basin was made by the *Reese River Reveille* (Austin) when noting that "The largest procession of sheep we ever saw passed through town Sunday afternoon. They numbered 1,625, and were in fine condition…Mutton is now selling here by retail at from 10 to 25 cents per pound. Won't this arrival make the article cheaper?"[143]

1864 **(June 21)** The *Reese River Reveille* (Austin) first noted the beginning of extensive logging and milling operations that would virtually denude many of the Humboldt River Basin's and adjoining basins' pine and fir stands: "Yesterday 5,008 [board] feet of lumber was hauled into this city on one wagon. It was part of 11,690 feet which was brought to town from the Mount Hope Mills, [Big] Smoky Valley, sawed from white pine growing in the vicinity of the mill. The mill, owned by Frink and Hendrie, has been running twenty days and has turned out 50,000 feet of fine lumber."[144] [Big Smokey Valley is located immediately to the southeast of Austin and borders the Reese River Valley, separated by the Toiyable Range.]

1864 **(August 20)** Under the so-called "Humboldt Right", the Utica Bullion Mining Company laid claim to use all the waters of the Humboldt River.[145] The mining company established a dam across the Humboldt River below the Humboldt lakes to process its ore. The dam became a center of considerable controversy as it prevented upstream migration of fish and was eventually blown up in June 1884 by a party of masked men, after which the mining company's claim to any waters of the Humboldt River seemingly collapsed for want of use.[146]

1864 **(August 24)** Possibly evidencing the Humboldt River Basin's first agricultural census, the *Reese River Reveille* (Austin) reported that "A gentleman, and resident of Grass Valley [located to the east of Austin and just outside the Humboldt River Basin], has taken the trouble to ascertain the amount of hay out in that valley, which he estimates at five hundred tons. There has been a great quantity, perhaps twice as much as at Grass Valley, cut in [the] Reese River [Valley], besides several hundred tons cut in Smith's Creek and [Big] Smoky

Valley."[147]

1864 **(September 6)** Sounding a bit like a homesteading brochure, the *Reese River Reveille* (Austin) noted the extensive agricultural advantages of the Humboldt River Basin: "Mr. Barnaby returned on Saturday from a visit of a few weeks to the farming region of the Humboldt [River] Valley…It is not only the paradise of the sportsman but also of the grazer, as the plains for miles are covered with a luxuriant growth of grass of great length and of the finest variety of blue joint and clover."[148]

1864 **(September 10)** Noting the local Indians' growing outrage towards wholesale tree cutting operations, the *Reese River Reveille* (Austin) reported on one particular encounter: "As Messrs. Robertson, Twyman and Martin, who own a ranch six miles east of town, were loading their wagons with wood day before yesterday evening, a party of about a dozen Indians approached them in a hostile manner and drove them away from their wagons. They were armed with rifles, but did not fire them, and gave no explanation of their conduct except one of them said, "White man no good – Cut down all pine nuts…"[149]

1864 **(October 31)** Nevada was admitted to the Union as the 36th state. Ultimately, in 1885, by a decision of the Nevada Supreme Court, the state adopted the "prior appropriation doctrine" with respect to the state's administration of water rights. Under this doctrine, the first person to take a quantity of surface water (and later groundwater) and put it to beneficial use has a higher priority of right than a subsequent user. Under drought conditions, the demands of higher priority users are satisfied before junior users receive water.[150]

1864 **(December 29)** After extolling the grazing virtues and abundant grasses of the Humboldt River Basin as recently as the prior September, the *Reese River Reveille* (Austin) provided an update, probably more accurate and certainly prophetic of future regional vegetation conditions: "A gentleman from Grass Valley [to the east of Austin] informs us that the immense number of cattle, now being wintered there, have eaten the grass entirely off, and ranchers are compelled to seek grazing for their herds in other localities." Interestingly, and perhaps evidencing some degree of editorial censorship, the next day a "correction" appeared in the paper which stated that grass is abundant.[151]

1865 The first reported agricultural use of the grasslands and irrigable plots began in the South Fork Humboldt River Valley; however, some limited applications had been reportedly undertaken a year earlier in Lamoille Valley to the north. The early settlers and farmers in these valleys on the South Fork and other nearby tributaries to the Humboldt River earned a living selling barley and potatoes in Austin, which was a booming mining town at that time.[152]

1865 The Lamoille Valley area was first settled by John Walker and Thomas Waterman. Waterman named the valley after his native Vermont. Early emigrant wagon trains used the meadows alongside Lamoille Creek as a resting area. Because heavy use denuded the grass from the main Fort Hall route of the California Emigrant Trail along the Humboldt River, many emigrants left the river near Starr Valley. They then skirted the East Humboldt Range and the Ruby Mountains along a Shoshone Indian path, rested their livestock in Lamoille Valley, and then returned to the Humboldt River and continued their trek downstream. In 1868, John Walker erected the Cottonwood Hotel, store and blacksmith shop in the valley, and the settlement became known as "The Crossroads". Here wagons were repaired and provisions obtained.[153]

1865 **(August 4)** Giving some indication that the upper watersheds of at least the Reese River still

retained some pristine conditions, the *Reese River Reveille* (Austin) reported that "From Messrs. Paine and Markham, who returned yesterday from a ten-day trip to the head waters of Reese River, we learn that this stream through the entire length of its meandering down the mountain range is literally swarming with the finest and largest trout…" And the following day, August 5th, the *Nye County News* (Ione) reported nostalgically: "Those of our citizens who retain fond memories of the piscatorial delights of long ago, will be happy to learn that a renewal of those pleasant days is easily attainable. About fifteen miles easterly from this City, in the Toiyabe range, a few miles from the head waters of Reese River, countless hundreds of speckled trout disport [frolic] themselves in the romantic brook, in a manner decidedly tempting to a disciple of old Isaac [Izaak] Walton.[154] Beautiful meadows and groves of willows adjoin the brook for miles in extent…"[155]

1865 **(August 5)** As noted in the *Humboldt Register* (Unionville) on the apparent bounty of the desert landscape, if one knows where to look, "Wild fruit is very abundant in the canons [canyons], this season – consequent on the Indians being required to keep on the other side of the mountains [west side of the Humboldt Range]. Gooseberries, several varieties of currants, service-berries, buffalo berries, and now cherries, are abundant. All these are excellent, for sauce and preserves."[156]

1865 **(August 21)** In sanctioning the "higher" use to which the Humboldt River Basin's upland pine and fir forests should be put, the *Reese River Reveille* (Austin) reported that "H.J. Kingman and some others have lately been taking a paseo [leisurely walk] in the mountains about the head of [the] Reese River…Mr. Kingman confirms the reports of other explorers, that about the head of [the] Reese River are thousands of acres of the very largest class of white pine trees. Several parties have entered upon these timber lands, and with the aid of steam and water power, will soon put these noble trees to more useful purposes than gracing the mountain top of the Toiyabe [Range]."[157]

1865 **(September 9)** Evidencing some evident jealousy, the *Reese River Reveille* (Austin) reported that "Mr. Charles T. Gayle and party have just returned from a ten days sporting excursion to the head of Reese River. They traveled up the river about 60 miles…They packed twelve miles further over an Indian trail…But the fishing for trout altogether was unsurpassed, and made ample amends for the lack of game. These vivacious beauties – the regular brook trout [undoubtedly mistaken for the native Lahontan cutthroat trout][158] – were from eight to eleven inches in length, and afforded the fellows infinite sport. So plentiful were they that our fishermen – luxuriant dogs – rejected all of small size. The party brought some of the trout salted into town, and distributed them among their friends…"[159]

1865 **(November 30)** Noting the unique nature of the Humboldt River Basin's (curl-leaf) mountain mahogany (*Cercocarpus ledifolius*), which would soon be striped from many of the basin's mountain sides, the *Reese River Reveille* (Austin) noted that "This singular tree, peculiar to the mountains of Nevada – and we believe, confined altogether to its central portion – is of an anomalous [irregular] character. It is found growing to the very summit of every lofty mountain range – in every gorge, ravine and canon – throughout the Reese River region. In some portions – as in Pleasant Valley, situated between the summit ranges of the Toiyabe mountains – this mahogany is almost the only timber found growing."[160]

1866 Livestock raising got its start in Mound Valley on Smith and Huntington Creeks (near present-day Jiggs) when Lewis R. Bradley, one of the first stockman within the Humboldt River Basin, established his longhorn ranch. Mr. Bradley continued to expand his operations

until his cattle ranged all the way from Smith and Huntington Creeks in the east through Dixie Valley and further west to Pine Valley (Pine Creek) in the west. By 1870 when he was elected Nevada's second governor, he and his son John had become one of the state's largest cattle operators.[161]

1866 **(March 1)** The Nevada Legislature amended an Act (approved February 20, 1864) relating to wild game and fish such that "it shall be unlawful to catch…fish in any of the…waters within the state, from and after the first day of April…up and to the first day of July…by means of any drag or drags, or any kind of net, or any fish basket or pot, pond or weir, or by any poison…or by obstructing…the natural transit of fish…"[162] This action represented a reversal of fish protection established by the 1864 Nevada Territorial Legislature, thereby opening the prime spawning months of January through March to unrestricted exploitation of Nevada's fish population.[163]

1866 **(March 1)** In what was to become a nearly unceasing effort by state officials to provide fish ladders in the rivers of Nevada, the Nevada Legislature passed "An Act to amend an Act relating to Wild Game and Fish" which modified a prior act approved on November 21, 1861…" Section 1 of this new act read "That is shall be unlawful to catch…fish in any of the lakes, rivers…or waters within this State…by obstructing, in any manner, the natural transit of fish…"[164] The problem, however, lay not in the specificity and abundance of laws requiring fish ladders, but in the lack of enforcement. Early dams on the Humboldt River were crude structures made from readily available materials, namely fallen trees, branches, willows and rocks (commonly referred to as "tight" dams). To expect these hastily constructed weirs and poorly-engineered diversion structures to also adequately provide for continuous fish passage when their intent was specifically to impound the water for its diversion to adjacent fields was unrealistic at the time and virtually impossible to enforce.

1866 **(March 3)** The Nevada Legislature made its first attempt to obtain a record of water diversions in the state by approving Chapter 100 of the Nevada Revised Statutes. This act required any person intending to construct a ditch or flume to file a certificate with the county recorder setting forth the name by which the ditch would be known and the description of the place or places of use. The act also allowed for the "appointment of appraisers" to assess land through which ditches were to run when the consent of existing owners could not be obtained.[165]

1866 George Lovelock bought out the Blake brothers' land holdings in Lovelock Valley (Big Meadows). The Blake brothers had first begun farming the area in April 1861. In 1866, Lovelock, working with the Blake brothers, completed one of the earliest irrigation canals in the Lovelock Valley and together they harvested Great Basin wildrye growing in the meadows and along Lovelock Slough. The L.N. Carpenter priority (water right) in the Union Canal is based upon this early Blake-Lovelock appropriated water right.[166]

1866 **(July 23)** Revealing a rather poetic side to early reporting on Nevada's wildlife and its habitat, a reporter for the *Reese River Reveille* (Austin) noted that "We saw yesterday a round dozen of trout…They were taken from their delightful home in Clear Creek, a sparkling silver thread connecting with the waters of Reese River only fifty miles south of Austin…The streamlet is a tiny affair. Its sedgy banks almost hide it from view, and only occasionally in its meanderings does a sharp curve reveal its clear water flashing in the sunlight…"[167] Also revealing in this early description was the reference to sedgy (grassy) stream banks, indicating that extensive grazing by livestock had not yet occurred here, but would later turn many of

these upper watershed stream configurations into denuded, sloped-bank, shallow water conduits, unable to maintain the deep, cool pools which were essential for the native Lahontan cutthroat trout.

1866 **(September 15)** In reporting on early commercial fishing enterprises within the Humboldt River Basin, the *Humboldt Register* (Unionville) reported that "A fishery has been established by a man named Pollard, at Stark's Crossing of the Humboldt [River]. Pollard has a large seine, and is provided with a team to haul his catch to the surrounding country. Excellent fish are taken at that point…" And in another article on the same day reporting on fish from Humboldt Lake for Dayton (located on the lower Carson River below Carson City): "On the road, near Faulkner's Hotel, some days ago, we met a man with a two-horse load of fish, which he had caught in Humboldt Lake and was taking to Dayton…he had made many such trips and made money out of every one…Humboldt Lake is two days from Dayton and only one day from Unionville. The fish are not as good as those of the Truckee [River], but are yet very palatable."[168] [Note: On November 21, 1861 the Nevada Territorial Legislature prohibited the use of any form of net (seine) for catching fish in Nevada waters.]

1867 **(March 30)** The *Silver Bend Reporter* (Belmont) provided some indication of the growing extent of logging operations taking place in and surrounding the Humboldt River Basin which would soon have a telling affect on the region's limited pine and fir stands: "…Upon the range of mountains in which Belmont is situated, and twenty-two miles north of town, near the head of Pine Creek [Pine Creek sub-basin], is located the saw mill of Singletary & Brown. This mill has been running constantly since September last, and the forest of pines in the midst of which it is built, it is estimated will yet furnish for the saw enough logs to produce 1,500,000 [board] feet of lumber…there are several other saw mills located at different points along the mountain range…"[169]

1867 **(July 26)** Camp Halleck was established nearly twenty miles up the Humboldt River from present-day Elko by Captain S.P. Smith to protect the California Emigrant Trail and construction work on the Central Pacific Railroad. The Camp was named for Major General Henry Wager Halleck, at that time Commander, Military Division of the Pacific. In May, 1968, it became headquarters for the Nevada Military District when Fort Churchill on the Carson River was abandoned. On April 5, 1879, it became Fort Halleck. The nine-square mile reservation was set aside October 11, 1881. The fort was eventually closed on December 1, 1886.[170]

1867 **(August 19)** Noting both the excesses that local sportsmen performed in a bucolic setting, as well as the "natural" state of upper watershed streams before the effects of extensive livestock grazing, the *Reese River Reveille* (Austin) reported that "On Thursday last a party of five men…left town on a fishing excursion to Washington, about thirty miles south. There is a pretty thread of cold, sparkling water in the district known as Cottonwood Creek [located in northern Nye County], the banks of which are overgrown by the cottonwood and birch [undoubtedly meaning either aspen or alder] and innumerable small willows. At some points the creek is barely six inches wide; at others it is several feet wide; but the water is swift running, and for the distance of six or eight miles ripples and deep holes occur at slight intervals. Our fishermen…hooked and landed…153 trout ranging from six inches to eight inches long. The thoughtful fellows brought upwards of sixty of the delicate beauties home with them…"[171]

1867 **(November 8)** The *Reese River Reveille* (Austin) noted the abundance of ducks along the

Humboldt River: "There is a tempting display of ducks – mallard and teal…The birds were shot in the vicinity of the Humboldt River, where they are represented to be plentiful and easily taken by a sportsman of any experience…"[172]

1867 **(November 27)** In describing Austin's early food needs for its rapidly growing population, and what appeared to the beginning of a decline in the Humboldt River's (and Reese River's) fish stocks, the *Reese River Reveille* reported that "There is a liberal display today of…trout from the Humboldt [River] – at the butcher's stalls and the windows and doors of the restaurants." And later, on January 6, 1868, the newspaper reported "Yesterday morning a wagon arrived in the city from the Humboldt River, with 700 to 800 pounds of large sized and fat trout. They are selling today at the luxurious price of seventy-five cents a pound." And on the following day, perhaps reporting on the same wagon load (and somewhat more modestly estimated), the paper noted that "The Baron Brothers [a popular restaurant]…Yesterday…bought the large lot of six hundred pounds of trout from the Humboldt [River], with which they propose to supply their tables daily." And finally, on February 22, 1868, the *Reese River Reveille* reported that one "E. Pickett brought into the city yesterday from the Humboldt River, some 400 pounds of fish. The fish were mainly chubs, but in the lot there was a few trout."[173]

1867 **(December 1867-January 1868)** Wet-mantle flooding was recorded in the Ruby Mountains sub-basin (South Fork of the Humboldt River and its tributaries) during this period and again during January-June 1870 and May-June 1884. These floods tended to be localized and few records of damage are available.[174]

1868 **(January 16)** In perhaps the first recorded incident of the joining of the Carson and Humboldt Sinks, the *Carson City Daily Appeal* noted that "During the late storm the water in the sinks of the Carson and Humboldt [rivers] rose above the land usually intervening and formed one immense lake."[175]

1868 **(May 8)** In noting both the year's abundant moisture and the importance of the Humboldt River main stem in naturally restocking numerous over-fished tributaries, the *Reese River Reveille* (Austin) reported that "We learn that owing to [the] Reese River having a connection this season with the Humboldt [River], in place of sinking as in past years at its lower end, it has been stocked with a fresh supply of fish. This was proved a few days ago by some unusually large trout being caught well up the channel of the stream…"[176]

1868 Beginning in this year, photographer Alfred A. Hart accompanied the Central Pacific Railroad construction crews through north-central Nevada and up the Humboldt River Basin. Hart was hired by the Central Pacific as its official photographer, circa 1864-1869. In this capacity he recorded the incredible construction exploits of CP's work crews in completing this rail line through Nevada and on to Promontory Point (Summit), Utah, arriving there on May 10, 1969 to join with the Union Pacific Railroad's tracks coming from the east. Hart's photographs of north-central Nevada constitute one of the greatest picture archives of this region in existence today and are maintained by Stanford University Special Collections and the Huntington Library. Interestingly, in 1997, Lawrence K. Hersh of Los Angeles, a railroad enthusiast and member of a number of railroad and historical societies in both Nevada and California,[177] traced the route of the original CP grade and took comparative photographs from the same locations that were used by Hart in 1868. These picture comparisons now provide an invaluable record of some of the more dramatic changes experienced throughout the Humboldt River Basin over a period of nearly 130 years.[178]

1868 **(July)** The Central Pacific Railroad's indentured Chinese laborers first began laying rails across the White Plains Summit and down into the Humboldt-Carson Sink, effectively entering the Humboldt River Basin. The present-day site of Lovelock (then called Lovelock's Station, or simply Lovelock's) was reached in August 1868. In exchange for George Lovelock's donation of approximately 80 acres of land for a railroad station and trackside facilities, the Central Pacific named the new station Lovelock's. The site quickly became the point of departure for the booming mining camps of Arabia and Trinity in the Trinity Range to the north.[179] Without pausing, the Central Pacific's crews began the next phase of construction through the Humboldt River Valley from Lovelock to Humboldt Wells (Wells), opening up a new era in transportation and commerce throughout the Humboldt River Basin.[180]

1868 **(July)** J.A. Palmer took up lands for farming along the Humboldt River and lower Maggie Creek near the present-day site of Carlin. This represented the first recorded agricultural development within the Humboldt River Basin's Maggie Creek sub-basin.[181]

1868 **(July 23)** In describing early fishing conditions along the Humboldt River, the *Reese River Reveille* reported that "…its [the Humboldt River's] waters teem with trout of large size and fair flavor, and the neighboring Indians and settlers fatten upon the rich food. For several years past it has been a lucrative business with some of the settlers along that river to catch large numbers of trout in the winter and to bring them into this city by the wagon load for sale. And it is the favorite fishing resort for lovers of trout, who visit the river at the close of summer when the water has subsided…"[182]

1868 Alfalfa seed, also known as "Chile clover," which had been grown in California since the 1850's, reached western Nevada and became an intensive forage crop to cover the expanding agricultural fields along western and northern Nevada's rivers. Alfalfa was found to tolerate salt saturation in soils, variable climates, drought, and insects. As a legume, it actually adds fertility to soils while producing three to six cuttings of hay during the average growing season. Once planted it needs little cultivation for six to ten years, although now the rotation of alfalfa fields is becoming more frequent.[183] Ervin Crane, a pioneer Steamboat rancher in the southern part of the Truckee Meadows (Truckee River Basin), proved that alfalfa thrived best on sagebrush bench lands plowed and irrigated. By the mid-1870s, alfalfa was the reigning staple crop for livestock throughout much of western Nevada,[184] but it was not grown in the Humboldt River Basin until 1877 when it was introduced in the Lovelock Valley area (Big Meadows) by Colonel Joseph Marzen.[185]

1868 In order to process the increasingly heavy grain crops of wheat and barley being grown in Paradise Valley in the Little Humboldt River sub-basin, Nevada's pioneer flour mill was established by C.A. Adams on Martin Creek near Scottsville (later renamed Paradise City and finally Paradise Valley).[186]

1868 **(August 25)** As noted in the *Reese River Reveille* (Austin): "The Indians bring fish into the city daily, which they take in large quantities from the Reese River. Almost the only variety brought in is the chub, which, when quite fresh and well cooked, is an agreeable addition to the table. The Indians catch them oddly. A number of them go into the river, where the water is rather shallow, and thresh about with their hands and feet for a while until the water becomes thoroughly muddy, when they reach out rapidly with their hands and cast the fish on the banks. A gentleman who witnessed a party of them fishing in this manner on Sunday, estimated the weight of fish which they took in about two hours at thirty pounds. Fish appear

to be more abundant in the river this season than any previous year, and its banks to the Humboldt [River] are said to be strewn with the carcasses of thousands that had been left in holes and depressions by the receding water."[187]

1868 **(September 8)** In an idyllic description of the natural state of the upper watersheds of the Reese River, and probably typical of other headwaters throughout the Humboldt River Basin, the *Reese River Reveille* (Austin) reported on a fishing expedition: "…As you follow [the] Reese River towards its head you perceive that it is not without a certain beauty. Its banks are overgrown with willows, from eight to fifteen feet high, rose bushes, just now brilliant with their scarlet haws [berry, seed pod], and several other pretty green shrubs, to say nothing of the rankest grasses. The curves of the stream are frequent but short, and sometimes so eccentric as to leave one in doubt as to which side he is on. It abounds in nooks, and deep holes, shaded by the graceful willow, in which the game little fish delights to linger on the alert for food and in pursuit of cool comfort…The valley is treeless and wholly destitute of shade, and during midday the heat and glare of the sun are disagreeable…"[188]

1868 **(September 16)** The Central Pacific Railroad's rails from the west reached Winnemucca and the railroad was formally opened for business to that point on October 1. A stage and freight toll road was immediately opened from Winnemucca northward through Paradise Valley to the new silver strikes in Idaho Territory, at Silver City and Boise City. In 1873 the Humboldt County seat was moved from Unionville to Winnemucca. By 1875 Winnemucca was the hub of stage and freight roads radiating not only to Idaho points, but also southward through Grass Valley to Unionville, Humboldt City, Star City, and Dun Glen, and to Paradise City, Spring City, and Queen City in Paradise Valley to the north. Through the years, because of its strategic location, Winnemucca has continued to be an important staging point and transportation center. During the period from the late 1870's to the 1890's, Winnemucca was the shipping point to California for enormous herds of cattle from the huge northern Nevada and southern Oregon cattle baronies of Miller & Lux, Peter French, and Stauffer & Sweetser. During this period, Winnemucca's function as a cattle shipping point transcended its other activities.[189]

1868 **(September 24)** As noted in the *Winnemucca Argent*: "Duck shooting is one of the big items on the Humboldt [River] now – next in importance to baled hay [i.e., agriculture]. Shotguns are all day popping during daylight and sometimes later…Ducks are unusually numerous on the big [main stem] and Little Humboldt Rivers, and an expert Sport could kill a hundred a day. The game is worth the powder too. The Paiutes capture large numbers of the birds."[190]

1868 Golconda, located approximately sixteen miles up the Humboldt River from present-day Winnemucca and one mile southwest of the river, became an ore shipping station on the new Central Pacific Railroad. However, the site was at one time a Utah Territory mining town whose location become well known long before its significance as a railroad ore shipping station. Its hot springs, a landmark on the California Emigrant Trail, were of more enduring fame than its gold and silver boom. Mining activity was briefly renewed in 1897 and resulted in the construction of the narrow-gauge Golconda and Adelaide Railroad to the Adelaide mine. Golconda grew to 500 inhabitants by 1899, but the next year the mine and mill closed and railroad service ceased. The hot springs (97 to 150 degrees Fahrenheit) flowed at about 100 gallons per minute. A rare occurrence of tungsten in the silica deposit of a fossil vent, located one mile east of the site, was also once mined. Active vents north of the railroad tracks were the site of a famous health resort hotel, which subsequently burned down in

1961.[191]

1868 **(October-November)** The Central Pacific Railroad established the Reese River Siding at the present-day site of Battle Mountain along the Humboldt River near the outflow of the Reese River (when it does outflow) and made Argenta (Siding), located five miles eastward (up river), its principal station and point of departure for the busy mining camps to the south. In January 1870, Argenta was moved bodily to the present-day site of Battle Mountain, and the Reese River Siding was renamed the Battle Mountain Switch, creating the town by that name as well. Battle Mountain's name derives from the mountain range to the southwest, where in 1850 a group of angry California emigrants ambushed a band of Shoshones after the Indians had attacked their wagons earlier. Stage and freight roads north and south teemed with "mud wagon" stages and massive freight wagons, hauled by long jerk-line teams. From 1880 to 1938, Battle Mountain was the operating headquarters for the Nevada Central Railroad, as well as the Battle Mountain and Lewis Railroad (1881-1890). The town's first copper boom developed near here in 1897, in the Galena (Battle Mountain) Range.[192]

1868 **(November)** With Central Pacific Railroad construction reaching a point along the Humboldt River near present-day Palisade (first named Palisades) and the outflow of Pine Creek, more extensive use of the grass and timber resources of the Pine Valley sub-basin began in earnest.[193] Due to the naturally constricted nature of any townsite in Palisade Canyon, at first the Central Pacific Railroad refused to establish a townsite and division point at that location; however, later emergence of the Eureka and Mineral Hill mining districts showed the benefits of this location for the Pine Valley freight transportation route. In fact, the "sagebrush clipper" freight wagon and the stagecoach reigned supreme on the Palisade-Pine Valley-Eureka scene from June 1870 until the construction of the Eureka & Palisade Railroad in 1875.[194]

1868 **(December)** Carlin, the oldest town in Elko County, was established as a railroad division point by the Central Pacific Railroad. It was named by Central Pacific officials after William Passmore Carlin, a Union officer who served his country with distinction during and after the Civil War. When the railroad construction crews reached the Carlin Meadows, always a favorite stopping place for wagon trains along the California Emigrant Trail, a townsite was laid out, and a large roundhouse and shops were erected. During the 1870's and early 1880's, Carlin competed actively with Elko, Palisades (Palisade) and Winnemucca for the staging and freighting business of the many early mining camps located north and south of the railroad.[195]

1868 **(December 29)** Representatives of the Central Pacific Railroad started laying out lots for the future town of Elko. This site had become important to the railroad as it marked the terminus of the Hill Beachey and Elko-White Pine Toll roads.[196] By 1870, the thriving town had 5,000 people. There was an immense volume of freight and passenger traffic over the stageline roads north and south from the railhead at Elko to the early mining areas. The University of Nevada was originally built in Elko in 1874 and remained there until 1885, at which time it was moved to Reno and its present location. By the early 1870's, Elko became the distribution center for northeastern Nevada's vast range livestock empire. In the 1870's and 1880's, great ranching operations were built on Elko County's vast rangelands, abundantly watered by the runoff of the Ruby Mountains to the southeast. These ranches were ruled over, absolutely, by such powerful and colorful cattle kings as L.R. "Broadhorns" Bradley, Nevada's second Governor and its first "cowboy" Governor; the French Garat family, Spanish Altubes, and John Sparks, Governor of Nevada in the early 1900's. Today, Elko remains the

economic hub of Nevada's greatest livestock grazing area. At the same time, it has also become a center for the mining boom along the Carlin Trend to the west as well as a recreation and tourism center in northeast Nevada.[197]

1869 Early in this year, the Central Pacific Railroad reached Humboldt Wells (later just Wells) and the site became a railroad division point and helper terminal. The springs near here had served weary emigrants along the California Emigrant Trail before they set off down the Humboldt River Valley. This marked the beginning of the development of this area and the upper Humboldt River Basin for extensive ranching and agriculture purposes. By the following year, large ranches had been assembled from the acquisition of blocks of railroad lands, and the control of extensive expanses of public domain range land (national land reserve) was effected by control over strategic lands along streams and around springs.[198]

1869 Mining became one of the principal economic activities in the Ruby Mountains sub-basin when the Railroad Mining District, located west of Dixie Valley (Flats), was established and the camp of Bullion, located two miles northwest of Raven's Peak, became its principal settlement. Between 1869 and 1887, some $3.2 million in silver, lead, copper and some gold was mined in the district.[199]

1869 **(April 12)** Indicating declining fish stocks and limited local opportunities, the *Reese River Reveille* (Austin) reported that "Nearly every man one meets talks of fishing, and the hankering for fresh fish, especially trout, is universal. During last week several parties went from this city to Silver Creek and the Reese River for a day's fishing, but the "catch" and the trout were small in every instance. The river is too high at present for successful fishing, and the stock in Silver Creek is nearly exhausted by the incessant fishing. The catch from the creek by two parties yesterday did not exceed a couple of dozen of small, plump trout. Of course those fishermen who go to the Humboldt or Truckee [rivers] find large and plentiful fish."[200]

1869 **(April 26)** Waxing poetic on changing times, the effects of early settlement, destructive irrigation practices, and the difficulty in re-stocking the fish in streams which were not always connected to main stem streams, the *Reese River Reveille* (Austin) reported: "Streams of water are "few and far between" in this section. But the babbling brook of limpid water, flowing and tumbling through sedgy banks, and abounding in the "gold-dropped" [Lahontan cutthroat] trout, is still rarer. The Reese River is a valuable trout stream, and affords excellent sport to a local fisherman; but its fish, replenished by the Humboldt [River], is not of the most delicate variety. Several mountain brooks empty into Reese River, of which the two most noted and prized by sportsmen are Cottonwood and Italian Creeks…The charming stream flowing about ten miles through Italian Canyon, and known as Italian Creek, ought to be held in esteem by the lovers of the "gentle art". Originally the margin of the brook was fringed with willows and wild rose bushes, but the settlers in the canyon have cleared away all but isolated clumps, revealing the modest beauty of the virgin stream to the rude wind and prying sunbeams. During a wet season the brook flows into the Reese River, but ordinarily its waters sink a short distance from the mouth of the canyon…Our companion captivated, hooked and landed two dozen [trout], varying from two ounces to nearly a pound in weight…trout would teem in this brook were it not for the destructive practice of the settlers in the canyon in irrigating their lands. The water is permitted to pass into ditches without shoot or gate, by which myriads of trout are destroyed each season. A farmer of the canyon told us by-and-by when he began to irrigate his lands he could take trout out of his ditches

by the barrel full. This vandal practice destroys more trout in a single season than a thousand fishermen would be able to do. It has already thinned the number of trout in the brook, and if persisted in will exhaust the stock…of the lot of trout taken yesterday half a dozen were brought into this city alive for the purpose of planting in a free mountain brook now destitute of fish."[201]

1869 **(May)** Primarily due to its relative isolation, the upper portions of the North Fork of the Humboldt River saw little of the basin's early European explorers or settlers. This changed, however, when the James (Jesse) Cope party of prospectors discovered silver chloride deposits on the upper East Fork of the Owyhee River, which is located just north of the North Fork sub-basin. The Cope Mining District was established with Mountain City as its center of operations. Also in this year, Columbia, Cornucopia and Tuscarora began their heavy production of silver. The nearby increased mining activity had a profound influence on the agricultural development within the North Fork sub-basin and on transportation through the sub-basin.[202]

1869 **(May)** The South Fork Wood Rafting Company was formed for the purpose of rafting logs, timber, lumber and wood on the waters of the South Fork of the Humboldt River. However, due to the relative scarcity of available timber in the river's upper reaches located in the Ruby Mountains, it was not particularly surprising to most observers that nothing ever came of the dubious enterprise. Even so, according to the *Elko Independent* (July 17, 1869), the company did reportedly spend considerable time and effort in clearing the South Fork's channel for log drives.[203]

1869 **(May 10)** The Central Pacific Railroad, laying its rails from the west, met the Union Pacific Railroad, building its rail lines from the east, at Promontory Point (Summit), Utah.[204] The nation was now connected by rail lines and overland migration westward via the Humboldt River Valley route of the California Emigrant Trail would no longer be the hazardous and daunting task it was.

1869 **(May 12)** The first descriptive and authenticated plat maps of the extensive wetland area located between Argenta and Battle Mountain along the Humboldt River floodplain were produced by A.F. Hatch and F.H. Eaton under contract for the Nevada Survey General's Office. The area mapped included Township No. 32 North and Range 45 East (Battle Mountain) and Range 46 East (Argenta).[205] The maps described clearly the vast extent of this wetland area, now referred to in total as the Argenta Marsh, and noted two distinct open water areas referred to on the maps as the "Tule Swamps", which together totaled nearly 3,000 acres. The upper open-water area (later called to as the "Argenta Marsh"), located immediately below Argenta (Siding), was approximately one mile wide and nearly four miles long and contained some 2,060 acres through which the South Channel of the Humboldt River flowed. The main channel of the Humboldt River was located approximately one mile to the north of the upper marsh. The second, lower open water area, consisting of some 680 acres, was about one-half to one mile wide and one and one-half miles long and was also bisected by the Humboldt River's South Channel. This marsh area was located just above the South Channel's confluence with the Humboldt River main stem, about one mile northeast of the site of Battle Mountain. It was later referred to as the "Confluence Marsh".[206] In addition to these open water areas, the entire intervening and surrounding river corridor was a labyrinth of sloughs, oxbows, and braided and abandoned river channels. Further augmented by the inflow of Rock Creek from the north, the sized of this invaluable and

expansive wetland habitat area was estimated then to be 12,000-15,000 acres.[207] Later in 1936, the U.S. Bureau of Reclamation, as part of the "Humboldt Project" to build and fill Rye Patch Reservoir, purchased local farm land and water rights. Then, during the 1950's, the U.S. Army Corps of Engineers channelized the Humboldt River through this area to move these waters more efficiently to Rye Patch Reservoir in the lower Humboldt River Basin. As a result, this entire wetland area was effectively drained and virtually all riparian vegetation and habitat lost. Presently, without dedicated water rights, the area is subjected to intensive "dryland gazing" as part of the Humboldt Project's 30,000-acre "Community Pasture".[208]

1869 Beginning in this year, Huntington Valley, in addition to the Hastings Cutoff portion of the California Emigrant Trail which generally followed Huntington Creek and the South Fork of the Humboldt River, became a principal transportation routes for the mining boom taking place to the south in White Pine County at Hamilton, Treasure City and White Pine City. Two principal toll roads ran through Huntington Valley between the Central Pacific Railroad at Elko and the White Pine Mining District: (1) the Hill Beachey toll road ran south out of Elko, across Toller (Lamoille) Summit and down the east side of Huntington Valley; and (2) the Elko-White Pine toll road ran southwest from Elko to Twin Bridges (near the confluence of the South Fork of the Humboldt River and Huntington Creek) and then along the west side of Huntington Valley. Thousands of horses, mules and oxen were used on these toll roads and were fed hay and grain grown in Huntington, South Fork and Tenmile valleys.[209]

1869 **(June)** The importance of mining to the development of the upper Humboldt River's sub-basins can be gleaned from an article on this date appearing in the *Elko Independent*. The article stated that 30 to 40 Central Pacific Railroad freight cars arrived daily at Elko to unload machinery and supplies for the mining camps to the north and south of Elko. The railroad's records showed that receipts in this month for both passengers and freight exceeded $5,000 per day. Within two months (by August 1869), when the traffic to the Cope, Cornucopia and Columbia mines to the north of Elko had taken off, these railroad receipts had grown to $5,000 per day for the freight portion alone.[210]

1869 **(June 30)** The *Elko Independent* noted that small boys were catching long strings of fine [Lahontan cutthroat] trout along Maggie and Susie Creeks and in stretches of the Humboldt River near Carlin. Although large cutthroat trout continued to be caught along the Humboldt River during the first quarter of the twentieth century, the many years of wholesale and uncontrolled depredation, along with deteriorating river conditions, have practically eliminated trout fishing along the Humboldt River today.[211]

1869 **(July 14)** The *Elko Independent* described the North Fork of the Humboldt River as a beautiful, fertile, but nameless valley, "the paradise of Nevada", on the proposed road to the Cope Mining District, in which no settler had yet pitched his tent: "About twenty miles from Elko, on the proposed road to the Owyhee [River] north of the range which hems the valley of the Humboldt, is the Nameless Valley…This branch of the Humboldt [North Fork of the Humboldt], as well as the mountain streams which run at right angles with it, are lined with cottonwood and alder, and mountain trout are plenty in the waters…"[212] But that bucolic setting was soon to change with the completion of the Elko and Idaho Toll Road by October 1869. The road ran north from Elko along the North Fork drainage and through Mountain City to the Idaho state line. At this point it connected with the Idaho Central Toll Road which led to Silver City and Boise City.[213] To this day the valley of the North Fork of the Humboldt remains, in effect, nameless.

1869 **(July 14)** The *Elko Independent* newspaper noted the luxuriant barley crops being raised in the lower Maggie Creek sub-basin along both Maggie and Susie creeks, noting that these early agricultural efforts were of particular interest because they were all on a dry-farm (no irrigation) basis.[214]

1869 **(July 14)** In reporting on the early bounty of the Humboldt River, the *Elko Independent* noted that "Silver-scaled, speckled trout, fresh from the limpid waters of the Humboldt [River], and weighing from one to three pounds, are plenty in this market at four bits [$0.50] apiece. It is not unusual for fishermen to capture trout weighing five and six pounds, and one has been recently caught which weighed eight pounds; but these big fellows command higher prices. They are caught with hook and line, and grasshoppers are said to be the most tempting bait."[215]

1869 **(September 22)** In writing "Something About Fish", the *Elko Independent* expressed early and prophetic concerns over the potential demise of fish stocks in the Humboldt River: "We are in receipt of a communication on the subject of seining fish in the low waters of the North Fork and main Humboldt [River]. The correspondent complains that when the water is low, as it is now, that mode of taking fish will soon destroy the stock with which our waters are now peopled, and leave us in a very few years without a supply of that very palatable article of food which is now so abundant in our mountain streams…"[216]

1869 **(October)** William (Hill) Beachey, the stagecoach king, and his associates, completed the Elko and Idaho Toll Road, running north from Elko along the North Fork of the Humboldt River drainage areas and through Mountain City to the Idaho state line. At that point it connected with the Idaho Central Toll Road leading to Silver City and Boise City, Idaho. To care for the needs of the toll road and its travelers, nine large stage stations were established between Elko and Mountain City, with five of these stations in the North Fork sub-basin meadows of North Fork, Ganz Creek, Pie Creek and Dorsey Creek.[217]

1869 **(October 2)** Showing some extremes in local pride, the *Reese River Reveille* (Austin) reported on the supply of local fresh trout: "Fine large trout, fresh from the Humboldt [River] may now be had in this city every day. The trout are as large as those [Pyramid Lake cutthroat trout] caught in the Truckee [River] [an unlikely boast], and are of as fine a flavor [also questionable].[218] They are so abundant in the Humboldt, that scores of settlements along its banks, or within a hundred miles of the river, might be supplied with them, to the great improvement of their ordinary diet…"[219]

1870 **(February)** Located in the tank-like depths of the Palisade (12-Mile) Canyon, located some nine miles down the Humboldt River from Carlin and at the confluence with Pine Creek, Palisade (initially named Palisades) was surveyed and laid out by the Central Pacific Railroad. The site lay between Battle Mountain and Carlin and was established as a shipping point for the growing freight traffic from the Base Range lead and silver mines at Eureka and the mines at Mineral Hill and Cortez, in Pine and Crescent Valleys. This event also marked the beginning of extensive production of hay and livestock in the Pine Valley area with early hay production serving the large numbers of draft animals used on the stage and freight roads through the valley.[220] During the 1870's, Palisades rivaled Elko and Carlin as a departure point on the Central Pacific for wagon, freight and stage lines to Mineral Hill, Eureka and Hamilton. In October 1875, with the completion of the Eureka and Palisade Railroad which followed some of the route of Pine Creek, Palisade became the northern terminus and operating headquarters for this little 90-mile narrow gauge rail line stretching southward to

Eureka. Between 1875 and 1930, the town was the principal transfer and shipping point on the Central Pacific Railroad and on the Western Pacific Railroad after its 1910 completion. At its peak, the town boasted a population of only 300 persons. It was a self-contained community, and railroading was its business. There were passenger and freight stations, sidings on both the Southern Pacific and Western Pacific Railroads, and a large ore transfer dock between the narrow gauge and standard gauge lines. The Eureka and Palisade Railroad (Eureka-Nevada Railroad after 1912) headquarter facilities were also situated here. After the narrow gauge line ran its last train in September 1938, Palisade went into a long decline. The post office was finally closed in 1962.[221]

1870 **(Circa)** Shortly after the 1860's surge in nearby mining activity, the livestock grazing potential of the North Fork Humboldt River sub-basin was recognized when Daniel Murphy assumed control and began stocking with Texas longhorn cattle the area comprising the present Devil's Gate, Haystack and Rancho Grande ranches. Dan Murphy was a son of Martin Murphy, of the famous Stevens-Murphy-Townsend emigrant wagon train which had traversed the Humboldt River Basin in 1844 en route to California. Most notably, this was the first emigrant wagon train to use the Truckee River and Donner Pass route over the Sierra Nevada. Mr. Murphy's ranch headquarters was established at Halleck, which up until the early 1900's was the railroad shipping point for the Murphy-Morgan Hill Ranches and was well known throughout the state as a bustling, boisterous and roistering cow town.[222]

1870 **(July 16)** Leaving little wonder why fish stocks began declining in the Reese River and its tributaries, the *Reese River Reveille* (Austin) reported that "A party of the disciples of Izaak Walton returned to town at an early hour this morning bringing a large catch – upwards of five hundred – of the speckled beauties with them, which were disposed of among their friends…The fishing grounds were near the head waters of the Reese River, in the vicinity of Mount O'Leary – a high mountain peak in the Toiyabe Range, christened by the party in honor of one of their number…"[223] (Note: Mount O'Leary does not presently exist. Three high peaks may be found near the Reese River's headwaters – Arc Dome, Toiyabe Dome, and Mahogany Mountain.)

1870 **(October 19)** Reporting on the rapid demise of fish stocks due to over-fishing, the *Elko Independent* called for greater restraint: "Last season the abundance of fine trout in this portion of the Humboldt [River] furnished the followers of Isaac [Izaak] Walton with rare sport, as well as the private table with many a savory meal. Now, there are scarcely any fish to be found. During the summer, Indians, Chinamen with queues, and Chinamen without queues, have slaughtered them with nets, traps, seines, poison, by draining portions of the river, and by the murderous use of giant powder [explosives]. The result has been the destroying of small trout and spawn and driving the larger fish to more peaceable waters…"[224]

1870 In the early 1870's the firm of Sparks & Tinnen began extensive cattle operations in the Mary's River sub-basin, eventually growing to arguably the greatest ever ranching enterprise in Nevada. The operators owned outright some 200,000 acres and through "strategic" land ownership along streams and around springs controlled many times that amount of public domain lands (national land reserve), stretching from Humboldt Wells in the south to the Snake River in Idaho in the north. Sparks was perhaps the first rancher in Nevada to introduce the Shorthorn and Hereford cattle breeds, which rapidly replaced the Texas longhorn cattle on Nevada's ranges.[225]

1871 John R. Bradley and George Russell founded the ranching firm of Russell & Bradley with its

headquarters in Deeth, which was located at the confluence of the Humboldt and Mary's Rivers and some 20 miles downstream from Humboldt Wells. Their ranching enterprise encompassed all of the Mary's River drainage basin from Deeth to its headwaters, and even extended further north into O'Neil basin (Sun Creek), located in the Snake River Basin. The enterprise shipped many trainloads of cattle to out-of-state markets each fall and also operated in-state retail and wholesale outlets for their beef in Elko and Carlin. The operation continued in business until 1897 when it was dissolved and the land holdings divided.[226]

1871 **(February 5)** Incorporating both economic and wildlife habitat issues, as well as regional pride, the *Daily State Register* (Carson City) reported that "The fish bill being up for discussion in the Assembly yesterday, Dr. Bowman, from Nye [County], remarked that the Reese River afforded fine fishing – yet at certain seasons of the year farmers are compelled to divert every drop of water from the stream for irrigating purposes. Mr. Beck, of Washoe [County], replied that the Reese River certainly must afford excellent fishing – when its waters were absorbed by the soil of cultivated fields. Dr. Bowman retorted: "Perhaps the gentleman from Washoe has never been on it" as much as I have [laughter] – on the river. There is fine fishing at the head of the river when the water is diverted below."[227]

1871 **(February 10)** As further evidence of dwindling fish populations, the *Reese River Reveille* (Austin) candidly noted that "It is well known that all the creeks in this section which do not connect with the Humboldt River are destitute of fish. The Reese River and some of its tributaries are the only ones where fish are to be found…Last year Mr. Riotte and others, brought to Grass Valley [located to the east of Austin] from the Reese River a lot of the trout common in that stream and placed them in Skull Creek, near the ranch of Mr. Callahan [Callaghan]. They have been left undisturbed till now, and Mr. Callahan informs us that very fair fishing can be had in the creek at present…"[228] [Note: Grass Valley and Skull Creek are just outside the Humboldt River Basin and form a closed basin on the eastern side to the Toiyabe Range in Nevada's Central Region Hydrographic Basin. Mr. Callaghan had a ranching operation in Grass Valley and had both a mountain (Mount Callaghan) and a creek (Callaghan Creek, of which Skull Creek is a tributary) named after him, or, more than likely, named by him.]

1871 **(March 2)** Legislation was passed making it unlawful for any person between the first day of January and the first day of September to catch any trout in any of the waters of Nevada with any seine, gill net, or any spear, weir, fence, baskets, trap, explosive material or other substance or implements, or in any manner except by hook and line; and it was made unlawful at any time for any person to catch fish by any poisonous deleterious or stupefying drug, explosive material or other substance. The law also provided that fish ladders (see more detailed entry below) needed to be constructed within 30 days at mill dams, except that the Carson River (with its numerous dams, weirs, and stamping mills, many of which were constructed by powerful Virginia City mining interests) was exempt from this provision. All other acts relating to fish were repealed.[229]

1871 **(March 2)** In a rather strange turn from what had been a consistent effort to legislate fish ladders in Nevada's rivers, the Nevada Legislature passed an act ("An Act to prevent the Destruction of Fish in the waters of the State of Nevada.") which, in effect, excluded the fish ladder requirement along all principal river systems of northern and western Nevada. Section 2 of this act stated that "All persons, firms or corporations who have erected mill-dams, water-weirs or other obstructions on rivers or streams, within the waters of this State, shall

within thirty days after the passage of this Act, construct fish-ways or fish-ladders…so that at all seasons of the year, fish may ascend above such dam…to deposit their spawn…provided, that *nothing in this section shall be construed to apply* to the waters of Carson River, Truckee River, Humboldt River, Reese River, Walker River or any of [the] streams in this State situated east of [the] Reese River."[230] [Emphasis added]

1871 **(September 4)** As an indication that livestock grazing operations were intensifying in the Humboldt River Basin, the *Reese River Reveille* (Austin) reported on the arrival of an immense drove of sheep: "A drove of sheep numbering 80,000 head, says the *Silver State* [Winnemucca], has reached Oreana [located in the upper Lovelock Valley approximately half way between present-day Lovelock and Rye Patch Reservoir] from California on its way to the eastern part of the State in search of mountain pasturage which is found so abundantly in that portion of the State."[231]

1871 **(September 23)** Noting the rapidly changing ecological conditions, perhaps exacerbated by the effects of a drought (see entry below), the *Reese River Reveille* (Austin) prophetically recognized the potential effects of extensive livestock grazing on a fragile environment: "We have said so much to the people of California about the boundless extent of our stock ranges…their lean kind are now overrunning our hills and valleys…the bunch grass…will have disappeared in the course of a very few years…The hills surrounding Austin, now as bare as a desert, were covered a few short years ago, with as fine a growth of this grass as can be found in any part of the country…"[232]

1871 **(October 10)** Noting both the vagaries of climate and resultant agricultural conditions, the *Reese River Reveille* (Austin) assessed the effects of a recent drought: "In order to realize the extent of last summer's drought one must take a trip through the country and examine the various localities. Springs which have not been dry in ten years, do not now afford enough water to quench the thirst of a horse…the hay crop of this portion of the country is quite short…the plain beyond Grass Valley [located to the east of Austin], in the direction of Cortez district, is filled with cattle. A portion of this belongs to people in this county; but a large quantity has been driven from California and presents a woeful appearance…if an early winter should set in their bones will bleach on that plain…"[233]

1872 **(January 11)** Indicating that what wasn't fished out was liable to be transplanted out, the *Reese River Reveille* (Austin) reported that "A year ago last August Mr. Callahan [Callaghan] transferred from Italian Canyon [i.e., Italian Creek, which is located in the Reese River sub-basin of the Humboldt River Basin] to the waters of Woodward Creek [located in Grass Valley in the Central Region where Daniel Callaghan had his ranch – see February 10, 1871 entry] a small lot of mountain [Lahontan cutthroat] trout which have flourished finely and the stream is now quite populous with these beautiful and delicious members of the finny tribe. We trust that Dan will reap the benefit of his enterprise."[234]

1872 The Horseshoe Ranch at Beowawe was established by Dr. George W. Grayson of San Francisco and Aaron Benson of Beowawe under the famous Horseshoe (branding) iron. This represented the first brand to be registered in Lander County and the first major ranching operation established in the Battle Mountain sub-basin. Ultimately, Dr. Grayson and his various partners would come to own or control over 200,000 acres of grazing lands in Elko, Eureka and Lander counties and, in addition to the Horseshoe brand, operated under 26 other brands as well.[235]

1872 **(May 10)** Congress supplemented relatively ineffective mining-related statutes with the

General Mining Law, commonly known today as the 1872 Mining Law. This law would become an essential inducement for the mineral development of the West and represents one of the oldest land laws still on the books. The law provided the impetus to the mining industry for the exploration and development of the West in the same manner that the 1862 Homestead Act, the 1877 Desert Land Act, the 1894 Carey Act and the 1902 National Reclamation Act had done for the agricultural development of the West. The law was intended to promote and codify the use of public lands for mining purposes, and did so with remarkable simplicity. It declares that all federal land not otherwise restricted, i.e., national parks, national forests, wildlife refuges, and other reservations, to be open to the prospecting and discovery of gold, silver, copper, iron, nickel, and other hardrock minerals. Under this law, miners can stake a lode claim to an underground ore body or stake a placer claim, where loose minerals are worked at the surface. To keep a claim valid, the claimant need only pay an annual $100 holding fee. Upon proof of a valid mineral discovery and an investment of $500 in development, the miner could patent, i.e., actually buy, the land for $5 an acre for lode claims and $2.50 an acre for placer claims. (In 1999 Congress, reflecting growing public sentiment against mining abuses permitted by the 1872 law, placed a moratorium on further patenting mining claims.[236]) By the law, miners are not required to pay the federal government any royalty fees for the mines or for the value of their mineral production.[237]

1872 Peter N. Marker, who became one of the principal ranchers in the lower Lovelock Valley, along with Joseph Marzen, John Theis, L.N. Carpenter and John Fant, made his first purchase of land in the lower valley. Eventually, his holdings would grow to 12,800 acres in the lower Lovelock Valley, along with additional acreage in the upper valley. His lower valley holdings became known as the Reservation Ranch. Of particular note, Mr. Marker led the way in tree planting in the valley, teaming in hundreds of small cottonwoods during the 1870's from the Stillwater area in Lahontan Valley and the Carson River Basin.[238]

1872 **(August 3)** Waxing both indignant and prophetic, the *Elko Independent* assessed the damage to fish populations and described the principal apparent causes: "Numerous parties have lately visited the mountain streams, which lose their waters in the Humboldt Valley, but this season have failed to capture any of the finny tribe. Several causes, all vandalism, have contributed to denude the creeks of trout. First, the lazy, vagabond Indians, dam the sloughs and catch indiscriminately, great and small, in and out of spawning season. Second, farmers and ranchers, in turning the water of streams for irrigation, take no pains whatever to prevent trout from running into ditches, and to crown the whole, last year, giant powder [explosives] was used to a great extent…Unless something is done in the premises, in five years, there will not be a trout in eastern Nevada."[239]

1872 **(August 5)** The *Reese River Reveille* (Austin) noted the imminent arrival of more grazing herbivores seeking out the Humboldt River Basin's rapidly dwindling grasslands, and the possible threat of an unidentified "poisonous" plant: "There are now over 100,000 sheep near the Sink of the Carson, slowly making their way to Humboldt County. The bodies of quite a number of dead cattle have been found floating in the river recently. It is supposed they died from the effects of a poisonous weed which is known to grow in great luxuriance along the banks of the Humboldt."[240]

1872 **(August 17)** In a common complaint over the Indians being allowed to hunt wildlife (for their own use) out of season, the *Elko Independent* noted that "The Indians are making sad havoc among the young ducks along the Humboldt [River]. Every day strings of these delicious

birds can be seen in the hands of some itinerant bucks, who dispose of them readily among our citizens."[241] (Note: While year-round hunting was allowed for the Indians, sale of "harvested" wildlife to whites out of season was not.)

1872 **(September)** After being established in 1868, Carlin rivaled not only Elko and Palisade for supplying the mining camps to the south of the Humboldt River, but also Winnemucca and Battle Mountain for supplying the mines to the north. Silver, lead and gold ores from the Cornucopia, Tuscarora and Bull Run Mining Districts to the north were shipped out from Carlin for further processing. To facilitate this direct access to the northern mining districts, Woodruff & Ennor, a well-known staging and freighting firm, built a toll road north from Carlin up Maggie Creek, traveling up Taylor Canyon out of the sub-basin into Jack's Valley, Tuscarora and Cornucopia.[242]

1873 **(January 25)** In an account of the wholesale uses and abuses in taking fish from the Humboldt River and how officials apparently turned a blind eye to such practices, the *Humboldt Register* (Winnemucca) reported that "The *Silver State* [another Winnemucca newspaper] says that the swine herders on the Humboldt River are [illegally] seining large quantities of fish from the river and feeding them to their hogs. We guess the men the [*Silver*] *State* saw were only trappers hunting for muskrats…"[243]

1873 **(March 29)** As reported in the *Humboldt Register* (Winnemucca) on the abundance of waterfowl: "Ducks are so plentiful at certain localities in the Humboldt River, that sportsman cease to derive any pleasure in bagging them."[244]

1873 Cattle ranching began in earnest in Humboldt County when Frank Button and his uncle I.V. Button drove cattle into the Winnemucca area to begin ranching operations in the rich, fertile valleys of northern and eastern Humboldt County. At that time, the town of Winnemucca consisted of a few houses, a ferry across the Humboldt River and Bridge Street paved with sagebrush stubs. Using their famous Double Square brand, in addition to raising cattle the Buttons raised thousands of fine horses on their 4,000 square miles of ranch land.[245]

1873 **(July 5)** The *Humboldt Register* (Winnemucca) recognized the growing economic potential of the vast sheep herds now grazing the Humboldt River Basin's grasslands, omitting reference to the potential adverse effects on rangeland conditions: "It is estimated that at least 3,000,000 pounds of wool will be shipped from this place during the summer. Quinn River Valley alone, will produce 150,000 pounds this year…"[246]

1873 **(July 19)** Indicating either wild exaggeration or excessive sporting zeal, the *Reese River Reveille* (Austin) reported that Reese River wildlife took another turn for the worse: "Messrs. Learned, Veitch, Bothin and Credit returned last night from the head of the Reese River, where they have been for the last five or six days engaged in a raid upon the finny tribe. In about three days fishing they captured between seven and eight hundred trout, about five hundred of which they brought back with them…"[247]

1873 **(September 23)** Obviously not coming from a conservationist's point of view, the *Eureka Sentinel* reported the results of the hunt: "Col. Robins, of the late hunting party to the South Fork of the Humboldt [River], gives us the following statistical account of the result of the expedition. It will be observed that the aggregate slaughter of the innocents is very encouraging. According to the figures furnished us they killed…ducks, 62…bittern, 9…swamp chickens [probably referring to coots, or mud hens], 72…making a grand total of 439 [waterfowl of all kinds]. This is pretty good work for the time they were out…"[248]

1873 **(October 17)** Providing some indication of the previous bounty of the lower Humboldt River

Basin and particularly the river's terminus at the Humboldt Sink, the *Territorial Enterprise* (Virginia City) reported that "Several Paiute Indians – bucks and squaws – arrived in this city yesterday loaded down with…water fowl from Humboldt Lake [Sink]. The geese, mallard and teal they brought in were all very fine and fat…They all found ready sale for their game…" This was verified by an article in the *Humboldt Register* (Winnemucca) on the same day which noted that "Humboldt Lake is literally alive with game. Ducks, geese, swans, pelicans, cranes and all such fowls abound in great plenty. There is also snipe, curlew, and the like in abundance…"[249]

1873 **(October 25)** The *Gold Hill News* (Storey County) reported on the Humboldt River's plentiful waterfowl: "This morning we saw a pair of fat brant (a specie of wild goose), which were brought in from the Humboldt River by a party of Indians. The wings, when extended, measured seven feet from tip to tip. The fowls weighed 20 pounds each. A Chinese laundryman…purchased them for $3. The Indians report that there is an abundance of ducks on the Humboldt."[250]

1873 **(October 31)** As lamented in the *Humboldt Register* (Winnemucca) over frustrations with early fish transporting and stocking attempts: "The effort to introduce Truckee [River] trout [Pyramid Lake cutthroat trout] into the mountain streams in the vicinity of Austin, Nevada, has not proved a great success. Out of 5,000 shipped a few days since from Cromer & Frazier's fishery, but few over 100 reached Austin alive. There should be some manner of safely transporting them, and it will doubtless soon be discovered."[251]

1874 **(June 25)** In noting man's adverse effects on the local fish populations, the *Reese River Reveille* (Austin) noted that "We are informed that at various points on [the] Reese River, in the vicinity of Isbell's Ranch, dams have been constructed in the river, which are built in such a manner that it is impossible for the fish to get over them…"[252] The story went on to note that while the dams are not illegal, they should nonetheless allow fish passage.

1875 As the Tuscarora mining boom continued, truck garden crops were raised in abundance in the vicinity of the lower Winters Creek in the North Fork sub-basin and hauled to Tuscarora via the Winters Creek shortcut road across the Independence Range.[253]

1875 It was around this time that the agricultural pursuits in many of the valleys and sub-basins within the Humboldt River Basin underwent a more substantive change from the production of small grains and produce to the raising of livestock, particularly cattle raising, which had begun as early as 1866.[254] In this year, carloads of cattle were shipped by the railroad from Carlin and Beowawe from ranches of extensive acreage in the Maggie Creek sub-basin.[255]

1875 In the mid or late 1870's, Tom and William Hunter began running cattle in the Susie Creek drainage. Around 1910, George Hunter, Tom's son, formed a partnership with George Banks and the resultant firm, Hunter and Banks, became one of the largest cattle outfits in eastern Nevada. At its peak it boasted of having at least 5,000 head of cattle along Susie Creek, stretching from its lower reaches to Lone Mountain. A combination of drought and hard times eventually forced the dissolution of the company in 1925.[256]

1875 **(March 24)** Reflecting both good sport and a necessity of life, the *Silver State* (Winnemucca) reported that "Gen. Buckner, Mrs. Bonnifield and Joseph Germain returned from a hunt on the Little Humboldt [River] [probably the Paradise Valley area]…say they killed twenty ducks, eight geese, three swans, four sandhill cranes and eight rabbits…" And the following day, the *Silver State* noted that "Sam King…raid runs along the river for some distance between here and Central…bagged a couple of dozen ducks of the mallard and teal species,

besides…mud hens, etc. He says that water fowls of all varieties known in this latitude are plentiful along the river at present."[257]

1875 The doctrine of riparian ownership of water rights[258] in Nevada was provided legal support through the early court case of *Barnes v. Sabron*. Not until 1885 did the Nevada Supreme Court reject this concept and formally approve and adopt the prior appropriation doctrine[259] for all the state's water supplies.[260]

1875 **(April 16)** The *Silver State* (Winnemucca) reported that "The Indians are doing a lively business in fish nowadays. Capt. John, from Big Meadows [Lovelock], brought a lot to market yesterday, which he caught in the Humboldt Lake, and today Naches came to town with another supply. The fish are a species of sucker, known as chubs, and the lake is said to be literally alive with them." And only a few days later, on April 19, the *Silver State* prophetically reported on the possible effects of river impediments preventing upstream spawning: "Prince Naches, who does not consider it beneath the dignity of a royal Paiute to peddle fish, is doing a thriving business in that line. Last Friday he sold $25 worth here, and yesterday he went to Battle Mountain with three gunny sacks full. He says the Humboldt River below the railroad bridge is literally alive with them, and the Indians wade in and throw them out with their hands. The case of so many fish being at this particular place is a dam built by one of the irrigating companies below the bridge, which prevents the fish from going up the river. In the winter the fish resort to the lake which they leave in the spawning season in the spring. Cut off by the dam which is thrown across the river and unable to ascend the stream, the water below the obstruction is alive with them. The ditch company should afford them some means of getting above the dam, or in a few years there will not be a fish in the Humboldt. The Legislature some years since passed an act for the protection of fish in the waters of Nevada, but with owlish wisdom exempted every stream which rises in the State from its provisions."[261]

1875 **(August 9)** Showing the ingenuity of the locals to hunt waterfowl out of season, not to mention a newly-acquired interest in the pursuit of science (wildlife "captured" for scientific purposes were exempted from the state's game laws), the *Silver State* (Winnemucca) reported on one ploy: "Henry Hinkey, while up in Paradise Valley, succeeded in capturing some ducks, killed by an Indian for scientific purposes, last Saturday. They were served up scientifically [i.e., cooked] by John Morris, at the Central, and all were thankful that the game laws did not interfere with science."[262]

1875 **(August 12)** In noting early Humboldt River point-source pollution, the *Silver State* (Winnemucca) reported that "The water which escapes from the Humboldt Reduction Works empties into the river and discolors the stream for some distance below. It is so strongly impregnated with chemicals as to kill fish for two or three hundred yards below the outlet. Persons who were in swimming yesterday inform us that they saw three dead fish in the red waters, and several more that were in a dying condition."[263]

1875 **(October)** The Elko Mining and Soap Deposit Company attempted to exploit the "soap" deposits located on the east bank of Huntington Creek above Twin Bridges, located about one-half mile above Huntington Creek's confluence with the South Fork of the Humboldt River. These deposits had been known as early as 1849 to the emigrants traveling along Huntington Creek on the Hastings Cutoff route around the Ruby Mountains. While the final product was of high quality (as late as 1893 the finished product won a certificate of merit at the Columbian Exposition in Chicago), the mineral from the mine proved too difficult to

process and the operation never became a commercial success.[264]

1875 To better handle the freight traffic for the Eureka mines to the south, the ninety-mile, narrow-gauge Eureka and Palisade Railroad was completed through Pine Valley. The little railway line quickly became an economic mainstay of the Pine Valley sub-basin and served this area continuously until its abandonment in 1938. Its only extended break in service came in 1910 when a disastrous winter flood washed out nearly one-third of the railway's track along Pine Creek.[265]

1875 **(November 3)** Evidencing a basic economic concept of pricing according to what the market will bear, the *Silver State* (Winnemucca) recorded the sale of waterfowl: "Water-fowls, such as ducks and geese, are plenty along the river at present. Yesterday we noticed a hunter returning from a hour's hunt down the river, loaded with ducks of the mallard species. Some industrious Paiutes engage in the business and dispose of the spoils of the chase to the pale faces at the rate of six bits ($0.75) per pair for ducks." Meanwhile, on November 13, 1875, the *Reese River Reveille* (Austin) reported exorbitant prices at that location: "…An Indian was peddling ducks on Main Street, this morning, and fixed his price for the birds at two dollars [$2.00, or 16 bits] a pair…wild ducks are very nice, but are too much of a luxury at a dollar apiece – and small at that."[266]

1876 **(January 31)** The *Silver State* (Winnemucca) noted the effects of a wood (timber) shortage in the Humboldt River Basin region after many years of over-logging: "…Two mills, the Pioneer and Tailings [Unionville], are now running, the former on Hening ore and the latter on tailings. The Arizona is shut down for want of wood and the others are using sagebrush for fuel. I do not believe there are a dozen cords of wood available for mill purposes within twenty miles of the mills."[267]

1876 **(April 11)** In noting the economic sense and engineering craft of the local Chinese residents, not to mention the destruction of native vegetation, the *Silver State* (Winnemucca) reported that "Several Chinamen are now engaged in rafting on the Humboldt [River]. Firewood is scarce in this vicinity and the Chinese do not care to pay the price which it commands in the markets; willows are plenty up the river and the provident Celestials cut and trim them and tie them in bundles which they fashion into a raft and float down the river to this point. Two of them ride on each raft and guide it through the labyrinthine curves and crooks of the river."[268]

1876 **(April 25)** In noting the potential benefits and perils of early life along the Humboldt River, the *Silver State* (Winnemucca) reported that "An enterprising granger built a dam in the Humboldt [River] at Shoshone Canyon, [about 22 miles] east of Battle Mountain [near present-day Dunphy]. The dam backed water over several thousand acres, from which a heavy crop of hay was expected. A few days ago the dam washed out, and a tremendous volume of water rushed through the canyon, and flooded several ranches on the river bottom below…The river is so crooked and sluggish between the broken dam and this place that no danger need be apprehended from the freshet at this distance from the break."[269]

1876 **(May 9)** Noting good hydrologic conditions and bad (i.e., inadequate) state game laws and careless human practices, the *Reese River Reveille* (Austin) noted that "We are reliably informed that the Reese River is now running into the Humboldt [River], for the first time in several years – though such was reported to be the case two years ago – and that large numbers of Humboldt trout are finding their way up the Reese River. This would be a splendid opportunity for the Reese River to become plentifully restocked with trout, were it

not for the fact that owing to the dams built on the stream for irrigating purposes, it is impossible for the fish to get up to the head of the river to deposit their spawn. There is a law on our Statute Books which requires the construction of fish-ways over dams and other obstructions in streams, but, unfortunately, the Reese River is exempted from its operations, and there is no law to compel the dam owners to provide means for the ascent of the fish …"[270] The story continued in a plea to ranchers to construct fish-ways for their irrigation and diversion dams. Apparently, such were not required at the time for rivers "originating" within Nevada.

1876 **(May 15)** Evidencing another year of abundant precipitation and/or snowpack in northern Nevada's watersheds, the *Silver State* (Winnemucca) reported that "The Carson and Humboldt Rivers are said to have formed a connection, the sinks of both streams having overflowed, and the Reese River is said to be running into the Humboldt." And only five days later, the *Elko Weekly Post* reported that in that vicinity "The Humboldt River is now confined within its banks in most places and is steadily decreasing in volume…"[271]

1876 **(Summer)** The Marzen and Marker diversion dam was constructed by Joseph Marzen and Peter Marker in the upper Lovelock Valley east of Lovelock, Nevada. This first attempt at a more or less permanent diversion structure on the Humboldt River in Lovelock Valley. It was intended to supply the irrigation water lost to Peter Marker when the Lovelock and Lowery sloughs, which supplied a natural irrigation water source, were drained with the washout of the Utica Bullion Mining Company's dam below the Humboldt lakes. This effectively began the era of organized irrigation in Lovelock Valley by means of large permanent diversion structures in the Humboldt River and their ancillary irrigation canal systems. The Marker Dam was abandoned after the 1890 wet-mantle floods in favor of the Rogers Diversion Dam, which was located just upstream. The Marker Dam was eventually destroyed by flooding in 1910 and never rebuilt.[272] Colonel Joseph Marzen, Lovelock Valley livestock operator, was also credited with being the first farmer in the Humboldt River Basin to grow alfalfa.[273]

1876 **(July 23)** A series of heavy summer thunderstorms struck across virtually all of northern Nevada resulting in several localized and severe dry-mantle floods. One of the most severe of these flood events occurred around Mount Lewis, at the headwaters of Maysville, Crum, Dean and Lewis canyons, south and east of Battle Mountain. The flood in Lewis Canyon swept through the bustling mining town of Lewis, carrying away every building except the reduction mill and the boarding house. Along the stream bottoms, cottonwoods 50 feet high were uprooted and swept downstream along with extensive willow thickets, stream bottom soil, and huge boulders, with some debris carried 10-12 miles down streams that hardly flowed at this time of the year.[274]

1876 **(August 12)** Expressing local pride, but no doubt contrary to the beliefs of those persons living in the Truckee River Basin, the *Silver State* (Winnemucca) reported that "The railroad and express men, who run east from this place, bring strings of Humboldt [River] trout on their return trip. They say the Indians at points east of Elko catch them by the wholesale, and offer them for sale at the stations. The river in this vicinity is yet too high for fishing, or the Indians are too lazy to catch trout, as they offer none for sale, and, in fact, have none to sell. Humboldt trout [Lahontan cutthroat trout] are *far superior* to the salmon trout [Pyramid Lake cutthroat trout, a sub-species of the Lahontan variety separated for at least 10,000 years] of the Truckee [River]."[275] [Emphasis added]

1876 **(December 27)** As the Humboldt River Basin's pine and fir forests became ever more depleted from logging operations, other fuels were sought with equal fervor. As noted in the *Silver State* (Winnemucca): "The universal sage brush, which fortunately grows luxuriantly in nearly all the valleys of the State, is now being brought to town by the carload and sold by the cord for fuel. In the vicinity of Rose Creek, some twelve miles southwest from town, on the railroad, the brush grows to a height of five or six feet, and from four to eight inches in diameter. This is chopped to the ground and stripped of its branches, after which it is loaded on the cars and brought to town where it sells readily for fuel, and is worth for that purpose almost as much as cedar wood. Sage brush is used as fuel at the flouring mill and reduction works here, but that used at the mills is hauled from the flat east of where it grows luxuriantly."[276]

1877 **(January 26)** Nearly six years after its enactment, the Nevada Legislature reversed course and passed "An Act to amend an Act entitled 'An Act to prevent the destruction of fish…passed on March 2, 1871' ". The original 1871 act had strangely exempted the requirement for fish ladders on essentially all the principal river systems of northern and western Nevada. The new, modified Section 2 took out the wording which excluded the requirement for specific rivers – Humboldt, Reese, Truckee, Carson and Walker (see March 2, 1871 entry). The new section was comprehensive in its application and read "All persons, firms, or corporations who have erected mill dams, water weirs, or other obstructions on rivers or streams within the waters of this State, shall, within thirty days after the passage of this Act, construct fish ways, or fish ladders…so that at all seasons of the year, fish may ascend above such dam…to deposit their spawn …This act shall take effect and be in force from and after its passage."[277]

1877 **(March 3)** The Desert Land Entry Act (Desert Land Act) was passed by Congress in recognition of the limited application of the 1862 Homestead Act. The Desert Land Act's intention was to settle the West by making public lands available to any citizen of the United States of America as long as they met certain qualifications and completed a series of actions, including "reclamation" of the land through intensive irrigated cultivation. These actions generally involved land leveling, construction of deep well water systems and crop production. For lands to be considered suitable, they must be irrigable, surveyed, unreserved, unappropriated, non-mineral, untimbered and unable to produce crops without artificial irrigation. As first approved, the act provided that title to 640 acres (i.e., one square mile or one section) of arid land could be procured by conducting water to the land and reclaiming 20 percent (128 acres) of it. In 1890, the total acreage was reduced to 320 acres. In order to receive a patent, at least 40 acres (12.5 percent) had to be irrigated.[278]

1877 **(March 5)** In addition to invoking universal application of fish ladders for all Nevada's rivers (see January 26, 1877 entry), the 1877 Legislature also created the office and detailed the duties of a "Fish Commissioner" who, according to Section 1 "…may superintend and direct the construction of fish ways and fish ladders that may be built in the streams and waters of this State…" In addition, according to Section 3: "It shall be the duty of the [Fish] Commissioner to require, *as far as practicable*, all persons, firms, and corporations who have erected mill dams, water weirs, or other obstructions…within six months after the passage of this Act, to construct and keep in repair fish ways, or fish ladders…and such obstructions or dams shall not be made use of the catch the said fish by Indians or other persons…"[279] [Emphasis added]

1877 **(March 5)** In an Act to provide for the preservation of fish in the waters of Nevada, it was apparent why the railroads [illegally] employed the Indians to catch fish: Section 4 provided that it "shall not be lawful for any person…between the first days of January and June of each year, to catch or kill, any…trout…with any seine, gill-net, or any spear, grab-hook, weir, fence, basket, trap, explosive material…or in any manner except by hook and line…" On the other hand, the Indians were afforded somewhat different and more preferential treatment. According to Section 9 of this Act: "Nothing in this Act… construed to prohibit or prevent Indians from taking trout…at any time…by the same means as heretofore usually used and employed by them [including all of the above prohibited means, except, possibly, explosives]; provided that the same are for their own use…"[280] In this case, apparently, "own use" was loosely interpreted to also include the sale of fish by the Indians to the railroads.

1877 **(March 14)** Noting the formation of Gumboot Lake in the lower portion of Paradise Valley along the Little Humboldt River, the *Silver State* (Winnemucca) reported that "Henry Hinkey and Judge Bonnifield [of the Bonnifield Decree fame], who have been on a hunting excursion to Paradise Valley, report that the bottom, which is now covered with water from a few inches to two or three feet in depth for a distance of ten or twelve miles in length, and from a quarter to half mile wide, is literally alive with ducks, geese and cranes…Among the ducks are canvasbacks, mallards and teal…"[281]

1877 Colonel Joseph Marzen settled in the upper part of the lower Lovelock Valley (Big Meadows) and established his famous Humboldt Stock Farm. At this time he began construction of the Southwest Ditch, sometimes referred to as the Marzen Ditch, and still in use today. By 1880 Marzen, along with Peter N. Marker, were the largest irrigators and cattle-raisers in the entire Lovelock Valley. Marzen has generally been credited as being the first rancher to introduce alfalfa into the Humboldt River Basin. Along with Marker, Marzen was the principal builder of the Marker and Marzen diversions on the Humboldt River, the first of such structures to be built in the Lovelock Valley.[282]

1877 The W.T. Jenkis Company was established with headquarters at Battle Mountain and began grazing cattle and sheep on 278,000 acres of deeded lands in Lander, Pershing and Elko counties, including the Stampede Ranch on the upper Maggie Creek.[283] By 1891, W.T. Jenkins was known as one of the largest sheep and wool growers in Nevada, with flocks numbering some 25,000 head.[284]

1877 **(May 7)** In reporting on the effects of settlement on changing the native landscape, the *Silver State* (Winnemucca) noted that "The Badger Ranch, owned by J.G. Fairbank, is located on the Humboldt [River], about ten miles east of Winnemucca…Taken up fourteen years ago…consists of about 2,900 acres…By a system of levees, about 1,000 acres of swamp or tule land has been reclaimed, and is now producing excellent grasses where, a few years ago, tules flourished luxuriantly and myriads of waterfowl built their nests and raised their young. This once impenetrable morass is now reclaimed, the tules have died out, and, except when the Humboldt is unusually high, is sufficiently dry for agricultural purposes…"[285]

1877 **(June 14)** Noting both efficient agriculture techniques as well as wasteful fishing practices, the *Silver State* (Winnemucca) wrote that "The Big Meadows [Lovelock Valley agricultural interests] have dammed the Humboldt [River], and are now turning its waters to account in irrigating grain fields. The river is literally alive with fish, and numbers of them follow the water into the irrigating ditches, many of them surviving until the water is turned off, and are left high and dry away from their native element. A rancher writes that all they have to do

when they want a mess of fish is to go out in the irrigating ditch when the water is off and pick them up. As fish is said to furnish superior brain food, the Big Meadows ranchers may be expected to excel in intelligence…"[286]

1877 **(July 17)** Evidencing a bit of satire over the ease with which state gaming laws were evidently being circumvented, the *Reese River Reveille* (Austin) noted that "Sportsmen are excited over the reports of good fishing and hunting on the Reese River. It is said that the trout were never so plentiful and never bit so freely as at present; also, that the timber on the hills near the river is alive with "pine hens". Some people call these birds grouse, but that is a misnomer, as the game law expressly prohibits the killing of grouse at this time of the year…"[287]

1877 **(July 24)** Noting the early formation of environmental and wildlife associations, or more realistically hunting and fishing clubs, the *Reese River Reveille* (Austin) noted that "W.S. Taft, Secretary of the Reese River Game and Fish Protective Association, is in receipt of communication from B.B. Redding, Fish Commissioner of the State of California, relative to catfish…There is in the treasury of the sporting club a sufficient amount of money to cover the expense of importing from California 1,000 young catfish; and members are considering the practicability of purchasing the fish and planting them in the lower portion of [the] Reese River."[288]

1877 **(August 18)** In noting an abusive fishing practice, the *Belmont Courier* reported that "Messrs. Stowe and Wood, who went out a few days since to meet the Austin fishing party, returned last evening…Game is plentiful along the [Reese] river. County Treasurer Adam McLean…returned from their fishing excursion to the head of the Reese River…trout very scarce…quite a number of persons…take a shovel and turn the stream [into irrigation ditches and out onto open fields], filling their baskets with fish…this kind of fishing should be prevented, and it is to be hoped that the next session of the Nevada Legislature will enact a law for the especial benefit of those anglers with the shovel."[289]

1877 **(August 20)** Noting selective enforcement of Nevada's game laws, the *Reese River Reveille* (Austin) reported on the "Contraband Game": "Last Saturday evening Marshal Brennan captured an Indian with a pair of young ducks in his possession, which he had shot down on the river. The Indians are exempted from the provisions of the game law, but the officer confiscated the ducks and locked the Indian up for half an hour, just as a warning to the red men against exposing game for sale out of season, and to discourage them from killing it. The intent of the law is that Indians may kill game at any time for their own use but not to sell…"[290]

1877 **(August 28)** The *Territorial Enterprise* (Virginia City) reported on game at Humboldt Lake: "Humboldt Sam, a Paiute brave, yesterday arrived from the sink of the Humboldt or Humboldt Lake. He says there are a great number of Paiutes at the lake at the present time. Geese, ducks and snipe are very abundant. The Indians are having a high old time at a killing frenzy feasting on the ducks and geese. Sam's mission to this city is to ascertain how soon our dealers will begin to purchase game. He says the young ducks are now as large as the old ones, are very fine eating, and he is anxious to bring in and sell them. Sam will return and bring in a lot of game in a few days…"[291]

1877 **(October 12)** Noting the Indian's rather efficient way of taking game, the *Territorial Enterprise* (Virginia City) noted that "Several Paiute hunters came in yesterday morning from Humboldt Lake with game – ducks and snipe. One Indian had a great number of robin snipe,

which bird he reports as being very plentiful at the lake. As they are found in flocks they are more sought after by the Indian "pot-hunters" [large, shotgun-like weapons for bringing down large numbers of floating or flying birds at once] than are the other snipe, which must generally be shot singly."[292]

1877 **(November 5)** The *Silver State* (Winnemucca) reported on a proposal for transplanting catfish to the Humboldt River: "The Sacramento papers say the Fish commissioners have men catching catfish in the slough near that city for the purpose of stocking rivers in California, as well as the Humboldt [River] in this State, with that fish. It is thought that catfish will thrive in the Humboldt…in all probability catfish, a few years hence, will be as plentiful in the Humboldt from Gravelly Ford [located about 16 miles below Carlin] to the [Humboldt] sink, as trout are at present. And just one month later (December 6, 1877), this became a reality when the *Silver State* reported that "Meacham & Blakeslee of Humboldt House, have imported a lot of live catfish from Sutter Slough near Sacramento, and transplanted them in a slough of the Humboldt [River] near the Station, where it is expected they will propagate and thrive…"[293]

1877 **(December 12)** As mountains were increasingly stripped of usable timber, the ubiquitous sagebrush was pressed into service as a fuel source. The *Tuscarora Times-Review* laments its future: "…The pride and glory of Nevada is the persistent and omnipresent sage-brush…covers the face of Nevada like an all-prevailing blanket…it grows to enormous proportions, frequently reaching a height of ten feet, and having a stalk-diameter of from five to eight inches…at once indicates to the farmer the richness of the soil which sustains it. The common black sage is of little use as a food supply to any living creature except to the sage grouse and to the omnivorous crickets of the desert…Sagebrush is about the only available fuel in this timberless country and hundreds of thousands of cords of it are annually consumed…Like the grand forests of the Sierra Nevada, the wild sage of the Great Basin is rapidly disappearing and as it is a plant of exceedingly slow growth, it is not improbable that it may ultimately become extinct…"[294]

1877 **(December 13)** Evidencing no apparent remorse at the destruction of these beautiful creatures based on an apparent inexhaustible supply, the *Silver State* (Winnemucca) reported that "The Paiutes are carrying on quite a business in the sale of swans. These graceful looking fowls with plumage white as snow, measure over five feet from tip to tip. They are quite numerous at the sink of the Humboldt [River] at this season of the year and are shot by the Indians, who dispose of them at from 75 cents to $1.50 each."[295]

1877 **(December 27)** The *Silver State* (Winnemucca) gave a description of the Humboldt River's fur business in an article "Fine Furs: 'Kentuck', who devotes a few months every winter to trapping, arrived in town yesterday with a lot of furs, which he disposed of to Edward Keane, the furrier. The furs consist of beaver, otter, mink, marten, lynx and skunk skins, taken along the Humboldt [River]. Among these the otter, marten and mink are the most valuable, and when dressed and manufactured into robes, muffs, etc. by Mr. Keane, are really beautiful as well as comfortable. The Humboldt beaver, not being able to obtain material for building dams at all points along the river, adapt themselves to the circumstances which surround them, and burrow in the banks of the river."[296]

1878 **(March 8)** Amusingly depicting how seriousness the locals take their hunting, the *Reese River Reveille* (Austin) noted that "A large flock of wild geese sailed over town last evening going south. They flew too high for reach with the contents of a gun, and several old sportsmen,

as they viewed the birds going through the air, sat down on the curbstones and wept because a double barreled shotgun of five-mile range has not yet been invented."[297]

1878 **(March 23)** Based on the extensive presence of sloughs and wetlands, the *Silver State* (Winnemucca) reported on the wildlife in the area of the lower Little Humboldt River sub-basin: "The lower end of Paradise Valley is represented as being a perfect paradise for hunters. Messrs. Geroux, Merritt, Fisk and Hinkey, who had been there for two or three days on a hunting expedition, returned last evening laden with spoils of the chase. They report geese, cranes and ducks plentiful and fat and plump as partridges."[298]

1878 **(May 11)** Evidencing concern over abusive fishing practices, as well as providing insights as to the successes of Indian fishing efforts, the *Elko Weekly Post* reported that "We have been informed that gill nets have been placed in the Humboldt River at Moleen, by Indians, and that recently some railroad men overhauled the nets and took from them quite a number of fine trout. If this statement is true, we would advise any one who feels so disposed to take up the nets and destroy them. If they belong to white men, then find out who they are and enter complaint against them, that they may be legally prosecuted and subjected to the severe penalty which conviction under the law entails."[299]

1878 **(May 25)** Humorously, if not ominously prophetic of the approaching collapse of the Nevada mining industry and the onslaught of the state's Twenty-Year Depression (1880-1900), the *Reese River Reveille* (Austin) reported that "The trout in the Reese River are said to be so hungry that they would bite at a New York prospectus of a Nevada mining company. Several Austin anglers are now out on the river taking advantage of this situation, and coaxing the trout with fishworms."[300]

1878 The first geologic mapping of the area around Winnemucca was done by members of the Fortieth Parallel Survey, directed by Clarence King. The survey party mapped both the bedrock and the basin-fill deposits of the area and although many of their interpretations have since been revised, their fundamental observations proved to be remarkably accurate and complete. King is also credited with recognizing that in addition to late-Tertiary Period[301] lakes, a large Quarternary Period[302] lake had also existed in this area and named it Lake Lahontan. Later, in 1885, I.C. Russell briefly mentioned the Winnemucca area in his classic monograph on Lake Lahontan, noting that the area was partly inundated by two high stages of the lake.[303]

1878 **(July 10)** Obviously expressing more hope than reality, as later over-fishing would prove, the *Reese River Reveille* (Austin) reported on the "life cycle of fish in the Reese River": "At various times up to three or four years ago several streams in this neighborhood, before barren of fish, were planted with trout, some being taken from streams in the vicinity and others brought from the Truckee [River]. Among the streams so planted were Big Creek, Birch Creek and Kingston Creek. Daniel Callaghan planted trout in the stream running through his ranch in Grass Valley [located to the east of Austin], and there has been good fishing in it for several years…some fine trout have been taken from Big Creek recently…yesterday A.A. Curtis went fishing to Kingston Canyon, and captured thirty trout from that stream…After trout get themselves established in a stream, become accustomed to their surroundings, get over their home-sickness and settle down to the business of raising a family, it is impossible to depopulate that stream with hook and line."[304]

1878 **(August 14)** In noting a particularly dry summer, the *Elko Independent* reported that "The Humboldt River is now lower than it has ever been for many years and if the present

scorching weather continues much longer the little fishes in that stream will [be] subjected to a sort of diurnal dry sweat. Professor Sessions says that most of the mountain springs which were never known to fail before, are now rapidly drying up."[305]

1878 **(August 15)** At Austin, the first recorded large scale instance of the thunderstorm induced dry-mantle flooding which has plagued the town throughout its existence took place. An immense wall of water, mud and rocks, three to ten feet high, moved down Pony Canyon and along the Main Street of Austin. The floodwaters destroyed buildings, tore up sidewalks, wooden porches and sidewalk awnings, gutted store buildings, and sent the debris, intermixed with huge boulders, freight wagons, drowned livestock, cordwood from the mills, mining timbers and fragments of small buildings down the canyon. In the aftermath, three feet of mud was left to fill Austin's streets requiring three months of intense efforts before all of the damage was fully repaired.[306]

1878 **(September 30)** "The *Silver State* (Winnemucca) reported on the stocking of the Humboldt River with catfish: "H.G. Parker, [Nevada] Fish Commissioner, has brought 2,000 catfish from Sacramento to be distributed in the Humboldt River. At Reno they were delivered to J.M. McBurney, to be taken to Elko, above which place they are to be put in the river."[307]

1878 **(November 30)** In detailing the fundamental economics of the business induced by the growing demands of the European settlers, the *Silver State* (Winnemucca) reported that "Captain John, Chief of the Big Meadows [Lovelock] Paiutes, engaged in the waterfowl business. The lake at the sink of Humboldt is now literally alive with ducks, geese, swans, pelicans, etc., and Captain John has several Indians engaged by shooting them. He disposes of the fowls at the several towns along the Central Pacific Railroad, and in reality has a monopoly of the business, as no white man can compete with him, in consequence of the latter having to pay fare and freight over the road while John can ride free on the platform of a passenger car and he carries his sacks of game free. He is now extending his business to Eureka, where he says he can dispose of big ducks (mallards) for four bits [$0.50] a piece, and get a dollar each for geese and swans. He expects to do a lively business while the lake is open and to make semi-weekly trips to Eureka with bags of game."[308]

1878 **(December 27)** Expressing indignation over the "outside" denigration of their river, the *Silver State* (Winnemucca) noted that "A week ago we stated upon the authority of the *Reno Journal* that Fish Commissioner Parker had about 200,000 young salmon which he intended to plant in the Humboldt River…The [Carson City] *Appeal* adds: 'You might as well plant young salmon in a mining shaft as in the Humboldt [River].' Why salmon would not do well in the Humboldt as in Walker and Pyramid Lake, is not so clear…"[309] The article went on in length arguing why the Humboldt River would offer a good home to the fish.

1879 **(January 2)** In the Nevada Fish Commissioner's first biennial report for the years 1877 and 1878, H.G. Parker reported on his to enforce the state's requirement for fish ways or fish ladders, efforts which were not always favorably received. His early conclusions saw scant hope of effective enforcement and therefore the Commissioner intimated that fish plantings might be necessary to sustain fish populations: "Learning that dams in the Carson, Truckee and Humboldt Rivers were so constructed that it was impossible for fish to ascend above them, for the purpose of spawning, I forwarded (when it was not convenient to make personal service), notices of warning through the mail, to the owners and superintendents of dams or obstructions (citing the law authorizing the notice), and that unless the obstructions were removed, or fish ladders provided, suits would be instituted against those violating the law.

I also notified the District Attorneys of the several counties of my action, and called their attention to the law, but from some cause, while the fees for conviction, aside from duty, seem to warrant extra exertions from these law officers, I am only in a few instances prepared to note any zeal on their part towards protecting the finny tribe, in their respective counties. To some extent their indifference to the requirements of the law, and disregard of official notice from the Fish Commissioner, can be accounted for from the imperfect laws on the subject, coupled with the fact that the great number of dams necessary for irrigating ditches on the different streams, constructed by as many different settlers, makes the violation of the law a "local dead letter", or an issue on which to make joint warfare. To remedy this I can see nothing but the planting of superior food fish in our streams, thereby enlisting the cooperation of those most directly benefitted."[310]

1879 **(March 6)** No doubt intending to offer academic support for better understanding the nature of the State's wildlife, as well as instilling a more scientific approach to hunting practices, the Nevada Legislature passed an amendment to "An Act to Preserve Wild Game" which stipulated that "It shall be unlawful for any person or persons within this State to have in his or their possession, or to expose for sale, or to purchase from any person whomsoever, either Indians or any other person, any of the birds…during the season wherein the taking…is herein prohibited; provided, that nothing in this Act shall be so construed as to prohibit any person or persons in taking any bird, fowl, fish or animal at any time *for scientific purposes*."[311] [Emphasis added]

1879 **(March 29)** Reporting on catfish planting, the *Reese River Reveille* (Austin) noted that "Fish Commissioner Parker sent to George Watt and John Smyth one hundred young cat fish, which were received in kegs by express this morning. They came through in good shape, most of them being alive. Mr. Watt turned his over to J.A. Wright, who expects to plant them in a large spring, at the upper end of the Reese River Valley, a tributary to the [Reese] river. In the course of two years fish peddlers will be heard on our streets, singing out "Reese River catfish fresh cat fish, two bits [$0.25] a pound…"[312]

1879 **(March 30)** Noting and probably exaggerating the abundance of sand hill cranes, the *Battle Mountain Messenger* reported on the cause of a delayed stagecoach: "Uncle John Gibbons came in an hour late yesterday, and on being questioned, gave as a reason, the presence of a flock of sand hill cranes which entirely blocked the road, and prevented the passage of the stage. John gave it as his opinion that any one interested in craneology [sic] could have collected a million of specimens on that road. Of course, not anyone who knows Uncle John doubts his veracity."[313]

1879 **(April 12)** Noting the adverse effects of virtually unrestrained irrigation diversions, as well as limited precipitation on river flows, the *Battle Mountain Messenger* reported that "G.L. Eames has just completed a dam across the Humboldt River, opposite the Stone House, for the purpose of irrigation. The structure is 20 feet wide on the bottom and 100 feet long…We learn that A.A. Ward, R.V. Kelley, D. McIntire, A.D. Wilcox and others, are also constructing dams on the Humboldt for the same purpose…" And the following month (May 24, 1879) the same newspaper reported that "John H. and T.M. Slaven, of Argenta, were in town this week, report they are building a dam in the Humboldt [River], diverting the waters for agricultural purposes." And shortly thereafter (July 17, 1879), the *Silver State* (Winnemucca) reported on the consequent effects in a story titled "The Sink of Humboldt": "We have been informed by Big Meadows [Lovelock] farmers who have resided on the lower

Humboldt [River] for years, that the lake…is now almost, if not entirely dry…attributed to the light snow fall in the mountains…and the numerous dams which have been built in the river at different points from Battle Mountain to Big Meadows…"[314]

1879 **(April 26)** In what must be some sort of record, the *Reese River Reveille* (Austin) reported that "A pelican was shot near the ranch of Sam Wallace on the Reese River, yesterday, and was brought to town today. This bird is a monster. It measures 83 inches [nearly 7 feet] from tip to tip of the wings, and 61 inches [just over 5 feet] from the end of the tail to the point of the beak. The bird is pure white save the long feathers of the wings, which are black."[315]

1879 **(May 30)** In reporting on the migration of recently planted catfish, the *Elko Independent* reported that "The catfish put into the Humboldt [River] at this place last fall [see September 30, 1878 entry], seem to be of a migratory disposition; some of them have been seen on the South Fork of Smith Creek, nearly 100 miles from this place."[316] [In truth, Smith Creek, a tributary to Huntington Creek which itself flows into the South Fork of the Humboldt River, is approximately 40-45 miles from Elko (admittedly discounting for extensive meanders).]

1879 In this year, Joseph Scott of Scott & Hank, owners of the historic 71 Ranch near Deeth, Nevada, was generally credited with introducing the Hereford cattle breed into Nevada and the Humboldt River Basin.[317]

1879 **(June 14)** Evidencing a difference in fishing opportunities (probably exaggerated) on the Humboldt River main stem and some of its (ephemeral) and less frequented mountain tributaries, the *Paradise Valley Reporter* wrote that "The fishing on Martin Creek is good so we are told. [Martin Creek enters the northern portion of Paradise Valley in the Little Humboldt River sub-basin, some 40 miles upstream from the main stem of the Humboldt River. Tributaries of Martin Creek originate near Hinkey Summit, Buckskin Mountain and Granite Peak.] One day last week, Captain Lloyd Rawlings and family, and a couple of friends went over on a fishing picnic, and caught, well, if we put the number too high, we are afraid nobody will believe us, so we won't tell…" Whereas two weeks later (June 28, 1879) in another part of the Humboldt River Basin, the *Elko Weekly Post* noted that "The fishermen who went out last Sunday, "toiled all day and caught nothing." Fish are very scarce in the Humboldt [River], and we have an idea that it is caused from the use of giant powder…"[318]

1879 **(September 15)** The *Silver State* (Winnemucca) reported on a disturbing trend with respect to chubs and other fish species in the Humboldt River: "Until within the past year or two the Humboldt River at this season of the year was literally alive with "chubs". The chub is a species of sucker, and, though not equal to trout, is very palatable. Whites and Indians caught them by the sackful and disposed of them to hotels and families. Now, we are informed by reliable persons, who have opportunity to satisfy themselves beyond doubt on the matter, that there is not a chub in the river above Oreana [located in the upper Lovelock Valley]. It appears that they spent the winters in the [Humboldt] lake and in the springtime went up the river to spawn. This they have been prevented from doing recently by dams at Big Meadows [Lovelock] and Oreana [approximately 16 miles upstream from Lovelock]. This ought to be remedied by fish ladders or other means, for, unless it is, in a few years there will not be a chub in the Humboldt from the sink to the head of the stream."[319] [Note: Most recently, the Nevada Legislature mandated the installation of fish ladders on January 26, 1877, requiring that they be installed within 30 days of passage of that law.]

1879 **(October 22)** In a reflection of how variable climate and hydrology can effect habitat and

wildlife conditions (see prior November 30, 1878 entry), the *Silver State* (Winnemucca) reported on a recent scarcity of water and waterfowl: "The Indians complain there are no ducks, geese or other waterfowl at the sink of the Humboldt [River] this year. They attribute this to the scarcity of water, and they are as despondent over the drought as the whites…Usually at this season of the year they kill 1ots of waterfowl at the sink, and bring loads of them here to sell…"[320]

1879 **(October 24)** The *Silver State* (Winnemucca) reported the effects on fishing from downstream dams obstructing fish passage: "Several of the boys now spend their time fishing in the Humboldt [River], which is so shallow that a person can wade it almost anywhere. As the dams down the river prevent chubs from coming up the stream, they are rather scarce, and trout will not take the bait. They – the fishermen – are not very successful."[321]

1880 **(January 2)** Probably somewhat of an exaggeration, the *Silver State* (Winnemucca) reported that "Game is abundant here, and ducks are as thick as grasshoppers in summer time in Nebraska. I saw at the Warm Springs the other day at least twenty-five acres of them as thick as they could stand." This was followed on March 9, 1880 by an article in the *Silver State* which reported that "Ducks are getting plenty along the river, and industrious Paiutes bag a good many of them, which they dispose of to the whites at the rate of four bits [$0.50] each for mallards, and two bits for inferior kinds."[322]

1880 **(January 3)** The *Elko Weekly Post* reported on the plight of the beaver in the Humboldt River: "Heretofore the Indians and some white men have made a business of trapping beaver during the fall and winter months, on the various streams in this section of country, but this year their occupation is gone. An old Indian dropped into this office the other day, and relieved himself of the information 'no more beaver, heep die'. Inquiry elicited the fact that the cause of death was the absence of water, there being but little in any of the streams and many of them frozen to the bottom."[323]

1880 **(Janaury 31)** The *Elko Weekly Post* reported on the success of previous fish plantings: "Our readers will remember that during last summer that several cans of catfish were received and planted in the Humboldt [River] near Osino and Deeth Stations [Deeth and the outflow of Mary's River lie approximately 45 miles upstream from Elko]. Since then nothing has been thought of the matter until recently, when some parties perambulating [as in making an inspection on foot] on Mary's River, Trout Creek, and other small tributaries of the Humboldt, discovered in these streams large numbers [of catfish] apparently in fine growing condition. From this fact we may judge that the Humboldt, and all of its feeders, will be soon abundantly supplied with these delightful fish."[324]

1880 **(March 27)** Evidencing frustration over the weather, game laws and depleted game stocks, along with little remorse over exterminating the few water fowl that remained, the *Silver State* (Winnemucca) suggested necessary changes to the waterfowl hunting season: "In less than a week…game laws will go into effect…Legislature ought to have extended the time for shooting ducks and geese to the middle of April, as the weather has been so cold this year they did not make their appearance along the river here as early as common. There is not much necessity for protecting wild geese anyway, as only a few of them remain in Nevada to hatch."[325]

1880 **(May 14)** In describing the "pleasing contrast" of the Humboldt River amidst its desert surroundings, the *Silver State* (Winnemucca) reported: "A strip of bright green, a few hundred feet wide in some places and a mile or two at other points, now marks the course of

the Humboldt River as far as the eye can reach. It forms a pleasing contrast with the grayish hue of the sagebrush and the sandy valley through which the stream winds its way to the [Humboldt] sink."[326]

1880 **(May 29)** Foretelling only a fraction of the losses which would visit the cattle herds of the Humboldt River Basin nearly ten years later during the "White Winter" of 1889-90, the *Paradise Reporter* (Paradise Valley) reported that "James Farrel, an extensive cattleman on the Little Humboldt, was in town Thursday; he informs us that including calves, the mortality of cattle in that locality during the past winter has been fully 25 per cent of the whole."[327]

1880 **(July 3)** Noting the Humboldt River Basin's use as a desired foraging location for itinerant herds, the *Paradise Reporter* (Paradise Valley) reported on beef cattle headed for eastern markets: "The first consignment of a purchase of 38,000 head of beef cattle for the eastern market passed through Paradise [Valley] by way of Willow Creek on Thursday. They are all from Oregon and will be driven in bands of 1,500 to Cheyenne from which point they will be shipped by rail to Chicago and the east."[328] [Note: The Willow Creek mentioned here lies on the western slope of the Santa Rosa Range, just outside the Humboldt River Basin, and leads directly into the head of Paradise Valley.]

1880 **(July 10)** In calling the dam owners to task for a lack of fish ladders, the *Paradise Reporter* (Paradise Valley) noted that "We beg to call the attention of the Paradise Mining Company to the fact that although their dam on Martin Creek has been constructed nearly a year, they have as yet failed to comply with the State Law for the preservation of fish in such cases provided. The law in question stipulates that where corporations have constructed dams for mining or milling purposes across certain streams, they shall within 30 days from the completion of such dam construct fish ways or ladders in order that the members of the finny tribe may have free access to points above the obstructions at all seasons of the year. Hard Scrabble, a point on the creek above the dam, has long been considered the best trout fishing ground in the county and has been a favorite resort for fish during the spawning season; but unless the fish ways are put in as provided, the streams will be depleted above the dam, and in a short time the trout will forsake the waters of Martin Creek entirely."[329]

1880 **(July 27)** The *Elko Independent* reported on finding a relatively unspoiled portion of the Humboldt River Basin north of Elko: "A trip to the northern part of the county a few days ago…principal part of dinner on brook trout…at Hogle's little ranch on Jack Creek…the beautiful stream; the heavy growth of willows; the thick soft carpet of native clover, which literally covers the broad bottom lands on either side [of] the stream; the wealth of wild flowers on every hand; were all particularly refreshing…"[330] [Note: The headwaters of Jack's Creek, which is most probably the creek referenced here, lie about 55 miles due north of Elko, just outside the Humboldt River Basin, and nearly two miles north of the upper reaches of the North Fork of the Humboldt River. Jack's Creek is a tributary of the Owyhee River (Snake River Basin), which now flows into Wild Horse Reservoir. Nevada State Route 225 crosses the lower portion of Jack's Creek.]

1880 **(July 29)** Evidencing the effect of increasing water diversions from a growing number of dams, the *Silver State* (Winnemucca) reported that "We are informed that Humboldt Lake, or "Sink of Humboldt", as it is frequently called, is dry…caused by diverting the waters of the Humboldt River to the lands along the stream for irrigating purposes…"[331]

1880 **(August 28)** In reporting the productivity of the Argenta Marsh area located between Battle Mountain and Agenta, the *Battle Mountain Messenger* reported that "John Slaven [see April

12, 1879 entry], of Argenta, has cut over 150 tons of choice hay from land that did not show hardly a spear of grass last year. This shows what may be expected from the land between here and Argenta after he has completed his ditch."[332]

1880 **(November 24)** In confirming the variable hydrology of the area, the *Silver State* (Winnemucca) reported that "Naches, the Paiute Chief, says Humboldt Lake is about dry, and where years ago water fowl of all kinds were plenty there are no geese, no pelicans, no ducks, and nothing that an Indian could live upon." And less than one year later (August 3, 1881) the *Silver State* reported on a dramatic change in the region's hydrologic conditions: "A year ago Humboldt Lake, which generally extends over several square miles, was dry…now the lake has spread out to its old size and is larger than at any previous time in six years…"[333]

1880 **(December 23)** Showing obvious ignorance and/or exaggeration of the "transportability" and survivability of catfish for stocking the Humboldt River, the *Tuscarora Times-Review* reported that "Thomas J. Tennent is around stocking the streams of Nevada with catfish under the direction of Fish Commissioner Parker. He arrived in Elko on Sunday with two thousand of them for distribution in the streams in the valleys north and south…The fish are from ten to fourteen inches in length, and will spawn next spring. They were brought here in boxes without water [!?]. They seem to be amphibious, and will live for days out of water. They propagate very rapidly, and in the course of a year or two, it is fair to presume that the sloughs and rivers in this vicinity will be alive with them."[334]

1881 **(January 17)** In the Nevada Fish Commissioner's second biennial report, H.G. Parker noted more avoidance than compliance with respect to the installation of fish ladders. He also seemed to intimate that so long as fish ladders would not be constructed, he should not be expected to undertake fish plantings: "Complaints continue to come from [the] Walker and Humboldt Rivers of obstructions in the shape of willow and other dams. To all these complaints, I have replied by calling attention to our several statutes on the subject, and particularly to those of 1877, pages 55 and 141, which seem to be sufficient, providing those living in neighborhoods where these obstructions exist, would furnish the District Attorney with the evidence. Convictions have been had under this law, but when responsible persons residing in sight of these notorious obstructions and furnish no assistance to the law officers, it cannot be expected of the Fish Commissioner to provide fish to be killed in attempting to ascend the rivers for the purpose of spawning." The Fish Commissioner specifically noted his compliance with the duties assigned to him: "All the duties required of me by Section 3 (see March 5, 1877 entry) have been fully carried out, and some twenty notifications under the same section have been addressed to parties complained of during the past two years. The appropriation being restricted to 'stocking the waters of this State with fish', I have been prevented from rendering financial aid to District Attorneys in making long and expensive trips, when I believed that by such expenditure for prosecutions, the fish interests of the State would be benefitted and a wholesome precedent established, or rather a determination manifested to carry out the law." Parker also noted the dilemma that strict universal enforcement placed him in: "It must not be expected, neither can we deny the rights of farmers to construct dams and irrigating canals. That up to the present time many of these dams and inlets to the canals are so constructed, or lack such proper construction, as to be destructive of fish I have indisputable evidence; but what recommendation to make to correct this abuse, other than a 'rigid enforcement of the law', I am at a loss to say, unless it be the creation of a State or County officer, or say, make the County Assessor ex officio fish

inspector, with a small salary, but sufficient to keep him on the alert for violators of the law, to bring them to punishment and to remove obstructions."[335]

1881 **(January-May)** Sustained periods of warm rains on heavy winter snowpack at lower elevations was experienced in the Battle Mountain sub-basin. Little runoff resulted from the sub-basin's upper elevations as the rain turned to snow. However, extensive flooding occurred along Kelly Creek and throughout Squaw Valley, and all the reservoir dams constructed less than a month previously in these areas by the English-owned Nevada Land and Livestock Company, Ltd., were completely destroyed. These structures were never rebuilt and in 1884 the company constructed the Willow Creek Reservoir to irrigate Squaw Valley.[336] This represented the first record of damages due to flooding in the Little Humboldt River sub-basin. Previous floods were noted in 1861-1862 and 1867-1868, but no reports of damages were made at those times. In this flood, however, reports showed that mines were flooded, mill dams and roads were washed out, bridges were damaged and livestock and communications were lost. Gumboot Lake was formed on the upstream side of the Sand Dunes, which separate the Little Humboldt River from the main stem of the Humboldt River and typically prevents any surface water outflow from the sub-basin. While Cottonwood and Martin Creeks and the Little Humboldt River all overflowed, there was no breakthrough at the Sand Dunes and discharge to the Humboldt River main stem during this flood event.[337]

1881 **(May 16)** The *Reese River Reveille* (Austin) reported on itinerant sheep herds passing into the Humboldt River Basin: "…Kingston Canyon…The ragged and rocky nature of the mountain's sides form natural fastnesses, in which dwell deer and mountain sheep…It is estimated that not less than 100,000 sheep, en route from Southern California to Montana, have passed through [Big] Smoky Valley during the past three or four days, in separate bands…"[338] [Note: Traveling typically from the south to the north, sheep herds would pass up through Big Smokey Valley, then enter the Reese River Valley and the Humboldt River Basin by way of Kingston Creek and Kingston Canyon, which is located almost 20 miles south of Austin.]

1881 **(June 14)** In reporting on an "ocean" of sheep passing and foraging their way through the Humboldt River Basin, the *Silver State* (Winnemucca) noted that "J.H. Windle informs us that a flock of 125,000 sheep passed through west of Paradise Valley [the town] last Saturday. They are being driven from California to Montana, and those who saw them say there was a perfect ocean of sheep…"[339]

1881 **(June 23)** In commenting on the migration patterns and survivability of transplanted catfish, as well as noting the near demise of native trout, the *Elko Independent* reported that "Our former townsman, L. West and wife are in town from their ranch 50 miles north on the Cope [Mining District] road. Mr. West informs us that half grown catfish have made their appearance in the streams of that vicinity which empty into the North Fork of the Humboldt River, he having taken out several, but replaced them again in the stream in order that they might grow and multiply. As this species of the finny tribe has also been found in the streams fifty miles south of this place, near the county line, it is satisfactorily demonstrated that the efforts of [Nevada] Fish Commissioner Parker in this section, have been crowned with success. As none of the young fish planted in the main Humboldt [River] here by the commissioner two years ago, had been seen since in this part of the stream, it was feared that they had died or been destroyed, but it is now evident that they had merely gone on a tour of inspection with the view of exploring the ramifying [branching] tributaries to their respective

heads. The published account of the actions of the [Fish] Commissioner, has very generally informed the public of the object of the scheme, and thus far no desire has been manifested to thwart it by taking or destroying the young pouts [stout-bodied fish]. If this disposition to assist in the propagation of these fish be maintained through a couple of years more, our streams which have been nearly depopulated of their native trout, will afford more food and fun than ever."[340]

1881 **(July 20)** The *Reno Evening Gazette* insightfully reported that diminishing forage had reduced the Humboldt River Basin's ability to sustain the vast herds that once roamed its immense rangelands: "Cattlemen say that Humboldt County has less than half as many cattle now as it had five or six years ago. It had then nearly a hundred thousand head; now it has about forty thousand, and that is all it can support. The feed does not grow upon the hills, and it gets tramped down in the bottoms, weeds growing in its place."[341]

1881 With the waning fortunes at the (Virginia City) Comstock mines, Nevada's Twenty-Year Depression began.[342] Eventually, this depression (1881-1900) caused Nevada's population to fall by 32 percent from 62,266 persons in 1880 to only 42,355 persons by 1900. The Humboldt River Basin's counties (Elko, Eureka, Lander and Humboldt – Pershing County was part of Humboldt County until 1919) showed a decline in population from 19,906 persons in 1880 to 13,639 persons in 1900, representing a decline of 6,267 persons, or 31.5 percent.[343]

1881 **(September 1)** Probably evidencing an exaggeration in hunting techniques, but perhaps not in terms of hydrologic conditions, the *Silver State* (Winnemucca) noted that "Mr. Butler, of Brown's Station, informs the *Reno Gazette* that Humboldt Lake has receded seven feet in three months. Game is very plenty there at present, and ducks and geese may be killed with a club."[344]

1881 **(October 20)** As reported in the *Silver State* (Winnemucca): "The Indians are doing a lively business nowadays shooting ducks and geese, for which they find a ready market here and at other places along the railroad. Mallard and canvass-back ducks sell for four bits [$0.50] a pair, and fat geese for as much each. The red men from near the sink of Humboldt sometimes bring swans to town, for which they ask seventy-five cents a piece, but ducks constitute their principal stock in trade, as they are very plenty along the river."[345]

1881 **(November 7)** In noting the "Indian hunting grounds," the bounty of the area at that time, and the extensiveness of the Indians' operations, the *Silver State* (Winnemucca) reported that "The Indians are now living on the fat of the land in the western part of the county [Humboldt County, this portion of which became Pershing County in 1919]. [Paiute Chief] Naches informs us that the sink of Humboldt [River] is alive with ducks, geese, swans and other edible water-fowl. They [the Indians] have sixty tule boats on different parts of the lake…seldom failing to kill a half-dozen ducks, or two or three geese with one shot."[346]

1882 **(January 28)** The *Battle Mountain Messenger* confirmed the fact that forage conditions in the Humboldt River Basin had deteriorated, thereby reducing sustainable livestock numbers: "A few years since cattle went down to bed-rock prices, by reason of overstocked ranges and oversupplied markets. In Nevada, more particularly, the ranges were so eat out [sic] that stock raisers were compelled to dispose of their herds at destructive prices, or remove them to other localities at heavy expense…"[347]

1882 **(February 3)** In attempting to better understand the propagation patterns of native trout, the *Lander Free Press* (Battle Mountain) noted that "If we should have as high water in the river

this season as last we may expect a great increase in our trout supply. The Indians say, "Heap water, heap trout". The Indians are correct on this proposition as was proven last year. For five years of drought prior to last year trout were very scarce, but last year we had high water and they were quite plenty…many years ago the river was abundantly stocked. There is no question but that the droughts have had some effect, as well as the use of giant powder [explosives]."[348]

1882 **(February 27)** In another report on fish planting, the *Reese River Reveille* (Austin) reported that "T.W. Triplett, now owner and occupant of what is known as the Van Patten Springs Ranch, some thirty miles northwest of Austin, has ordered from California a lot of carp fish, to be planted in a pond on the ranch, already containing a large number of catfish. In the course of two or three years Mr. Triplett expects to be able to supply Austin and the surrounding country with all the fish required, of the kind named."[349] This represented the first recorded mention of the acquisition and/or planting of carp in the Humboldt River Basin. There was, however, a subsequent reference to an earlier carp planting sometime in 1880 (see September 18, 1883 entry).

1882 **(April 27)** The *Territorial Enterprise* (Virginia City) reported that the expansion of the Humboldt Lake was encroaching on bordering ranches: "Humboldt Lake, or Sink, as it is frequently called, is higher than it has been for some time. Where a few years ago a person could walk for miles on solid, dry earth, there is now several feet of water…Its size has been increased by a dam at the foot of the lake, where there is an outlet for the waters to the alkali deserts which extend the sink of the [Humboldt] river. This dam was built by Oneida Mill Company, some years ago, for the purpose of utilizing the water in running a quartz mill. It is estimated that backwater caused by the dam overflows 20,000 acres of land. The (Winnemucca) *Silver State* says: The General Government, the State and the railroad company – all of whom are interested in the matter – ought to buy out the right of the mill company, take away the dam and reclaim the thousands of acres of land which are now overflowed by letting the lake get down to its normal level. W.C. Pitts moved on to a part of this land near Brown's Station, this spring, for the purpose of cultivating it. The high water in the river raised the lake and Mr. Pitts had to abandon his farm and lose what improvements he had made on the place. H.C. Emmons, of Lovelock, expected to put in about 200 acres of grain on land adjoining the lake, but he finds that the water is rising so rapidly that much of his land is submerged."[350]

1882 **(May 25)** In describing the game fish found in the Reese River, the *Reese River Reveille* (Austin) noted that "Here in the Reese River section we have no lakes, but plenty of small mountain streams…the fish are all of the small brook trout variety, the largest weighing a pound or so, but most of them six or eight inches in length. They much resemble the regular Eastern brook trout in color and general appearance, are speckled, and have a faint red streak along each side [clearly indicating that this was not a brook trout but the Lahontan cutthroat trout species], but they are slimmer, and have white flesh…"[351]

1882 **(July 21)** In noting the effects of dams on the Humboldt River, the *Elko Independent* reported that "Some of the Palisade people are growling because a dam has been placed across the Humboldt River some ten miles below that place, and thereby stopping the trout from coming up the river."[352]

1882 **(July 28)** The *Reese River Reveille* (Austin) reported on another "Big Flock": "…14,000 sheep from Bakersfield…for Wyoming, arrived in Reese River Valley today…they are a

month behind the Keough flock (30,000), which passed through by way of Smoky Valley…"[353]

1882 **(September 25)** As reported in the *Reese River Reveille* (Austin) about a recent hunting trip: "Jim Finigan got back from his Humboldt River hunting expedition last night. He says the lower part of the river and lake [Humboldt Sink] is simply a broad wilderness of ducks, geese, plover, pelicans and all that sort of thing, and Dunn, MacMaster and himself shot all they wanted to…They could have killed a carload or two if they had seen fit…" In quantifying a successful hunt, specifically that noted above, the *Silver State* (Winnemucca) reported on September 27th that "The hunters from Lander County [Austin], who went to the sink of Humboldt [River]…F.W. Dunn…and A.J. Wright…returned on Sunday from a hunting trip of three days, during which they killed 500 ducks, mostly mallards and teal…The hunters shot and piled up the magnificent game until the sport seemed…no more than that of a slaughter. The ducks, they say, are fat and delicious." [As reported later in the *Battle Mountain Messenger* the group actually consisted of James Finnigan, F. McMasters, J.A. Wright and F.W. Dunn. The paper also noted that the ducks were so thick "that they can be killed with a club."][354]

1882 **(Circa)** In putting some of the sheep numbers in perspective, a number of newspaper reports appearing around this time reflected the size of the herds resident in Nevada or being driven through the state and the Humboldt River Basin: (October 17, 1882) The *Lander Free Press* (Battle Mountain) reported that "Three hundred thousand [300,000] sheep have been driven through Nevada to points east this season. They feed along the road and come out fat and good for mutton. Last year's drive was 380,000." (July 22, 1883) The *Elko Independent* noted that "Upwards of 10,000 sheep passed through Independence Valley last Saturday, on their way from California, to Idaho, Montana and Wyoming. It is estimated that over 100,000 have been driven through the valley during the present season." (August 7, 1883) The *Silver State* (Winnemucca) reported that "James Hurst, of Cane Springs, says that over one hundred thousand [100,000] sheep have passed through in that vicinity this summer going east…" (August 13, 1883) The *Silver State* (Winnemucca) noted that "L.D. Vary informs us that 139,000 sheep were driven past his place, at Bartlett Creek…this summer. They were being driven by their owners from California to Utah and Wyoming Territories and Colorado…"[355]

1883 **(January 4)** In his biennial report for the years 1881 and 1882, Nevada Fish Commissioner H.G. Parker reported on the success of a "moral suasion" program in his efforts to have fish ladders installed at all dams and diversion structures: "Only on [the] Walker River have I been informed of dams or other obstructions during the past two years. I attribute this regard for the law much to the success of the Fish Commissioner in stocking the streams, and requesting the settlers to 'give the fish a chance'."[356] (More realistically, it was not that fish ladders were universally installed and being maintained, only that people declined to report infractions and elected officials, especially district attorneys, refused to prosecute offenders.)

1883 **(March 24)** In a bit of frank and honest reporting on the plight of the Humboldt River Basin's water fowl, the *Battle Mountain Messenger* noted that "On Tuesday a party started for the White House, for the purpose of *exterminating* ducks, geese and cranes. They bagged about 60 ducks, 4 geese and 1 crane…"[357] [Emphasis added]

1883 **(May 22)** After not complaining year after year about excessive fishing and the resultant depletion of fish stocks by the whites, local residents seemed to become especially agitated over the actions of others as reported in the *Daily Morning Democrat* (Austin) that "We have

been asked to call the attention of the Fish Commissioner of this State to the fact that the Chinamen are catching all the catfish which were placed in the Reese River lately, and thus preventing the stocking of that stream with that kind of fish. No objection would be raised, were it not for the fact that the fish are all small and were put in for breeding purposes. The matter ought to be looked into by the proper parties." And then again on June 28, 1883, the *Daily Morning Democrat* made a call for action: "We have heretofore called attention to the fact that Chinamen are continually catching the young catfish…nothing appears to have been done…some complaint is made…Chinamen go down to the river at night time and catch the young catfish, as well as the bass, in nets…We trust that some of our sportsmen will take the matter in hand and prosecute these nightly marauders."[358]

1883 **(June 27)** Reflecting on the potential economic effects of flooding along the Humboldt River, the *Silver State* (Winnemucca) noted that "The last and only dam that was left in the Humboldt at Lovelock broke on Monday, leaving a number of the largest ranchers without water for irrigating purposes…"[359]

1883 **(September 18)** The *Silver State* (Winnemucca) reported on the introduction of non-native (exotic) fish species into the Humboldt River Basin: "John Harrison, of Big Meadows [Lovelock], has devoted considerable time and given much attention to fish culture. About three years ago he planted some catfish and carp in a slough on his ranch, and there are now myriads of young fish in that locality…A number of catfish weighing from one to two pounds each and carp that weighed from ten to twelve pounds each. He thinks he will be able to supply the people of Lovelock with brain food shortly…"[360] This 1880 referenced date represented the earliest mention for the planting of carp in the Humboldt River Basin.

1883 **(October 16)** As an indication of the attractive habitat and abundant wildlife that once characterized the Humboldt River Basin, as well as the excessive slaughter of native and migratory bird species, the *Nevada State Journal* (Reno) reported that "A party of Battle Mountaineers…Sink of the Humboldt…fifteen of them…Brown's Station…one hundred yards from the track where they will supply themselves with boats and Indians to row them about. This place is one of the best duck-shooting grounds in the United States in September, October and November. Last year a party of five bagged 652 ducks in two days [thereby averaging 65 ducks shot per day per hunter] and were strangers to the lake and not well prepared to shoot."[361]

1884 **(May-June)** This represented the most extensive period of flooding in the Humboldt River since 1861-1862. Austin, located in the Reese River sub-basin, was flooded on May 20 by a heavy rain-on-snow (i.e., wet-mantle) flood event at the head of Pony Canyon. A wall of water four feet high hit the Manhattan Mill and the sawmill and woodyard above the town. Not much damage was done in Clifton due to the rapid dissipation of the floodwaters, but Austin's main street was filled with mud, sand and debris from the mill area. On May 28 the swollen Reese River washed out the rail line of the Nevada Central Railroad at the Walters Ranch, located 40 miles south of Battle Mountain. The Reese River Valley between Ledlie Station, below Austin, and Silver Creek was described as a vast lake. In a relatively rare event, on June 17, 1884, the Reese River reportedly flowed into the Humboldt River, but there was no reported flooding in Battle Mountain.[362] In the Battle Mountain sub-basin, rapid snowpack meltdown and heavy spring rains caused extensive late-season flooding. By June 5, an area extending over thirty miles from Beowawe to Battle Mountain became one vast lake and many miles of railroad track between these sites were covered with water and

threatened with washout. The road bridge across the Humboldt River in Battle Mountain was severely damaged and had to be rebuilt.[363] Also as a result of this flood, the Utica Bullion Mining Company dam at the Humboldt dike (outflow of the Humboldt and Toulon Lakes) was destroyed for the third and last time. This "destruction", however, was not flood-caused, but "flood-induced". The dam, which when rebuilt in the spring of 1877 had been reinforced with 800 tones of rock, held all too well during this flood event, forcing the lakes to flood back up the Humboldt into the lower Lovelock Valley farm lands, inundating 1,000 acres of grain and alfalfa and threatening to flood much additional acreage as well. While legal action was begun in the Federal Court in Carson City to remedy this nuisance, some local ranchers, presumably aided and abetted by concerned railroad interests, blew up the dam on the night of June 24, 1884, after which it was never rebuilt.[364]

1884 **(May 8)** Reflecting additional affects of the worst flooding on the Humboldt River since 1862, the *Silver State* (Winnemucca) reported on "A Large River" based on high-water conditions: "The Humboldt [River], when confined within its banks, is perhaps the crookedest [sic] stream in the world. Persons who have given the subject some thought when sailing on the river, say if it was straightened out it would reach across the continent. Now all those crooks and bends are disappearing, the whole bottom, through which the river ordinarily winds, being covered with water…"[365]

1884 **(June 16)** Showing uncommon investigative journalism, as well as considerable mirth, it was reported in the *Reese River Reveille* that "Everybody was talking about a big fish, which Gus Bauer said had been caught down at Joaquin's [ranch]. It was said to weigh 40 pounds and was as big as a boy and as strong as a mule. Gus says it came from the Owyhee River [Snake River Basin, northern Elko County], through the Humboldt [River] and up the Reese [River]. The fish must have been quite a traveler, for to make that trip it would be necessary to climb over a range of mountains a distance of fifteen miles. But a little thing like that should not spoil a story."[366] [Actually, the upper reaches of the Owyhee River and the upper reaches of the North Fork of the Humboldt River are separated by less than two miles in places, but would still require a grueling terrestrial effort to effect the referenced migration.]

1884 **(June 17)** Noting both good hydrology and timely wildlife replenishment in the normally "landlocked" Reese River sub-basin, the *Reese River Reveille* (Austin) reported that "The fish in the creeks tributary to Reese River have steadily been decreasing of late years because they were not replenished and were caught faster than they increased. The Reese, this year, however, has extended to the Humboldt River and as a consequence the fish from that stream have found their way up this valley and will restock our finny tribes…"[367]

1884 **(June 17)** What was good for fish replenishment (i.e., high waters) in the Reese River Valley and the Humboldt River Basin (see above entry) was not always good for the local farmers. The *Reese River Reveille* (Austin), while simultaneously reporting on the beneficial effects of fish replenishment, also reported on the effects of a big dam being washed away: "Night before last the big dam on Walter Sheen's ranch in upper Reese River, was washed away. The present high waters prevents his rebuilding the dam and as the river is ten feet below his ranch…his meadow land is being drained."[368]

1884 Willow Creek Reservoir, located some 52 miles north and north-east of Battle Mountain, and fed by Lewis and Nelson Creeks, was constructed by the English-owned Nevada Land and Cattle Company, Ltd., for irrigation on its Squaw Valley Ranch (in upper Rock Creek). The original dam was 25 feet high, 175 feet long, and was faced on the reservoir side with three-

inch planks. It formed a reservoir one-half mile wide and two miles long, to irrigate 2,000 acres on the company's Squaw Valley Ranch. To facilitate irrigation operations and timed water releases, a 10-mile telegraph line was construction from the ranch to the dam site.[369] Under subsequent ownerships, including the Palo Alto Land and Livestock Company (formerly the Spanish Ranch) and the Ellison Ranching Company, the dam was enlarged and strengthened at various times to augment reservoir storage. For many years it was a prime trout fishery; however, repeated depletions of the reservoir's water in the 1950's, coupled with "roily" (turbid, muddy, agitated or disturbed) waters resulting from wave action on the silty bottom layers of mud, greatly reduced its value as a trout fishery since then.[370]

1884 **(July 5)** The *Silver State* (Winnemucca) reported how locals took matters into their own hands at resolving an objectionable structure along the Humboldt River (see April 27, 1882 and May-June 1884 entries): "Doctor Pollard arrived at Lovelock yesterday, and stated that several masked men…blew up the [Utica Bullion Mining Company] dam…which was built some years ago for the purpose of furnishing power for a quartz mill, obstructed the flow of water from Humboldt Lake…now, it is said, the whole country in the vicinity of White Plains is flooded…" On this same day, the *Reese River Reveille* (Austin) reported the formation of "A New Lake – The whole valley in the vicinity of White Plains is covered with water. A new lake, almost as large as the sink of the Humboldt, has been formed there by the rush of water from Humboldt lake since the dam was blown up. What injury, if any, has been done the Desert Crystal Salt Works, near White Plains, we have not been able to ascertain." (Subsequently, on January 28, 1886, the *Central Nevadan* (Battle Mountain) reported that "Ed Emmons and Bob Logan were found guilty last Thursday evening at Stillwater [Lahontan Valley, Carson River Basin] of blowing up the dam at the Humboldt Sink in June, 1884…" (Of particular interest with regard to this event was that it was a H.C. Emmons of Lovelock who reported in April 1882 at having his farmland submerged by the waters backed up by the objectionable dam.)[371]

1884 **(August 6)** As noted in the *Reese River Reveille* (Austin) on the effects of another well-above average water year: "The Sinks of the Carson and Humboldt river now meet on the desert – something that has not occurred for more than twenty years."[372] (Actually, only 16 years – see similar entry for January 16, 1868.)

1884 **(August 24)** As noted in the *Elko Independent* on the success of an introduced fish species: "Catfish are said to abound in the sloughs along the Humboldt [River] near Frank Clark's place, as well as here. The river seems to be well adapted to their propagation as the tributaries of the Mississippi [River]. Several of the fish, a foot or more in length, have been caught below Mill City [located above Lassen Meadows or Rye Patch Meadows]."[373]

1884 **(September 1)** An article titled "Millions of Carp" in the *Silver State* (Winnemucca) reported on additional plantings of non-native (exotic) fish species being introduced into the Humboldt River Basin's waters: "…Smelser, who has a cattle ranch at Summit Springs, twenty-eight miles south of Golconda,[374] built a reservoir…covers some fourteen acres of land. A year ago last winter he procured about five dozen carp from California and planted them…He says there are millions of young fish…and those hatched out a year ago last spring weigh from a pound and a half to two pounds each. He says carp is an excellent food fish, especially in the cool mountain waters of Nevada, and resembles perch somewhat in appearance and flavor."[375]

1884 **(September 15)** Supporting the rapid demise of fish stocks in the Reese River, the *Reese River Reveille* (Austin) reported that "Yesterday a party of Austin business men went down

to Joaquin's ranch to fish and though they were there but four hours they caught about 200 fish. Saul Rosling headed the score by catching 72. The fish seemed to regard it as an especial favor to be allowed to bite at his hook. The rest did pretty well however." Exacerbating the rapid extermination of fish populations, the *Reese River Reveille* subsequently reported on October 30, 1884 that "News reaches us that some parties have lately been down to the Reese River and have been using giant powder [explosives] in fishing. As a consequence large numbers have been killed and have floated off dead. Even little fish hardly large enough for sardines, have been found torn to pieces by this explosive. There is a stringent law against this habit, and if the culprits were known they should be punished. The State is spending considerable money to put new fish into our streams and our people ought not to destroy what will not do them any good and will kill all the fish."[376]

1885 **(April)** In the case of *Jones v. Adams* in which the 1870 lower court case of *Van Sickle v. Haines* was affirmed,[377] the Nevada Supreme Court formally approved the doctrine of "prior appropriation" for all the state's water supplies, rejecting an earlier (1875) lower court decision which had given recognition to the doctrine of riparian ownership along Nevada's streams.[378]

1885 **(July 31)** The *Silver State* (Winnemucca) reported on how the carp got into the Humboldt River: "Some years ago, G.W. Meacham, of Humboldt House, brought some carp from California and put them in a large slough on his ranch near the river…high water in the river washed away the dam, and, as Mr. Meacham supposed, the fish with it. A few days ago he dragged the mouth of the slough with a net [although seining was actually illegal] and caught nine carp, averaging about four pounds each…he wants the river stocked with the fish. He is now satisfied that carp will do well in the Humboldt, and that it is pretty well stocked with them in the vicinity of the slough where he caught the fish."[379]

1885 **(October 2)** In noting the trapping of local beaver populations, which originally opened this region to early explorers and fur trappers in November of 1828, the *Tuscarora Times-Review* reported that "Trappers caught about 300 beaver in Mary's River last winter. The undressed skins are worth about $3 each. They are beginning to catch them already and one man brought 70 head [pelts] to Deeth Station Tuesday. He says they are more plentiful than usual this year. Beaver are always found on the South Humboldt and other tributaries, and on the Owyhee River [Snake River Basin] and Goose Creek."[380]

1886 **(January-February)** Flooding and high waters were experienced along the entire Reese River from Austin to Battle Mountain from a severe rain-on-snow storm event which lasted from January 16-24. Floodwater, erosion and sedimentation damage was experienced along the entire Reese River drainage system. Battle Mountain was described as "a seaport town" from the effects of the combined floodwaters of the Reese and Humboldt Rivers, but the town itself was not flooded.[381]

1886 **(April 17)** Showing greater determination at protecting local fish populations from illegal practices, as well as an indication of another good winter of precipitation and/or snowpack, the *Belmont Courier* reported that "The fishing at the headwaters of the mighty Reese [River] will be good this summer. The big fish will come up from the Humboldt [River]. Any one found fishing with a net [seining] or a shovel [diverting fish into irrigation ditches] will be turned over to the fish association for treatment."[382]

1886 **(April 28)** The *Silver State* (Winnemucca) detailed the trapping results of an extended effort: "About the 20th of November last, Robert Kemp and William Wear…started out on a regular

trapping and hunting excursion…took some twenty traps…They coursed the Humboldt River for about forty miles up from this place…They returned home on April 1st, having been absent over four months…They brought home the skins of forty beavers, the most of which were very large…ten very beautiful otter skins; eight lynx…six coyote skins…twelve mink skins…one badger skin; twenty-four skunk skins of the large kind…and twelve muskrat skins…They propose to send their furs to the San Francisco market, and will realize quite a sum of money from the sale of them."[383]

1886 **(July 8)** In a more incredible than credible account of taste preferences, the *Silver State* (Winnemucca) reported on a comparison between trout and carp: "Colonel G.W. Meacham, some years ago procured some young carp and planted them in a slough on his ranch on the Humboldt [River]. The river overflowed and some of the fish escaped into the stream, and are now abundant in the river. Yesterday Colonel Meacham presented several of these fish to friends here, and the epicure of the *Silver State* thinks they are almost equal to the speckled Humboldt [Lahontan cutthroat] trout and *far superior* to the Truckee salmon [Pyramid Lake cutthroat] trout. They [the carp] propagate rapidly in the Humboldt."[384] [Emphasis added]

1887 **(May 10)** The *Elko Independent* reported on an irrigation "scheme" along Willow Creek, which is a tributary to Rock Creek: "The Nevada Land & Cattle Company has built a dam for storage of water for irrigating purposes on Willow Creek, near the boundary line of Humboldt and Elko Counties [actually, the Willow Creek Reservoir Dam is twenty-five miles east of the Humboldt County line]. The dam is built between two bluffs. The reservoir covers a large area, and will hold enough water to irrigate several thousand acres of land. The reservoir is now nearly full and makes a large lake. The water is intended for irrigating alfalfa in Squaw Valley where several hundred acres of that grass was sown a year ago."[385]

1887 **(June 17)** The *Silver State* (Winnemucca) noted a common practice of "riparian water right owners" forgetting about other water rights and water users along the Humboldt River, and indicated abusive irrigation practices and the need for a water-rights appropriation and enforcement system: "…G.W. Grayson, a large land and cattle owner at Beowawe [located about twenty-five miles upstream from Battle Mountain], has dammed the [Humboldt] river at that place, and turned out so much of the water that a large lake, twenty or twenty-five miles in circumference, has been formed on land that was heretofore dry and produced nothing but sagebrush, thus sinking the waters of the river into the porous ground of the valley…"[386]

1887 **(August 13)** Indicating how difficult is was to maintain a balance between the region's wildlife supply and its demand, the *Reese River Reveille* (Austin) reported on a fishing excursion: "The Reese River camping party [7 persons]…returned from their outing last night…The game and fish were not as plentiful as in former years, but for that the camp larder was always full, and 542 speckled beauties will attest to their skill as Nimrods…The last day nearly 300 fish were caught to bring to town for their friends…"[387]

1887 **(October 4)** In what would become a perennial complaint not only along the Humboldt River but the other major rivers of western Nevada (Truckee, Carson and Walker) as well, the *Elko Independent* reported that "It is suggested that steps be taken to put in fish ladders at the several dams in the Humboldt [River] and its tributaries, for the purpose of enabling the fish to get over them. The suggestion is a good one, as without some means more than the natural fall of the water many fish are killed and many more injured in their attempts to ascend the streams in the spring. Give the trout a chance."[388]

1887 **(December 7)** Showing a determined willingness to share in the financial expense of facilitating upstream migration of fish, the *Elko Independent* took a strong environmental stance and repeated their commitment to the construction of fish ladders: "We would again call the attention of those having dams, either in the Humboldt or its tributaries, to the importance of providing means, while the water is low, for trout to pass over such obstructions. It will require but little time or expense to put in ladders which will enable the fish readily to pass over such dams during the high waters of spring. We trust that this matter will be attended to as it will serve a good purpose in stocking the streams with this desirable food fish. We do not hesitate to say that anyone who will provide efficient fish ladders at any one of the dams above referred to will be reimbursed for any expense they may incur by those residents of Elko who take so much delight in piscatorial sport. We, for one, are willing to bear a share of the expense."[389]

1887 **(December 20)** Noting that wildlife "plantings" were not restricted merely to fish species, the *Silver State* (Winnemucca) reported on a shipment of wild rice seed which was sown along the banks of the Humboldt River: "…sent by Fish Commissioner Cary to the Silver State has been pretty generally distributed along the Humboldt River. A portion of the seed was sent to Lovelocks [Lovelock], Mill City and Golconda…" Subsequently, on May 3, 1888, the *Tuscarora Times-Review* reported on the surprising success of this effort: "Some alleged wild-rice seed sowed last year on the banks of the Humboldt river, produced a weed heretofore unknown in botany."[390]

1887 **(December 26)** The *Tuscarora Times-Review* reported on the introduction of another exotic species into the Humboldt River Basin: " Last Monday, C.H. Sproule, of the *Elko Free Press*, received a consignment of mud turtles from [Nevada] Fish Commissioner Cary of Carson [City]. There were twenty in the lot ranging in size from a man's hand to a soup plate. When transferred from their shipping box to buckets of water they stuck out their heads and claws in a lively manner. In the afternoon they were taken down to the lower bridge and put in the river near the warm springs, where the water is warm and the mud deep, and left to propagate."[391]

1888 **(June 13)** Reflecting the effects of the severe drought of 1888-89 and the poor rangeland conditions from extensive livestock grazing, the *Elko Independent* reported that "C.B. Leddick, of Lamoille, was in town last night and from him we learn that a number of the stockmen in that and neighboring valleys have been compelled, on account of the short range [i.e., drought conditions], to drive their cattle north into Idaho. The public lands, which are worthless except for stock range, have been grazed for years and the consequence is that they have been used to such an extent as to become practically valueless even for pasture, and the result is that stockmen were compelled to move their herds in order to save them; and the public lands have therefore become valueless for any purpose…"[392]

1888 **(July 6)** Showing extensive over-fishing in the Reese River and its tributaries, the *Reese River Reveille* (Austin) reported that "The camping party [which consisted of 4 persons] returned here between 1 and 2 o'clock this morning, bringing in with them about one hundred and fifty fish…the fish bite well and there is plenty of them. [They were at the headwaters of the Reese River.] A week later (July 13, 1888) the same newspaper reported the success of another expedition: "The camping party has returned from [the] Upper Reese River…these two men hooking some three hundred [trout]…" And the following month (August 25, 1888) the *Reese River Reveille* again reported on successful efforts to "depopulate" the trout from

streams in this area: "…returned from their camping trip last night [Upper Reese River]. They report catching in the neighborhood of seven hundred fish…They brought home with them three hundred fish to give to their friends, but two hundred of them spoiled for the want of ice to pack them in…"[393]

1888 The Young diversion dam was constructed in this year in the lower Lovelock Valley, along with the Pitt Dam in the upper Lovelock Valley. Since the first cultivation in the lower valley up until this dam's construction, the lower portion of the Lovelock Valley was the agricultural mainstay of the entire Big Meadows area. Its grain and alfalfa crops were far richer and more productive than those of the upper valley. However, as the upper valley became more settled and cultivation in that section increased, the upper valley's irrigation tailwaters draining into the lower valley kept the soils there more saturated and continually increased their salt content. This began a process of declining agricultural productivity in the lower Lovelock Valley which eventually prompted efforts to drain and dredge the lower valley beginning in 1915.[394]

1888 **(November 24)** Noting bad times for hunters due to variable hydrology and the conversion of wetlands to irrigated pasture, the *Silver State* (Winnemucca) reported that "Usually at this season of the year there were plenty of ducks and geese along the Humboldt [River] and hunters killed wagon loads of them and the Indians carried on a profitable trade supplying the market with canvas backs and mallards. This year the river is almost dry and water fowl, returning from the north, do not stop in this vicinity in consequence of the scarcity of water, and neither whites nor Paiutes kill many ducks."[395]

1888 **(December 20)** In an interesting account of what were actually feral (escaped) hogs, the *Central Nevadan* (Battle Mountain) reported that "The wild hogs in the tules along the Humboldt [River] are suffering from the onslaughts of the many in search of pork for the holiday. Two of the wild boars were sold in town Monday, one weighing 200 pounds, and brought five cents a pound."[396] This area above Battle Mountain, all the way up to Argenta, was the original Argenta Marsh. This extensive area consisted of marshes and wetlands with nearly impenetrable willows and ideal habitat for fish, waterfowl and wildlife of all kinds.

1889 **(February 9)** From the "Biennial Report of the Nevada State Fish Commission for the Years 1887 and 1888", the extent of stocking the Humboldt River is better assessed: "In the spring of 1887, I procured 300,000 Lake Tahoe trout eggs at Incline, on the northeast shore of Lake Tahoe; these were successfully hatched at the State Hatching House in Carson City, and distributed as hereafter shown: (1) June 2, 1887 – Liberated in Humboldt River (20,000); (2) August, 1887 – Liberated in Humboldt River (50,000); (3) August 26, 1887 – Shipped to Paradise Valley [Little Humboldt River] (20,000); (4) September 12, 1887 – Shipped to C.H. Sproule (Elko) (150,000); (5) September 19, 1887 – Liberated in Humboldt River (60,000). In the fall of the same year…establish a station on Marlette Lake…Here I procured about 500,000 eggs [Eastern brook trout], which were hatched in Carson City…were distributed as follows: April 15, 1888 – To Governor Davis for Humboldt County (30,000)." [397] This appeared to be one of the first recorded fish stocking of brook trout in the Humboldt River.

1889 **(March 9)** The Nevada Legislature enacted Chapter 113 of the Nevada Revised Statues, a very lengthy and comprehensive act designed to regulate the use of water for irrigation and other purposes, to settle the priority of water rights, to provide for the condemnation of land for reservoirs, to record claims to water rights, and to appoint water commissioners. The act, which contained 33 sections, clearly indicated the state's increased interest in enhancing the

control and use of water for irrigation purposes brought about by the great expansion of irrigated lands along the Truckee, Carson, Walker, Humboldt, and Muddy Rivers, their tributaries, and many smaller streams. Of importance was Section 9, which required that any water user make a filing prior to September 1, 1889, under oath, with the proper county recorder, giving the pertinent data regarding his diversion and use of water. The county recorders were required to prepare an index book of such water claims.[398] This chapter (Chapter 127) was subsequently repealed by the 1893 Nevada Legislature.[399]

1889 **(April 29)** Evidencing the early signs of rural Nevada's sense of exclusion and isolation, the *Reese River Reveille* (Austin) questioned the state's fish stocking policies: "The Fish Commissioner is sending brook trout all over the State to be stocked in the streams. We have not heard of any being sent here and we would remind him that at the head waters of the Reese River, there is plenty of opportunity for trout to live and grow fat. Mr. Fish Commissioner, Reese River is in the State, but from your silence, we take it, that you are not aware of the fact."[400] While true, brook trout stocking was evidently done in Humboldt County (see February 9, 1889 entry).

1889 Due to growing controversy over water rights issues, particularly on the Humboldt River, the Nevada Legislature provided a means for determining individual water rights. The 1888-1889 period represented extreme drought years in the Humboldt River Basin and throughout the Great Basin. The inability of lower Humboldt River irrigators to receive sufficient water due to extensive upstream diversions tested the recently passed Nevada water regulation act. This act was designed to regulate the use of water for irrigation and other purposes. It was modeled after Colorado water law and imposed a self-regulating system by dividing the state into seven irrigation districts by major drainage basins. Each basin had a water commissioner who had the authority to decide individual water entitlements within their districts. The act required that all water rights be filed with each county recorder by September 1, 1889, reserved unappropriated water to the state, and prevented enlargement or the construction of irrigation works without the expressed permission of the respective water commissioner. Not unexpectedly, individual water claims were typically wildly exaggerated and far exceeded the capacity of most streams.[401]

1889 A repeat of drought conditions in the Humboldt River Basin forced downstream users to file a suit over water rights and test the recently passed (March 9, 1889) Nevada water law to regulate individual water rights. P.N. Marker, et al., filed suit in Humboldt County on behalf of Lovelock farmers (Pershing County was still part of Humboldt County at that time) against some 540 Humboldt River Valley irrigators specifically asking that all Humboldt River water rights be determined (i.e., adjudicated). The basic issue involved was the enforcement of the prior appropriation doctrine of water rights, which would have favored the lower Humboldt River irrigators, over riparian water rights, which were being claimed by upstream ranchers, particularly in Elko County. The ranchers in Elko County argued against such a settlement (i.e., the adjudication of water rights) claiming that the 1889 water regulation statute was unconstitutional. Judge A.F. Fitzgerald agreed with this argument and therefore the basic issue over riparian water rights versus prior appropriation water rights was never considered. The state's initial attempt at a statewide water law was subsequently repealed by the Nevada Legislature in 1893 and no effort was made to enact something in its place until 1905.[402]

1889 **(July 10)** In a case of human activities jeopardizing wildlife protection, the *Silver State* (Winnemucca) reported that "…Summit Springs…situated in mountains about eighteen or

twenty miles south of Golconda. They supplied an artificial lake [i.e., reservoir], which was stocked with carp, but the evaporation was so great that it affected the flow of water, and Mr. Smelser sacrificed his fish for a better supply of water for irrigating purposes."[403] (See earlier September 1, 1884 entry on the original stocking of this reservoir with carp.)

1889 **(July 25)** Reporting on a commendable act of wildlife preservation during low-water conditions along the Humboldt River, the *Central Nevadan* (Battle Mountain) reported that "What is known as the big slough [i.e., the Big Slough, or Argenta Marsh], extending from the lakes, near Argenta [located some 10 miles upstream from Battle Mountain], a distance of fourteen miles down the river, has become dry and fish of all sizes are perishing for the want of water. Several of our citizens went down there yesterday and hauled a number of seine loads over to the river and planted them in deep holes of water, where it is thought they will live. Our informant says there is no trouble in catching, with the hand, carp and catfish in what little water remains in the slough." Confirming these stressful hydrologic times, one week later on August 1, 1889, the *Central Nevadan* reported that "The Humboldt River is almost entirely dry at this point and old timers say they have never seen water so scarce in the mountains." And one week after that report, on August 8, 1889 the *Central Nevadan* noted that "The bed of the Humboldt River is as dry as tinder under the big bridge near town, where formerly at least four feet of water passed." Nearly one month later, however, the newspaper apparently discovered part of the problem, reporting on September 5, 1889 that "The Humboldt [River] is now dry, up to Rock [Creek] dam, above which the water is backed [up] and presents a large surface."[404]

1889 **(September 14)** Probably inadvertently providing an insight into hydrologic conditions of the unregulated (pre-Rye Patch Reservoir) flows in the lower Humboldt River, the *Silver State* (Winnemucca) noted of the area that "Wild ducks are said to be quite numerous on the river five or six miles above town. There is no water in [the] western Humboldt [River Basin], the Humboldt lake being dry and the only pools of any consequence in the river in this vicinity are five or six miles from own."[405]

1889 **(Winter)** The "White Winter" of 1889-1890 was especially severe on large cattle ranching operations in the upper Humboldt River Basin's sub-basins as ranchers recognized the need to better manage open-range livestock grazing operations and particularly provide more winter feed. This winter, with its enormous livestock losses, effectively brought to an end the practice of open-range grazing operations during the winter months without the use of supplemental feeds. By one account, it was noted that after the hard winter of 1889 and 1890, one supposedly could walk from Wells, Nevada for 100 miles to the Mary's River fork of the Humboldt River and never step off the carcasses of cows that died during this winter.[406] From this time forward, the cultivation of irrigated native grasses and alfalfa hay for winter livestock feeding became a major agricultural pursuit throughout the entire Humboldt River Basin.[407] This requirement, however, only intensified issues over Humboldt River water rights as now the basin's ranchers were forced to increase their irrigated acreage and forage through even greater irrigation diversions and multiple hay croppings throughout the growing season. In the North Fork of the Humboldt River sub-basin, and especially in the North Fork-Beaver Creek-Bruneau region, the resultant heavy losses of livestock during this period caused a drastic curtailment of the large Murphy-Morgan Hill cattle ranching interests. This operation had been established in the early 1870's by Dan Murphy, a son of Martin Murphy of the 1844 Stevens-Murphy-Townsend emigrant party.[408] In the Battle Mountain sub-basin, the English-

owned Nevada Land and Cattle Company, Ltd., owners of the Squaw Valley Ranch and builders of the Willow Creek Reservoir (see 1884 entry) went bankrupt when the severe winter weather produced livestock losses of an estimated 98 percent. Their holdings were eventually sold in 1895 to Herbert Guernsey of Elko.[409]

1890 **(January 16)** In noting the effects of the "White Winter" of 1889-1890 and a general lack of forage for livestock, the *Tuscarora Times-Review* noted that "Down on the river the willows on the stream have been eaten off by the cattle as high as they can reach. Up to some six or seven feet there is scarcely the vestige of a leaf, twig or even a branch on the trees less than an inch in thickness, so cleanly have they been eaten off by the famishing animals."[410]

1890 **(Circa)** The "White Winter" of 1889-1890 had a profound and long-lasting effect on open-range grazing operations in the upper Humboldt River sub-basins. After the disastrous cattle losses during this period, sheep herds began to move into the North Fork of the Humboldt River sub-basin. By 1906 several large sheep outfits had bought, leased or homesteaded enough key acreage (around springs or along stream channels) to control the summer range in not only the Independence Mountains but also the high country formerly used as the Murphy-Morgan ranches' summer range around Gold Creek and the headwaters of the Bruneau River. By 1911 sheep ranchers had homesteaded the lower Beaver Creek area, thereby controlling virtually all of the former cattle range in this area of the North Fork sub-basin. The huge number of sheep using this sub-basin quickly reduced it from a well-vegetated range covered with desirable perennial grasses and forbs to its present sheet and gully erosion-raddled state.[411]

1890 **(February 8)** In reporting on a bountiful snowpack and far above normal water year, as well as the eventual disastrous release of that pent-up water into the basin's streams, the *Tuscarora Times-Review* reported that "For the second time in the last quarter of a century, [the] Reese River flows into the Humboldt [River]. In ordinary seasons it sinks in the canyon about twenty miles from Battle Mountain." And along the Humboldt River main stem, other reports of high water levels were in evidence. On April 3, 1890 the *Central Nevadan* (Battle Mountain) reported that "Thousands of ducks may be seen on the lake formed by the overflow of the Humboldt [River]." One month later, on May 3, 1890, the *Silver State* reported on the formation of a lake in Grass Valley [to the south of Winnemucca and along Clear Creek]: "Frank Muller says there is quite a lake forming in Grass Valley at the sink of Record Creek. It is over a mile long…" And shortly after that, on May 7, 1890 the *Elko Independent* reported that the [Humboldt] river was continuing to rise: "The Humboldt is over the bottoms now, and dams no longer interfere with its flow. The warm weather is causing it to rise steadily."[412]

1890 **(March-June)** In May 1890, high waters on the South Fork of the Humboldt River from the melting of the accumulated snow from the "White Winter" (also referred to as the "Winter of White Death" due to its disastrous effects on livestock) washed out the South Fork bridge on the Telegraph (Hill Beachey) road, one of the two main north-south roads through Huntington Valley between Elko and the White Pine mines. Also, at this time, the South Fork bridge at Twin Bridges on the other Elko-White Pine main route was so dangerously undermined that it had to be closed for extensive repairs.[413] In the Maggie Creek sub-basin, both Maggie and Susie Creeks flooded, contributing to the inundation of the low-lying areas of Carlin.[414] Along the Reese River there was considerable livestock loss from drowning, miring and starvation, and the Reese River entered the Humboldt River at Battle Mountain.[415]

In the Battle Mountain sub-basin, heavy cattle losses resulted from both the heavy snows and subsequent flooding, eventually forcing the Nevada Land and Cattle Company, Ltd. (Squaw Valley), into liquidation.[416] In the Little Humboldt River sub-basin (Paradise Valley), there was large loss of livestock, although property damage reportedly was negligible. Gumboot Lake formed on the upstream side of the Sand Dunes and the river broke through to the Humboldt River main stem. Deep snow drifts packed canyons at the head of the Little Humboldt River nearly as solidly as ice and were measured up to 100 feet deep in places. Paradise Valley was one large sheet of water.[417] In the Lovelock Valley area, irrigation installations and diversions were particularly hard hit during this flood event. Of Lovelock Valley's five permanent irrigation diversions along the Humboldt River – Young, Pitt-Hauskins, Irish-American, Marker, and Marzen systems – the Pitt Dam and the Marker Dam were completely washed away.[418]

1890 **(April 5)** Reporting on just a small portion of the effects from flooding on the Humboldt River system due to the "White Winter" runoff, the *Silver State* (Winnemucca) reported on a number of dams being washed out: "Several dams up the river have been washed out. In some instances the water has cut a new channel, leaving the dam high and dry. This is the case at Dunphy's big dam near Argenta."[419] The presence of so many dams along the Humboldt River during this period may also help to explain the river's tendency to move its channel so frequently.

1890 From this time and continuing until the passage of the Taylor Grazing Act in 1934, the lower and middle reaches of the Humboldt River Basin, particularly around Winnemucca, were visited by "countless thousands" of migrant sheep. Many such herds passed through Grass Valley (south of Winnemucca) en route to and from their summer ranges in the Sonoma, Santa Rosa, the East Range, Humboldt Range, and other higher elevation pastures. According to newspaper articles at the time, this continual procession led to the trampling out or overuse of the once verdant ryegrass meadows in Grass Valley, to the point where only a few scattered meadows remained. Worse, the high summer ranges in the nearby mountains, particularly the Sonoma and Santa Rosa ranges, were treated especially harshly by transient sheep operators. Many of the more recent disastrous canyon and valley floods have been attributed to damage evident in the high mountains in this part of the Humboldt River Basin that is a result of this past range and watershed abuse.[420] Contrasting the rapid degradation of these areas has been the extremely slow rate of recovery of the natural vegetation due to the inherent arid conditions.

1890 **(May 8)** Noting the need for more storage on the Humboldt River main stem, but apparently overlooking the Humboldt Sink's role as an important wetland and bird and wildlife habitat, not to mention the area's role as a historical source of food, the *Silver State* (Winnemucca) newspaper reported on "Water Going to Waste" by letting it continue to the river's terminus: "There is now sufficient water running into the Sink of the Humboldt to irrigate the whole Humboldt Valley for several seasons if it could be stored for that purpose. When the water once reaches the sink it is useless for all purposes…"[421]

1890 **(June)** Nevada's 1889 Water Law (see March 9, 1889 entry) was declared unconstitutional by Judge A.F. Fitzgerald of the District Court in Humboldt County (Winnemucca). In a petition of constitutionality filed before the Nevada Supreme Court on behalf of water users on the Humboldt, Truckee, and Carson rivers, the law's validity was questioned on several grounds, the primary one being that it was a special law in a case where a general law can be

made applicable.[422]

1890 **(June 18)** In addition to large cattle and sheep herds, the bench lands and open grassy ridges in the Maggie and Susie Creek watersheds also sustained extensive herds of horses in this early period of range use. On this date the Winnemucca *Silver State* newspaper reported that approximately 650 head of horses had perished in the snows of upper Maggie and Susie Creeks during the "White Winter" of 1889-1890.[423]

1890 **(July 17)** The *Silver State* (Winnemucca) reported on the changing fisheries in the Humboldt River: "Very many people spend a few hours fishing every day. The river is said to be alive with carp and catfish, not only dozens, but hundreds of which are caught daily. Originally chubs and trout were the only edible fish in the Humboldt [River]. Catfish and carp were put in the stream some years ago, and are now much more numerous than the others."[424]

1890 **(November 26)** Located three miles south of the Humboldt River and some fourteen miles northwest of present-day Battle Mountain, the first post office here was established as Stone House (located south of present-day Valmy). The site was later used by the Southern Pacific Railroad Company as a section point in 1910, while the location's name was changed to Valmy March 24, 1915 after the Battle of Valmy in France. Overlooking the old California Emigrant Trail, Valmy's historical significance preceded the arrival of the white man.[425] Treaty Hill, some six miles north-northwest and across the Humboldt River from this site, marked an important division point between the Paiute lands to the west and Western Shoshone lands to the east. For generations this area was the scene of countless Indian battles over two springs. Treaty Hill marked the site where peace was eventually concluded by compromise when two chiefs sat down and divided the springs and the territory between the warring tribes.[426]

1891 **(February 23)** In a revelation of the true palatability of the carp in the Humboldt River [contrast with July 8, 1886 entry], the *Silver State* (Winnemucca) more candidly reported that "The *Silver State* acknowledges the receipt of the report of [Nevada] Fish Commissioner George T. Mills. In his report Mr. Mills, in speaking of carp, says 'In the Humboldt River near Winnemucca, Nevada, they abound in great numbers, weighing five pounds and upwards. They are found in the Winnemucca markets and [are] considered quite a delicate [i.e., tasty] fish.' We would like to know where the Fish Commissioner received his information, and from whom, about the carp being found in the Winnemucca markets. They are considered in [the] Humboldt a course, dry fish that nobody will eat, not even the Chinamen, and entirely too much so for an Indian to look at, much less eat. The Commissioner is mistaken. Humboldters have no liking for carp."[427]

1891 **(April 9)** The *Central Nevadan* (Battle Mountain) reported on one probably unforeseen effect of the coming of the railroad: "Eight years ago wild game was abundant on the [Humboldt] river and wild ducks in large numbers inhabited the sloughs. The building of the narrow-gauge railroad south, which brought to Battle Mountain railroad officials, crack-shots, with nothing to do but hunt, resulted in killing, or driving away, the game, so that for the past eight years hunting along the river has been a tame affair. The dry seasons also had a bad effect, but since 1889 an improvement is noticeable, especially this season. Flocks of 3,000 ducks, completely covering the water wherever feeding, have been seen in the past week."[428]

1891 **(May 7)** In what might have been the effects of tremendous runoff from the "White Winter" of 1889-1890 and beavers being washed downstream from the Humboldt River Basin's upper watersheds, the *Central Nevadan* (Battle Mountain) reported that "Beaver and otter are in

larger numbers on the Humboldt River than those unacquainted with the stream and its animal inhabitants are aware. An experienced trapper informs the editor that in his opinion there are ten thousand beaver in the sloughs and main channel…At Robert Henderson's ranch, near Stone House, the beaver are thick and several dams are to be seen…sustained much damage, and…gave an expert the privilege of trapping on his place. Traps were placed and thirty-four beaver caught, the fur of which brought $200 in the Chicago market…Several beaver lodges can be seen in the big slough [i.e., the Big Slough, or Argenta Marsh], a mile north of Battle Mountain."[429]

1891 **(May 23)** The *Elko Free Press* reported on stocking of trout in the upper Humboldt River: "Byron Close, Deputy Fish Commissioner, arrived from Carson [City] Tuesday morning with 80,000 young Eastern brook trout for the Humboldt River…They were planted in the river above the iron bridge…A second invoice arriving here yesterday morning with upwards of 50,000…They were distributed to different parts of the county, Joe Triplett taking a can for Rabbit and Spring Creeks, Joe Lang a can to upper South Fork, Bartlett a can to lower South Fork, Dawley a can for Ruby Valley, Bruce two cans for Jackstone and the river at his place and Osino, McPhetres a can for Weiland's, and Bradley a can for [the] Mary's River."[430]

1891 Annual National Irrigation Congresses began to be held in major western cities as a recognition that irrigation projects represented the salvation for the settlement of arid lands in the West. These meetings typically ended with a petition to the federal government to provide assistance in this "reclamation" effort, in a manner similar to the various Congressional homestead acts. It was strongly suggested that it was the federal government's obligation to provide water to arid Western lands so that they could be settled and farmed on the same advantageous basis.[431] In the Humboldt River Basin, these efforts would eventually bear fruit when Rye Patch Dam and Reservoir was constructed in 1935 as part of the U.S. Bureau of Reclamation's "Humboldt Project".

1891 **(August 21)** In noting one positive effect that farming was having on eliminating the distasteful carp (and, no doubt other more valuable fish as well) from the Humboldt River, the *Silver State* (Winnemucca) noted that "Among the tule-clad swamps on Big Meadows [Lovelock], there are millions of ducks, geese, carp and mosquitoes…There are any quantity of blackbirds and turtle doves. When the ranchers change the water from one ditch to another a person can go along the empty ditches and actually fill barley sacks with carp of the very best quality."[432]

1891 **(September 6)** In describing the vast emptiness that characterized much of Nevada even as late as the twentieth century, the *People's Advocate* (Austin) noted that "…from [Austin] 56 miles to the head [of the Reese River] there are no human inhabitants, except the occasional camping party, that seek the haunts of the grouse, sage hen and mountain trout that are so plentiful in the rugged canyons at the upper end…"[433]

1892 **(March 4)** In an article titled "Destructive Carp", the *Silver State* (Winnemucca) attempted to establish a direct linkage between the introduction of this particular exotic fish species and its effects on native species, particularly trout: "Several years ago carp were planted in the Humboldt River. At that time trout were plentiful in the river, the fish [Humboldt River Lahontan cutthroat trout] being superior in quality to Truckee [Pyramid Lake cutthroat] trout. The muddy and sluggish waters of the Humboldt seemed to be just the thing for the propagation of the valueless carp, and they increased in numbers so rapidly that the river is now alive with them. With the increase of carp, trout have entirely disappeared from this part

of the river, various causes being assigned for their disappearance. It was thought by some that the carp devoured the spawn of the trout, but the more plausible explanation is that the latter fish have been starved out by the carp and catfish …" [The article went on to provide a reference and comparison to a similar situation in California.][434]

1892 **(December 31)** In a partial recognition that with current human demands placed upon it, the Humboldt River would never again be self-sustaining in the propagation of its native or introduced trout populations, the *Elko Free Press* reported on "Stocking the Humboldt": "During the past few years a noticeable decrease in the number of fish in the Humboldt river, has taken place, notwithstanding the fact that several hundred thousand young trout have been put in the river during that period. Heretofore the young fry have come from the State hatchery at Carson [City]…communicated with Fish Commissioner McDonald at Washington…final receipt of 5,000 fine black spotted trout last week…the start made will probably lead to future receipts of trout from the east."[435]

1893 The Sherman Silver Purchase Act was repealed resulting in the demonetization of the metal and its curtailment in use in U.S. currency (coins). This brought to a virtual standstill prospecting and mining activity in the Humboldt River Basin that had actually been declining throughout the 1880's.[436] By 1896, silver production had declined sharply in the Reese River sub-basin's mines and throughout the rest of Nevada. In and around Austin, during its peak period, silver production was only second to that of Eureka and the Comstock (Virginia City) mines. Estimates show that between 1862 and 1902, Austin area's mines had produced some $50 million in silver with Austin becoming known as "the mother of mining camps."[437]

1893 **(June 1)** The *Silver State* (Winnemucca) noted that residents were practically ready to resort to drastic (and illegal) measures in order to exterminate the carp in the Humboldt River: "The United States Fish Commissioner's [railroad] car passed through here yesterday. On board were over 100,000 muslalonge [sic[438]] fish for the waters of California…secured in the hopes that they will assist in exterminating the ravenous carp…would it not be wise to try and secure some of these fish to plant in the Humboldt [River] for the purpose of killing off the worthless carp? The "Hog" fish have taken all the sport from angling in this vicinity and if possible they should be exterminated."[439]

1893 **(July 15)** Expressing both hope and skepticism, the *Silver State* (Winnemucca) reported on the shipment of trout and the lingering threat to trout from carp: "A shipment of about 25,000 rainbow and Eastern brook trout arrived from the State fish hatchery at Carson [City] this morning. The fish were about a month old and were placed in the Humboldt [River] as soon as they arrived. About the same number of young fish were sent to Wells and Lovelock to be also planted in the Humboldt. This is the beginning of an effort to stock the Humboldt with trout, which have practically disappeared from the river in the past few years. It is doubtful if the attempt will succeed, unless some method is devised for destroying the ravenous and worthless carp which now infest the stream."[440]

1893 **(August 31)** Clearly indicating that fish stocking would be hard pressed to keep pace with the fish catching, the *Central Nevadan* (Battle Mountain) reported on one particular recent fishing excursion: "Bob Blossom, Ed Smith and Jim Blossom came in from Rock Creek [which enters the Humboldt River near Battle Mountain] this morning with 117 of the little speckled beauties, which they caught from 11 o'clock a.m. till 5 p.m. yesterday. This has been the largest haul that has been captured this year…It seems from now until the close of the season the Humboldt will be the center of attraction to the angling enthusiast. Fishing

parties from Lewis, Galena and also from Battle Mountain are of daily occurrence and most everyone that goes out comes back with a large number of the speckled beauties."[441]

1894 As a result of the disastrous effects on cattle herds during the "White Winter" of 1889-90, purebred cattle, primarily the Hereford breed, began to replace the Texas Longhorn cattle which were first brought into the Humboldt River Basin by Lewis R. Bradley in 1862. John Sparks of the immense cattle outfit of Sparks & Harrell, with operations from Wells, Nevada to Idaho's Snake River Basin, and also future Governor of Nevada from 1902 to 1908, became the principal early developer of the Hereford breed in Nevada. Even so, Joseph Scott of Scott & Hank, owners of the historic 71 Ranch near Deeth, Nevada in the Mary's River sub-basin, was actually the first to introduce Hereford cattle into Nevada in 1879.[442]

1894 **(August 18)** Congress approved what was commonly called the "Carey Act," which was expected to be a major milestone in the reclamation of desert lands in the Western states. The act's purpose was to aid the public-land states in the reclamation of desert lands, provide for the granting to each of the states containing desert lands an amount not to exceed one million acres, and direct that the states cause these lands to be reclaimed, occupied, and irrigated. It was further provided that 20 acres out of each 160 acres be cultivated by settlers within 10 years after passage of the act. With few exceptions, the Carey Act did not measure up to initial expectations.[443]

1895 **(April 29)** The *Silver State* (Winnemucca) reported on a recent fishing party and the extermination of an ally in the fight to extirpate the unwanted carp: "Yesterday morning…fish were quite willing to be caught…one of the most exciting events of the day was the killing of a monster pelican…The bird weighed thirty pounds and in the gullet or stomach, upon examination, was found a carp which weighed three pounds…The party can boast of having caught a gunny sack full of fish…" And in another article on the same day, the *Silver State* reported on a fish stocking to replace, hopefully, what had just been removed: "Yesterday morning Sheriff Hadley received 35,000 New England brook trout from the State fish hatchery at Carson [City]. The fish were in fine condition, there not being a dead one in the number. Mr. Hadley placed 20,000 of them in the Humboldt [River] at this place, and sent D. Cordano with 10,000 to plant in Willow and Rebel Creeks. The remaining 5,000 were put in Rose Creek [located some 10 miles southwest of Winnemucca at the northern end of the East Range]. The Sheriff expects to receive a lot of rainbow trout in July and has been informed that fish will be sent hereafter every year. This ought to improve the trout fishing, which has of late years been very poor in this vicinity."[444]

1895 In this year William C. Pitt, a prominent upper Lovelock Valley rancher who would later (1910) be involved in the construction of the Pitt-Taylor Reservoirs, completed the Pitt (Pitt & Hauskins) Dam just north of Lovelock in the upper valley. Nearly simultaneously, Pitt and his associates also built the original Pitt Flour Mill at the dam site, powering it first by water and subsequently by electricity generated at the dam. In 1911, the mill was moved to downtown Lovelock, where it remained until its destruction by fire in September 1964.[445]

1895 **(August 20)** In noting a "New and Novel Sport", the *Silver State* (Winnemucca) reported that "Carp shooting is now the favorite sport along the Humboldt [River]…mainly by reason of the scarcity of water fowl and sage hens this year…on any sandbar in the river large carp can be seen…one hunter who went up the river last Sunday bagged 25 carp, some of which were very large…some of the carp hunters merely kill the fish for sport, while others have trained their hunting dogs so that they retrieve the fish as well as they would a duck." And

in response to this account, on August 24, 1895 the *Elko Free Press* expressed the feelings of many throughout the basin about the presence of carp in the Humboldt River, even resorting to illegal practices, when it reported that "Fishing is said to be fine in the Humboldt River. The *Silver State* says that the favorite sport along the Humboldt in the vicinity of Winnemucca now is shooting carp with a 22 caliber rifle. They ought to use dynamite and blow every carp out of the river."[446]

1896 **(January 18)** The *Elko Free Press* reported on a number of efforts to keep the Humboldt River and its tributaries supplied with trout: "The Sparks-Harrell Co. gave $25 toward keeping the branch fish hatchery running. Persons wishing young fish during the season of 1896 can procure a blank application by calling at the Free Press office. Persons having suitable streams of water should make it a point to stock them with trout. It will cost you nothing. All you have to do is fill out an application and then come to Elko and get the fish when ready for transplanting." And on February 1, 1896, the *Elko Free Press* reported that "The branch fish hatchery is now running in fine shape. Sunday morning Deputy Fish Commissioner Boyce arrived from Carson [City] with 250,000 Eastern brook trout eggs. Monday he received 35,000 eggs of Eastern rainbow trout, and Wednesday another shipment was received from Carson [City]. The eggs came through in excellent shape." Elsewhere in the basin, on April 8, 1896, the *Silver State* (Winnemucca) reported that "Sheriff Hadley went to Mill City yesterday morning to receive 37,000 rainbow trout from the State hatchery at Carson [City], which will be planted in Buena Vista, Indian and Star Creeks. And again on April 25, 1896, the *Elko Free Press* noted that "Fish Commissioner F.C. Boyce came up from Carson [City] Thursday. He brought 40,000 small trout to Winnemucca where they were distributed in the streams." While on the other hand, attempting to balance supply and demand conditions, the *Silver State* reported on May 14, 1896 that efforts were progressing to catch what had recently been planted: "Dave Cordano and Felix Poulin went fishing down the river and returned last night with ten fine trout, the best catch of the season. Early this morning every livery rig in town has been engaged by expectant fishermen, who expect to materially reduce the number of trout in the Humboldt hereabouts."[447]

1897 **(March 22)** In an effort to reign in the authority that prior legislation had given to the State of Nevada's Fish Commissioner, the Legislature passed "An Act to abolish the office of Fish Commissioner and to protect the fish in the waters of the State of Nevada". The act was an effort to place the requirement for enforcing the installation of fish ladders in local hands. Specifically, Section 3 of this act read: "It shall be the duty of the [local] District Attorneys of the different counties of the State of Nevada to require, *as far as practicable,* all persons, firms, companies, associations, or corporations, who have erected, or may hereafter erect, all dams, water weirs, or other obstructions to the free passage of fish in the rivers, streams, lakes or other waters of the State of Nevada, to construct and keep in repair fish ways, or fish ladders, at all dams, water weirs, or other obstructions, so that at all seasons of the year fish may ascend above such dams, water weirs or other obstructions."[448] [Emphasis added]

1897 **(April)** The Glasgow & Western Exploration Company, Ltd., a Scotch Company which included members of the famous Coasts thread manufacturing family, acquired the old Adelaide copper workings near Golconda. A new townsite was laid out at Golconda, surrounding Dutertre's Golconda Hot Springs buildings which had been constructed only a couple of years earlier. To process the Adelaide copper ores, a massive reduction mill and smelter were constructed on the lower slopes of Edna Mountain, east of town, at a cost of

some $250,000. The construction of a narrow-gage railroad from Golconda to the mill site was begun in October 1897 and began hauling copper ore, mine timbers and other supplies in January 1898. By 1900, because of difficulties in treating the Adelaide and Copper Canyon ores, the mine, mill and railroad were all shut down. A brief resurrection came in 1907 when the concentrating plant and smelter were remodeled. Operations lasted only until1910, and finally by 1913 the company gave up and was liquidated.[449]

1897 **(May 24)** Judge Thomas P. Hawley of the U.S. Circuit Court rendered his final decision in the case of *Union Mill & Mining Company v. H.F. Dangberg, et al.*[450] According to one water rights expert,[451] the precedent-setting judgement led to the best judicial summary of the principles of the prior appropriation of water rights that we now have. Whether or not the decision was perfectly understood by all, it has come to form the matrix of opinion that underlies all questions concerning the use of water. Judge Hawley's decision embodied the concepts of: (1) prior appropriation; (2) beneficial use; and (3) economical use.[452]

1897 **(June 19)** Evidently setting a new fishing record (or just an outlandish fish story) for the Reese River, the *Reese River Reveille* (Austin) reported that "Last Sunday little Walter Winder caught the largest speckled trout ever known to have been captured in this section. It weighed a fraction over 12 pounds, and was 30-1/2 inches long and 18 inches around the body…"[453]

1897 **(September 9)** In the upper reaches of the Humboldt River, trout fish stocks remained seemingly plentiful, although no doubt stressed by over-fishing, as noted rather exactly by the *Tuscarora Times-Review*: "The party consisting of Phil Snyder…returned yesterday from their fishing trip on the North Fork of the Humboldt [River]. They report a total catch of 328 fine trout, averaging over a pound each. They brought large numbers to town fresh besides a quantity which they salted in a barrel…Phil Snyder was the chief among the men of the party, and they all declare he can catch fish where no one else can. One day he brought 72 into camp." Further down the Humboldt River, angling prospects were reported as being not nearly as good. On September 14, 1897, the *Silver State* (Winnemucca) noted that "Trout are plentiful at the head of the Humboldt [River], while at this point they are such a rarity that a person that catches one is looked upon as a demigod." And by the following month, Winnemucca citizens seemed resigned to their fate, with the *Silver State* reporting on October 2, 1897 that "Yesterday the fish law went into effect [changing the closed season for trout from October 1st through April 1st; see March 9, 1897 entry] and it is now unlawful to catch river or brook trout in this State. There is no likelihood of any fisherman on the Humboldt [River] in this vicinity having the heavy hand of the law fall upon him, but most of them would be willingly arrested if they could only catch a trout."[454]

1897 **(November 5)** Taking advantage of locally abundant wildlife, which eventually was destined to be adversely affected by wholesale hunting operations, the *Gold Creek News* reported that "A number of California hunters are shooting ducks on Humboldt Lake, below Lovelock, for the San Francisco market. Ducks are numerous and they are being slaughtered by the wholesale. The hunters do the shooting from boats which they brought from California. The expense of outfitting being heavy, they must find business quite profitable. They will likely follow it for several months, as the ducks make the lake their winter quarters." This news article was followed shortly by a November 16, 1897 *Silver State* (Winnemucca) article which blandly commented on the wholesale harvesting, or what may be hoped was a wild exaggeration, and attempted to more precisely quantify the slaughter: "The hunters who are

killing ducks for the market on the lake at Granite Point are making a barrel of money. They ship two tons of dressed ducks per week to the San Francisco market, where the fowls bring $3.75-$5.00 per dozen [$0.31-$0.42 each]. There are five of the hunters, all from California, and they average about nine dozen ducks each per day [for a total of some 540 ducks killed per day].[455]

1898 **(May 21)** The *Silver State* (Winnemucca) summed up the general feelings of carp in the Humboldt River: "When our town boys catch a large mess of carp when out fishing they don't throw them back into the river but sell them to the Chinese here, they being very fond of carp. Catfish, chubs, suckers, and trout occasionally are included in the varieties of fish caught in the Humboldt. The carp is a common kind of fish, and it would be a good thing if it could be exterminated, as it eats the superior article [i.e., trout], to the chagrin of the fishermen."[456]

1898 **(August 6)** The *Elko Daily Argonaut* noted that efforts to exterminate fish in the Humboldt River persisted despite game laws to the contrary: "Some miscreants have been killing trout with giant powder [explosive charges] a short distance up the Humboldt [River], just below the dam at Dewar's Ranch. The work is said to have been done last Sunday and parties are suspected…The banks for a short distance below the dam are covered with dead trout from three to four inches long, and many have floated down stream…" [Putting explosives in the water just below dams without fish ladders was easy sport, as the migrating trout would gather in abundance at such locations.] This story was followed on August 13, 1898 by an article in the *Elko Free Press*: "Someone is using giant powder in the river above town and destroying all the fish. The fish are getting scarce enough in the Humboldt without killing them in this wanton way. There is a stringent law against catching or killing fish in any manner except by hook and line, and persons fishing with giant powder are liable to wind up in the State prison."[457]

1898 **(September 3)** The *Reese River Reveille* (Austin) reported on efforts to eliminate the introduced carp fish species from the Humboldt River: "Sportsmen are urging a combined movement for the annihilation of the carp in the Humboldt River. This fish since its introduction a few years since [actually, the carp in the Humboldt River were introduced possibly as early as 1880] has multiplied wonderfully and now threatens the very existence of the celebrated Humboldt trout, cat [catfish] and other game fish which have made the Humboldt celebrated over the entire west."[458]

1898 **(September 15)** In possibly setting a record for the Humboldt River Basin, and certainly for the latter part of the 1800's, the *Tuscarora Times-Review* reported that "Charley Smith of Winnemucca, now visiting with his brother in-law, John Morrow, is entitled to the proud distinction of high hook on the Humboldt [River] for this year. He earned the title yesterday by catching in the river below town a trout measuring full twenty-four inches in length and which weighed, dressed, five pounds. Local sportsmen claim it was the largest trout of the true Humboldt species ever caught in the river."[459] (See the June 19, 1897 entry pertaining to a report of a 12-pound trout being caught on the Reese River.)

1899 **(February 21)** In noting a nearly perennial complaint over the lack of adequate water storage along the Humboldt River system, the *Tuscarora Times-Review* noted that "The Humboldt river is now running bank-full, and enough water going to waste which, if stored in reservoirs, would irrigate millions of acres of land in the broad valley through which it flows."[460]

1899 **(June 17)** In reporting about one person's early impression of the Lovelock area, and the

derivation of one of the valley's earliest names, the *Lovelock Tribune* noted that "…The one impression that stays with Mr. Westfall today of that first trip [taken in 1861] through the Lovelock Valley was the blue-joint.[461] He says it was waist high and like fields of waving grain. Hence the name Big Meadows."[462]

1899 **(August)** The old Central Pacific Railroad came under the full ownership of the Southern Pacific Railroad and the new corporate title became Central Pacific Railway. To speed up travel times and shorten the rail lines, the newly merged railroad began an extensive realignment project across Nevada and through the Humboldt River Basin. Most of this realignment of the old tracks was completed during the period of 1901-1903.[463]

1899 **(October 4)** The *Silver State* (Winnemucca) reported on the formation of a gun club out of Wadsworth specifically for seriously hunting waterfowl on the Humboldt Sink: "The Canvasback Gun Club has been organized at Wadsworth. W.J. Small, [railway] foreman of the shop there, and [railroad] Engineer Dolan are among the members of the club, which also has on its role a number of engineers of this division. A clubhouse is being built at Browns [Brown's Station], on the shore of Humboldt Lake, which will be fitted out with boats and all the necessary appliances for the slaughter of the feathered game of which the lake is a famous hunting ground. The members expect some great sport during the next few months."[464]

Index to Part II

Notes to Part II:

1. The hydrographic Great Basin, whose unique inward-draining characteristics were first recognized by John C. Frémont as early as 1846, represents an area covering most of Nevada and much of western Utah and portions of southern Oregon and southeastern California. The region consists primarily of arid, high elevation, desert valleys, sinks (playas), dry lake beds, and salt flats. The Great Basin is characterized by the fact that all surface waters drain inward to terminal lakes, sinks or playas. Portions of Nevada which are excluded from the Great Basin include the extreme north-central portion of the state, where surface waters drain northward into the Snake River Basin, thence to the Columbia River and finally to the Pacific Ocean, and the south-eastern portion of Nevada where surface waters drain into the Colorado River Basin, thence to the Gulf of California (Mexico) and the Pacific Ocean. Within the Great Basin, major river drainage systems located wholly or partially in Nevada include: (1) the Truckee River, whose source is Lake Tahoe (Basin) in the Sierra Nevada and located partly in California and Nevada and whose terminus is Pyramid Lake in western Nevada; (2) the Carson River, whose west and east forks originate along the eastern slopes of the Sierra Nevada in California and whose terminus is the Carson Sink (Playa) in west-central Nevada; (3) the Walker River, whose west and east forks also originate along the eastern slopes of the Sierra Nevada in California and whose terminus is Walker Lake in western Nevada; and (4) the Humboldt River, the only major river wholly contained within Nevada and whose principal source is the Ruby, Jarbidge and Independence Mountains in eastern Nevada and whose terminus is the Humboldt Sink in west-central Nevada. Pyramid Lake and Walker Lake in western Nevada represent the only lake remnants of the ancient Lake Lahontan, an Ice Age lake that covered a considerable portion of northwestern Nevada during much of the Pleistocene Epoch of some two million to 10,000 years before present. At its peak elevation, this lake joined all these river systems of western and northern Nevada. The Great Salt Lake in western Utah, the last major lake remnant of the ancient Ice Age Lake Bonneville, which once covered a large portion of northwester Utah and spilled over into eastern Nevada, is also contained within the Great Basin and serves as the terminus for surface water drainage from the western slopes of the Wasatch Range in north-central Utah.

2. The Pleistocene Epoch designates the geologic time, rock series, and sedimentary deposits of the earlier of the two epochs of the Quaternary Period. This epoch was characterized by the alternate appearance and recession of northern glaciation and the appearance of the progenitors of human beings. Also commonly referred to as the Ice Age, the Pleistocene covered a period of time from about 2 million years ago to 10,000 years ago and immediately preceded the Holocene Epoch, or the period from 10,000 years ago to the present. The late Pleistocene is generally considered to be the Wisconsinan Age (North America), which extended from about 300,000 years ago to 10,000 years ago and the beginning of the Holocene.

3. Reheis, Marith, "Highest Pluvial-Lake Shorelines and Pleistocene Climate of the Western Great Basin," *Quaternary Research*, 52, 1999, page 196.

4. *Ibid.*, page 197.

5. About 13,800 year ago, Lake Lahontan, covering a highly irregular portion of northwestern Nevada and spilling over into eastern California (Honey Lake Basin), attained a maximum surface elevation during this late Pleistocene Epoch of approximately 4,380 feet (1,335 meters) above mean sea level (MSL), reached a maximum depth of about 900 feet (274 meters) at Pyramid Lake and a maximum surface area of some 8,665 square miles (5,545,580 acres or 22,440 square kilometers). See Grayson, Donald K., *The Desert's Past: A Natural Prehistory of The Great Basin*, Smithsonian Institution Press, Washington, D.C., 1993, pages 92 and 95.

6. About 16,000 year ago, Lake Bonneville in western Utah, and spilling over into eastern Nevada, attained a maximum surface elevation of approximately 5,090 feet (1,551 meters) above mean sea level (MSL) and a maximum surface area of some 19,970 square miles (12,780,750 acres or 51,720 square kilometers). See Grayson, *op. cit.*, pages 85, 88 and 90.

7. Benson, Larry V., "Preliminary Paleolimnologic Data for the Walker Lake Sub-Basin, California and Nevada," *Water Resources Investigations Report 87–4258*, U.S. Geological Survey, U.S. Department of the Interior, Denver, Colorado, 1988, page 1. Also see Houghton, Samuel G., *A Trace of Desert Waters: The Great Basin Story*, University of Nevada Press, Reno, Nevada, 1994, page 63.

8. Grayson (*op. cit.*, page 94) has estimated (primarily from Benson, Larry V., "Fluctuation in the Level of Pluvial Lake Lahontan During the Last 40,000 Years," *Quaternary Research*, Volume 9, Number 3, University of Washington, 1978) the percentage share of river discharges into the Lahontan Basin as follows (listed in descending order of total discharge volumes): (1) Humboldt River – 37.5%; (2) Truckee River – 27.0%; (3) Carson River – 16.9%; (4) Walker River – 14.1%; (5) Susan River – 3.2%; and (6) Quinn River – 1.3%.

9. Houghton, *op. cit.*, page 73.

10. *Initial Bench & Bottom Land, Map and Criteria*, Newlands Project, Nevada, Division of Water and Power Resources Management, Water Operation and Maintenance Branch, Irrigation Section, Bureau of Reclamation, U.S. Department of the Interior, Sacramento, California, September 1990, Revised January 1992, page 11, and Strickland, Rose, "Stillwater: Its Friends and Neighbors," *Dividing Desert Waters*, Nevada Public Affairs Review, Number 1, 1992, Senator Alan Bible Center for Applied Research, University of Nevada, Reno, page 68.

11. Computed from information presented in Horne, Alex J., Ph.D., James C. Roth, Ph.D., and Nicola J. Barratt, M.S., *Walker Lake—Nevada, State of the Lake, 1992-94*, Report to the Nevada Division of Environmental Protection, Department of Civil and Environmental Engineering, University of California, Berkeley and the Environmental Engineering and Health Sciences Laboratory, Richmond, California, December, 1994, page 17.

12. Houghton, *op. cit.*, page 63.

13. *Ibid.*

14. CNN Interactive, May 24, 1999, and *Reno Gazette-Journal*, August 1, 1999.

15. Houghton, *op. cit.*, pages 26-27 and 78-79.

16. Nevada Historical Marker 147, "A Home of Early Man."

17. The single-leaf pinon (*Pinus monophylla*) is an aromatic pine tree with short, stiff needles and gnarled branches. The tree grows in course, rocky soils and rock crevices. Though its normal height is about 15 feet, the single-leaf pinon can grow as high as 50 feet under ideal conditions. Source: "Guide to the Nevada State Legislature, 1999-2000," Legislative Counsel Bureau, Research Division, 12th Edition, page 30.

18. The other official designated state tree for Nevada is the bristlecone pine. The bristlecone pine (*Pinus longaeva*) is the oldest living thing on Earth, with some specimens in Nevada more than 4,000 years of age. The tree can be found at high elevation. Normal height for older trees is about 15 to 30 feet, although some have attained a height of 60 feet. Diameter growth continues throughout the long life of the tree, resulting in massive trunks with a few contorted limbs. Source: "Guide to the Nevada State Legislature, 1999-2000," *op. cit.*, page 30.

19. Tausch, Robin J., Peter E. Wigand, and J. Wayne Burkhardt, "Viewpoint: Plant Community Thresholds, Multiple Steady States, and Multiple Successional Pathways: Legacy of the Quaternary?", Journal of Range Management, Volume 46, September 1993, page 439.

20. The earth is characterized by ten bioclimatic zones or biomes which consist of: (1) Tundra – treeless areas between the icecap and the tree line of Arctic regions, having a permanently frozen subsoil and supporting low-growing vegetation such as lichens, mosses, and stunted shrubs: (2) Taiga – the subarctic, evergreen coniferous forests of northern Eurasia located just south of the tundra and dominated by firs and spruces; (3) Temperate Forest – forested areas characterized by deciduous plants and moderate temperatures, weather, or climate; (4) Grassland – areas, such as a prairie or meadow, of grass or grasslike vegetation; (5) Savanna – flat grasslands of tropical or subtropical regions; (6) Desert – barren or desolate areas, especially dry, often sandy regions of little rainfall, extreme temperatures, and sparse vegetation; (7) Montane – cool, moist zones usually located near the timberline and usually dominated by evergreen trees; (8) Tropical Rain Forest – dense evergreen forests occupying a tropical region typically with an annual rainfall of at least 2.5 meters (100 inches); (9) Tropical Dry Forest – tropical or subtropical forests similar to tropical rain forests excepting that many of the plant species are deciduous and there exists a well-defined dry season; (10) Islands – land masses, especially ones smaller than a continent, entirely surrounded by water. See *Water Words Dictionary*, *op. cit.*

21. Tephra is clastic volcanic materials, such as dust, ashes and pumice, which are ejected during an eruption and carried through the air before deposition.

22. Elston, Robert G., Jonathan O. Davis, Sheryl Clerico, Robert Clerico, and Alice Becker, "Archeology of Section 20, North Valmy Power Plant, Humboldt County, Nevada," Social Sciences Technical Report No. 19, Desert Research Institute, Social Sciences Center, University of Nevada System, Reno, Nevada, January 1981, page 25.

23. *Ibid.*, page 13.

24. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, Basinwide Report, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, November 1966, page 5.

25. Land, Barbara and Myrick, *A Short History of Reno*, University of Nevada Press, Reno, Nevada, 1995, page 8.

26. Padre Pedro Font gave the name Sierra Nevada to the mountain range on the eastern fringe of Spanish California in 1776. Sierra means mountains in Spanish and Nevada means snow-covered. Consequently, the name "Sierra Nevada" means snow-covered mountains and terms such as Sierra Nevada Mountains (snow-covered mountains mountains) or Sierra Mountains (mountains mountains) are not strictly appropriate. The term Sierra Nevada range may also be used. Communication, Guy Rocha, Nevada State Historian, Carson City, Nevada, December 1999.

27. Murphy, Shane, *The Lore and Legend of the East Fork—A Historical Guide for Floating the East Carson River*, The Carson River Conservation Fund, Zephyr Cove, Nevada, 1982, page 21.

28. Houghton, *op. cit.*, page 104.

29. Hulse, James W., *The Nevada Adventure*, Sixth Edition, University of Nevada Press, Reno, Nevada, 1990, pages 34-36.

30. On this, the fifth of his Snake Country Expeditions, Ogden was adhering to his Company's "scorched earth" policy. This policy had a three-fold objective: (1) combat the American fur trappers on their home grounds, including the Great Basin, instead of on the Company's own lands farther north; (2) deplete the Snake and the Great Basin areas of their fur resources before the final settlement of the boundary line between the United States and Canada restricted these areas to the Hudson's Bay Company; and (3) relieve for awhile the trapping pressure on the Company's own trapped-out holdings in western Canada. See *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, Sonoma Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, May 1965, page 1.

31. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

32. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, pages 1-3.

33. Hulse, *op. cit.*, pages 34-35.

34. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, Elko Reach, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, April 1964, page 2.

35. *Ibid.*, page 47.

36. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, *op. cit.*, page 2.

37. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

38. Ogden, Peter Skeen, *Snake Country Journals*, Edited by Glyndwr Williams, The Hudson's Bay Record Society, London, 1971, from McQuivey, Robert, "Nevada Environmental, Water, Habitat, Wildlife and Fisheries Historical Media Database," Reno, Nevada, 1999.

39. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 3.

40. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, Lovelock Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, October 1965, page 2.

41. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

42. Hulse, *op. cit.*, pages 36–37.

43. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 3.

44. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

45. *Ibid.*, page 37.

46. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

47. Murphy, *op. cit.*, page 22.

48. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 2.

49. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 3.

50. Leonard, Zenas, *Adventures of Zenas Leonard Fur Trader*, edited by John C. Ewers, from the narrative of Zenas Leonard, University of Oklahoma Press, Norman, Oklahoma, 1959, from McQuivey, *op. cit.*

51. Zenas Leonard was appointed clerk of this expedition and kept a fairly detailed record of these two encounters with the local Indians, although some have said the record is sometimes confusing and therefore not trustworthy. In the first encounter in 1833 on their way down the Humboldt River, Walker's party was plagued by the Indians stealing their beaver traps. As reported by Leonard of this incident: "So eager were they to possess themselves of our traps, that we were forced to quit trapping in this vicinity and make for some other quarter. The great annoyance

we sustained in this respect greatly displeased some of our men, and they were for taking vengeance before we left the country – but this was not the disposition of Captain Walker…" After a couple of encounters resulting in several Indian deaths, the party moved down the Humboldt River to below Lovelock, but the Indians had sent ahead word of the killings and a major confrontation took place at this location. After considerable taunting and threats by the Indians, Leonard recounted: "We closed in on them and fired, leaving thirty-nine dead on the field – which was nearly half – the remainder were overwhelmed with dismay – running into the high grass in every direction; howling in the most lamentable manner." On their return trip in 1834, another encounter with the Indians took place near the same location and was again recorded by Leonard: "Being compelled to fight, as we thought, in a good cause and in self defense, we drew up in battle array, and fell on the Indians in the wildest and most ferocious manner we could, killing 14, besides wounding a great many more as we rode right over them." See Curran, Harold, *Fearful Crossing – The Central Overland Trail Through Nevada*, Great Basin Press, Reno, Nevada, 1982, pages 16-20.

52. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 2.

53. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, *op. cit.*, page 2.

54. Houghton, *op. cit.*, page 29.

55. Some historians refer to this emigrant party as the Bartleson-Bidwell party as John Bartleson was the initial leader; however, as Bartleson abandoned the party and took off on horseback, leaving John Bidwell to assume leadership responsibility and successfully complete the trek, most historians have felt that John Bidwell has justifiably earned the right to be listed first.

56. Hulse, *op. cit.*, pages 49-52.

57. As was noted by John Bidwell of their travels through the first 25 miles of eastern Nevada: "Started very early, day was exceedingly warm, passed through a gap in a ridge of mountains [Toano Range], came into a high dry plain [Goshute Valley, approximately 5,600 feet MSL], traveled some distance into it, saw the form of a high mountain through the smoky atmosphere [Pequop Mountains] – reached it, having come about 15 mile – found plenty of water – our animals were nearly given out. We were obliged to go so much further, in order to get along with the wagons. We concluded to leave them and pack as many things as we could." See Curran, *op. cit.*, pages 20-21.

58. Curran, *op. cit.*, pages 20-22.

59. *Ibid*.

60. *Ibid.*, page 23.

61. The separation occurred before the party reached Lovelock and the end of the Humboldt River. John Bidwell described John Bartleson's departure from the group with some bitterness: "Capt. Bartleson, having got enough meat yesterday to last him a day or two, and supposing he would be able to reach the mountains of California in 2 or 3 days, rushed forward with his own mess, consisting of 8 persons at a rate entirely too fast for the oxen, – leaving the rest to keep up if they could, and if they could not it was all the same to him. The day was very warm. The Indian Pilot remained with us – the river spread into a high, wide swamp, covered with high cane grass…" After about ten days, the party was again united, probably in Antelope Valley (Walker River Basin) near the present town of Coleville. As noted by Bidwell about the meeting with Bartleson: "…he was in rather a hungry condition, and had been traveling several days without provisions…" See Curran, *op. cit.*, pages 24-25.

62. Houghton, *op. cit.*, page 105.

63. Nunis, Dr. Doyce B. Jr., *The Bidwell-Bartelson Party 1841 California Emigrant Adventure*, Western Tanager Press, Santa Cruz, California, 1991, from McQuivey, *op. cit*.

64. Nevada Historical Marker 3, "West End of Hasting's Cutoff."

65. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 6.

66. Matthew Harbin, a member of this party, had been acquainted with a French Canadian trapper known as "Truckee" when they were both with the Bonneville–Walker expedition in the 1830's. Harbin called their Paiute Indian guide after this trapper and the party, presumably regarding the stream as this Indian's home, named the river after him. See Hulse, *op. cit.*, page 63.

67. Carlson, Helen, S., *Nevada Place Names: A Geographical Dictionary*, University of Nevada Press, Reno, Nevada, 1974, page 235.

68. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Four, Mary's River Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, June 1963, page 2.

69. Nevada Historical Marker 45, "Humboldt Wells."

70. Frémont's first expedition west was conducted in 1842 and left from St. Louis, Missouri, but only got just beyond South Pass in the northern Rocky Mountains of Wyoming. See Grayson, *op. cit.*, pages 3-4.

71. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, Ruby Mountains Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, May 1963, page 2.

72. Historians sometime refer to this group of 87 persons as the Donner-Reed Party, but the term "Donner Party" appears more commonly, perhaps because George Donner was elected captain of the group on June 20, 1846. Of this party, the families of George and Jacob Donner comprised 16 members while the family of James Reed made up 6 members. There were also larger families than the Reeds: The Breen family comprised 9 members; the Graves 12 members (including 2 Fosters); and the Murphy family also had 6 members. Of the 40 members who died, 8 were Donners, 4 were Graves, and 3 were Murphys. All the Reeds and Breens survived the ordeal. See Grayson, *op. cit.*, pages 277–296, for an extensive analysis of the Donner Party's tragedy.

73. Hulse, *op. cit.*, pages 55–56.

74. Townley, John M., *Tough Little Town on the Truckee*, History of Reno Series, Volume One, Great Basin Studies Center, Reno, Nevada, 1983., page 28.

75. Nevada Historical Marker 49, "Applegate-Lassen Trail Cutoff."

76. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 5.

77. Hulse, *op. cit.*, page 59.

78. *Ibid.*

79. *Ibid.*

80. *Multimedia Encyclopedia*, (Electronic Encyclopedia), The Software Toolworks.

81. Curran, *op. cit.*, pages 43-44.

82. *Ibid.*, page 41.

83. The Applegate Trail took off due west from Lassen Meadows, went through the upper portion of present-day Rye Patch Reservoir and then exited the Humboldt River Basin at Antelope Springs through the Antelope Range.

84. Curran, *op. cit.*, pages 97-100.

85. Hale, Israel F., *Diary of a Trip to California in 1849, Quarterly of the Society of California Pioneers*, San Francisco, California, Vol. II, No. 2, June 30, 1925, from McQuivey, *op. cit.*

86. Curran, *op. cit.*, page 137.

87. Hulse, *op. cit.*, page 68.

88. Curran, *op. cit.*, page 38.

89. *Ibid.*, pages 39-40.

90. *Ibid.*, page 43.

91. Steele, John, *Across the Plains in 1850*, edited by Joseph Schafer, Chicago, 1930, as found in *Emigrant Trails West* by Helfrich and Hunt, 1984, from McQuivey, *op. cit.*

92. Curran, *op. cit.*, page 45.

93. *Ibid.*, pages 128-129.

94. Fowler, Catherine S., *In the Shadow of Fox Peak—An Ethnography of the Cattail-Eater Northern Paiute People of Stillwater Marsh*, Cultural Resource Series Number 5, U.S. Department of the Interior, Fish and Wildlife Service, Region 1, Stillwater National Wildlife Refuge, 1992, page 16.

95. Curran, *op. cit.*, pages 88-89.

96. *Ibid.*, page 46.

97. *Ibid.*, page 125.

98. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 2.

99. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, Reese River Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, June 1964, page 1.

100. *Ibid.*, pages 1-2.

101. One dissenting opinion to this legend was offered by Iva Rader who wrote many years later that "Lucinda Duncan was my grandmother. I have known the story of her death all my life. I heard it from my mother, Melinda Duncan Thompson Robertson, and from my half sisters. All who told it to me were on the wagon train with Lucinda coming west to California in the spring of 1863. I have told it several times to feature writers and it has been published once or twice. My story has never replaced the legend. Lucinda Duncan was not a girl of 17 or 18. She was a grandmother of 70 and she died near the Humboldt River with her children and grandchildren about her…There were 40 wagons that left Missouri that spring – all Duncans…My grandmother, Lucinda Duncan, headed the wagons, she was the revered one and they gave her the place of honor. Then too, they knew there would be less dust at the head of the train…I do not know the date my grandmother died but I do know what killed her. It was an aneurism of the heart." See Curran, *op. cit.*, pages 91-94.

102. Nevada Historical Marker 66, "Jacobsville."

103. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 2.

104. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 8.

105. Nevada Historical Marker 239, "Stonehouse."

106. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 2.

107. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 8.

108. Nevada Historical Marker 145, "Unionville."

109. Horton, Gary A., *Nevada: A Historical Perspective of the State's Socioeconomic, Resource, Environmental, and Casino Gaming Development*, Nevada Research Associates, Reno, Nevada, July 1995, pages 8-9.

110. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 8.

111. Nevada Historical Marker 231, "Star City."

112. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 2.

113. From the original nine counties, reduced to eight with the incorporation of Lake County (renamed Roop County in 1863) into Washoe County in 1883, there followed the creation of Lander County in 1862 (out of Esmeralda County), Nye County in 1864 (out of Esmeralda County), Lincoln County in 1866 (out of Nye County), Elko and White Pine counties in 1869 (both out of Lander County), Eureka County in 1873 (out of Lander County), Clark County in 1909 (out of Lincoln County), Mineral County in 1911 (out of Esmeralda County), and Pershing County in 1919 (out of Humboldt County). Carson City and Ormsby County incorporated in 1969 and Bullfrog County was created out of Nye County in 1987, and then returned to that county in 1989. County creations were also accompanied by additions to Nevada's Territorial and State boundaries: 1862 (from 116° west longitude eastward to 115° west longitude); 1866 (from 115° west longitude eastward to 114° west longitude); and 1867 (from 37° north latitude southward to 35° north latitude). These expansions came at the expense of Utah and Arizona. See *Political History of Nevada*, 9th Edition, Secretary of State, State of Nevada, Carson City, Nevada, 1990.

114. McQuivey, *op. cit.*

115. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, pages 22-23.

116. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 49.

117. As of July 1, 1998, Austin's population was estimated at 871 persons. Source: Nevada State Demographer, University of Nevada, Reno, February 22, 1999.

118. Nevada Historical Marker 8, "Austin."

119. The public domain, or federally owned land, presently includes land in all states except the original 13 and Maine, Vermont, West Virginia, Kentucky, Tennessee, and Texas. See *The Funk & Wagnalls New Encyclopedia*.

120. Shamberger, Hugh A., *Evolution of Nevada's Water Laws, as Related to the Development and Evolution of the State's Water Resources, From 1866 to About 1960*, Water Resources Bulletin 46, Prepared by the U.S. Department of the Interior, Geological Survey in cooperation with the Nevada Division of Water Resources, Department of Conservation and Natural Resources, State of Nevada, Carson City, Nevada, 1991, page 90.

121. *Walker River Atlas*, Department of Water Resources, The Resources Agency, State of California, Sacramento, California, June 1992, pages 52–54.

122. *Reno Gazette-Journal*, February 23, 1996.

123. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 6.

124. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 15.

125. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 2.

126. When Rye Patch Reservoir came into use, its waters were allocated on an acreage basis and not a priority basis to all Pershing County Water Conservation District (PCWCD) participants. See Humboldt River Basin, Nevada, Water and Related Land Resources, Report Number Eleven, *op. cit.*, page 8.

127. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 8.

128. Nevada Historical Marker 21, "Humboldt Canal."

129. McQuivey, *op. cit.*

130. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page i.

131. Nevada Historical Marker 2, "Pioneer Memorial Park."

132. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 4.

133. McQuivey, *op. cit.*

134. There is another Grass Valley, this one located within the Humboldt River Basin south of Winnemucca.

135. McQuivey, *op. cit.*

136. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, pages i and 5.

137. Yager, James Pressley, *Diary of a Journey Across the Plains* [1863]; *Nevada Historical Society Quarterly*, Vol. XIII, No. 3, Fall 1970, from McQuivey, *op. cit.*

138. Nevada Historical Marker 89, "Paradise Valley."

139. McQuivey, *op. cit.*

140. *Nevada Laws of the Territory of Nevada, Passed at the Third Regular Session of the Territorial Assembly* (Virginia City: John Church & Co., Territorial Printers, 1864), page 146. See Townley, John M., *The Truckee Basin Fishery, 1844–1944*, Water Resources Center Publication 43008, Desert Research Institute, University of Nevada System, November 1980, page 4.

141. McQuivey, *op. cit.*

142. *Ibid.*

143. *Ibid.*

144. *Ibid.*

145. Actually, it was later determined that Poker Brown (see 1862 entry) was apparently the only rancher who had been granted permission by the mining company to use the waters of the lower Humboldt River. See *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, pages 8-9.

146. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 8.

147. McQuivey, *op. cit.*

148. *Ibid.*

149. *Ibid.*

150. The prior appropriation doctrine of water rights, in the form in which it is recognized throughout the west, originated from the requirements of a mining region for protection in the use of water supplies needed to work mining claims on lands not contiguous to streams or other sources of water (i.e., without riparian water rights). The appropriation doctrine is recognized on surface waters in all states west of the 100th Meridian (100 degrees west longitude); however, only eight of the Western states—Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming—are exclusively (prior) appropriation doctrine states. See Shamberger, *op. cit.*, pages 4–5.

151. McQuivey, *op. cit.*

152. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 2.

153. Nevada Historical Marker 109, "Lamoille Valley."

154. Izaak Walton – 1593-1683. English biographer and author. Carried on draper's business in London (from 1614); retired from London to Stafford (circa 1650). Published biographies of John Donne (1640), Sir Henry Wotton (1651), Richard Hooker (1665), George Herbert (1670), and Bishop Robert Sanderson (1678). His masterpiece was *The Compleat Angler*, or *The Contemplative Man's Recreation* (1st edition, 1653; 5th edition, 1676), made up of dialogues between Piscator (angler), Venator (hunter), and Auceps (falconer), with anecdotes, quotations, country scenery, snatches of verse, enlarged by appending of part two by Charles Cotton on fly-fishing and making flies. From *Grolier Multimedia Encyclopedia*.

155. McQuivey, *op. cit.*

156. *Ibid.*

157. *Ibid.*

158. It was rather common in this day and age to refer to the native Lahontan cutthroat trout as a "brook trout", probably referring to the Eastern brook trout. The first reference where this confusion was evident was May 25, 1882 when the reporter noted that the "brook trout" had a red streak down the sides, typical markings of the Lahontan cutthroat trout species. Also, the first mention of the introduction of Eastern brook trout into Humboldt River waters was not until the Fish Commissioner's biennial report of 1889 (for years 1887-1888).

159. McQuivey, *op. cit.*

160. *Ibid.*

161. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, pages 2-3.

162. McQuivey, *op. cit.*

163. Townley, *The Truckee Basin Fishery*, *op. cit.*, page 4.

164. McQuivey, *op. cit.*

165. Shamberger, *op. cit.*, page 5.

166. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 8.

167. McQuivey, *op. cit.*

168. *Ibid.*

169. *Ibid.*

170. Nevada Historical Marker 47, "Fort Halleck."

171. McQuivey, *op. cit.*

172. *Ibid.*

173. *Ibid.*

174. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 23.

175. McQuivey, *op. cit.*

176. *Ibid.*

177. Mr. Hersh is a member of the Nevada Historical Society, Reno, Nevada; Nevada State Museum, Carson City, Nevada; Friends of the Nevada State Railroad Museum, Carson City, Nevada; Northeastern Nevada Historical Society, Elko, Nevada; California State Railroad Museum, Sacramento, California; and Los Angeles Live Steamers, Los Angeles, California.

178. Hersh, Lawrence K., *The Central Pacific Railroad Across Nevada – 1868 & 1997*, Hollywood, California, December 1999.

179. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 4.

180. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 6.

181. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, Maggie Creek Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, October 1963, page 1.

182. McQuivey, *op. cit.*

183. Townley, John M., *Turn this Water into Gold: The Story of the Newlands Project*, Nevada Historical Society, Reno, Nevada, 1977, page 95.

184. Townley, John M., *Tough Little Town on the Truckee*, History of Reno Series, Volume One, Great Basin Studies Center, Reno, Nevada, 1983, pages 116–120.

185. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 9.

186. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 13.

187. McQuivey, *op. cit.*

188. *Ibid.*

189. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 4.

190. McQuivey, *op. cit.*

191. Nevada Historical Marker 105, "Golconda."

192. Nevada Historical Marker 95, "Battle Mountain."

193. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Two, Pine Valley Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, June 1962, page 6.

194. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, *op. cit.*, pages 3-5.

195. Nevada Historical Marker 112, "Carlin."

196. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, *op. cit.*, page 3.

197. Nevada Historical Marker 106, "Elko."

198. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Four, *op. cit.*, page 2.

199. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 2.

200. McQuivey, *op. cit.*

201. *Ibid.*

202. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, North Fork Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, August 1963, page 1.

203. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 3.

204. Hulse, *op. cit.*, page 125.

205. Plat Maps, Survey General's Office, State of Nevada, Township No. 32 North, Range No. 45 (Battle Mountain) and Range 46 East (Argenta), Mount Diablo Meridian (Argenta Marsh), A.F. Hatch and F.H. Eaton, Surveyors, May 12, 1869 (courtesy, Nevada Division of Wildlife and Nevada Department of Museums, Library and Arts, State Library and Archives Division).

206. Other sources have estimated the area of the upper (Argenta) marsh at 2,040 acres and the lower (Confluence) marsh at 560 acres. The total area of marsh, wetlands and pasture was estimated at about 46 square miles, or nearly 30,000 acres. See *Battle Mountain Bugle*, September 3, 1996.

207. Personal communication, Doug Hunt, Habitat Bureau Chief, Nevada Division of Wildlife, Reno, Nevada, January 26, 2000.

208. Rawlings, Marcus S., Larry A. Neel, *Wildlife and Wildlife Habitats Associated with the Humboldt River and Its Tributaries*, Biological Bulletin No. 10, Nevada Department of Wildlife, Reno, Nevada, 1989, page 47.

209. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 3.

210. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 3.

211. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Seven, *op. cit.*, page 39.

212. McQuivey, *op. cit.*

213. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, pages 1-2.

214. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 2.

215. McQuivey, *op. cit.*

216. *Ibid*.

217. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 2.

218. The Truckee River species of Lahontan cutthroat trout, called the Pyramid Lake cutthroat trout, was a unique species as it had been isolated in Pyramid Lake and Truckee River for over 10,000 years and grew to incredible proportions, attaining a length of three to four feet and weighing 40-60 pounds. Its flavor was also renowned and described by John C. Frémont as the best he had ever tasted. Due to over-fishing and other acts of man, this sub-species became extinct in the early 1940's. The Walker Lake Lahontan cutthroat trout species that was subsequently re-introduced into Pyramid Lake in the 1950's has never again attained near that size or weight.

219. McQuivey, *op. cit*.

220. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Two, *op. cit.*, page 6.

221. Nevada Historical Marker 65, "Palisade."

222. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 4.

223. McQuivey, *op. cit*.

224. *Ibid*.

225. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Four, *op. cit.*, page 2.

226. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Four, *op. cit.*, page 2.

227. McQuivey, *op. cit*.

228. *Ibid*.

229. Hulse, *op. cit.*, page 125.

230. McQuivey, *op. cit*.

231. *Ibid*.

232. *Ibid*.

233. *Ibid*.

234. *Ibid*.

235. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, Battle Mountain Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, October 1964, page 3.

236. Reflecting this growing resentment to mining abuses, in February 1999, U.S. Forest Service Chief Mike Dombeck announced a two-year moratorium on mining claims in a hundred-mile stretch of Montana's Rocky Mountain Front, a move that was heartily endorsed by Interior Secretary Bruce Babbit, who once described the 1872 Mining Law as "an obscene example of corporate welfare". See Watkins, T.H., "Hard Rock Legacy," *National Geographic*, Vol. 197, No. 3, National Geographic Society, Washington, D.C., March 2000, page 81.

237. Watkins, T.H., *op. cit.*, pages 80-81.

238. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 9.

239. McQuivey, *op. cit*.

240. *Ibid*.

241. *Ibid*.

242. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 2.

243. McQuivey, *op. cit*.

244. *Ibid*.

245. Nevada Historical Marker 164, "Button Point."

246. McQuivey, *op. cit*.

247. *Ibid*.

248. *Ibid*.

249. *Ibid*.

250. *Idid*.

251. *Ibid*.

252. *Ibid*.

253. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 4.

254. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 2.

255. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 2.

256. *Ibid*.

257. McQuivey, *op. cit*.

258. The rights of the owners of lands on the banks of watercourses, relating to the water, its use, ownership of soil under the stream, accretion, etc. The term is generally defined as the right which every person through whose land a natural watercourse runs has to the benefit of a stream as it passes through his land for all useful purposes to which it may be applied. See *Water Words Dictionary*, *op. cit*.

259. The prior appropriation doctrine is based on the concept of *"First in Time, First in Right"*. The first person to take a quantity of water and put it to beneficial use has a higher priority of right than a subsequent user. Under drought conditions, higher priority users are satisfied before junior users receive water. Appropriative rights can be lost through nonuse; they can also be sold or transferred apart from the land. See *Water Words Dictionary*, *op. cit*.

260. Shamberger, *op. cit.*, page 5.

261. *McQuivey, op. cit*.

262. *Ibid*.

263. *Ibid*.

264. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 3.

265. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Two, *op. cit.*, page 6.

266. McQuivey, *op. cit*.

267. *Ibid*.

268. *Ibid*.

269. *Ibid*.

270. *Ibid*.

271. *Ibid*.

272. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, pages 10-12.

273. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 15.

274. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 39.

275. McQuivey, *op. cit*.

276. *Ibid*.

277. *Ibid*.

278. Shamberger, *op. cit.*, page 90.

279. McQuivey, *op. cit*.

280. *Ibid*.

281. *Ibid*.

282. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 9.

283. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 2.

284. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 4.

285. McQuivey, *op. cit*.

286. *Ibid*.

287. *Ibid*.

288. *Ibid*.

289. *Ibid*.

290. *Ibid*.

291. *Ibid*.

292. *Ibid*.

293. *Ibid*.

294. *Ibid*.

295. *Ibid*.

296. *Ibid*.

297. *Ibid*.

298. *Ibid*.

299. *Ibid*.

300. *Ibid*.

301. The Tertiary Period (or System) covered a period of time lasting from approximately 65 million years before present (B.P.) to about 2 million years B.P. The late Tertiary included the Pliocene Epoch which lasted from about 5 million years B.P. to approximately 2 million years B.P. and was characterized by much uplifting in the western United States. See *Water Words Dictionary*, *op. cit*.

302. The Quaternary Period includes the Holocene Epoch (approximately 10,000 years B.P. to the present) and the Pleistocene Epoch (almost 2 million years B.P. to about 10,000 years B.P.). The Pleistocene represented a period when continental glaciers covered much of northern North America and large lakes filled the intermountain basins. See *Water Words Dictionary*, *op. cit*.

303. Hawley, John W., and William E. Wilson III, *Quaternary Geology of the Winnemucca Area, Nevada*, Technical Report No. 5, Desert Research Institute, University of Nevada, Reno, November 1965, page 3.

304. McQuivey, *op. cit*.

305. *Ibid*.

306. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 39.

307. McQuivey, *op. cit*.

308. *Ibid*.

309. *Ibid*.

310. "Biennial Report of the Fish Commissioner of the State of Nevada for the Years 1877 and 1878", State Printing Office, Carson City, Nevada, 1879, from McQuivey, *op. cit*.

311. McQuivey, *op.cit*.

312. *Ibid*.

313. *Ibid*.

314. *Ibid*.

315. *Ibid*.

316. *Ibid*.

317. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 8.

318. McQuivey, *op. cit*.

319. *Ibid*.

320. *Ibid*.

321. *Ibid*.

322. *Ibid*.

323. *Ibid*.

324. *Ibid*.

325. *Ibid*.

326. *Ibid*.

327. *Ibid*.

328. *Ibid*.

329. *Ibid*.

330. *Ibid*.

331. *Ibid*.

332. *Ibid*.

333. *Ibid*.

334. *Ibid*.

335. "Biennial Report of the Fish Commissioner of the State of Nevada for the Years 1879 and 1880", State Printing Office, Carson City, Nevada, 1881, from McQuivey, *op. cit*.

336. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 36.

337. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number One, Little Humboldt Sub-Basin, Nevada Department of Conservation and Natural Resources and the U.S. Department of Agriculture, March 1962, page 102.

338. McQuivey, *op. cit*.

339. *Ibid*.

340. *Ibid*.

341. *Ibid*.

342. Hulse, *op. cit.*, page 153.

343. *Population of Nevada Counties and Communities, 1860–1980*, compiled by Waller H. Reed, Retired Senior Volunteer Program (RSVP) Volunteer, Nevada Historical Society, University of Nevada, Reno, Nevada, Winter 1983-1984.

344. McQuivey, *op. cit*.

345. *Ibid*.

346. *Ibid*.

347. *Ibid*.

348. *Ibid*.

349. *Ibid*.

350. *Ibid*.

351. *Ibid*.

352. *Ibid*.

353. *Ibid*.

354. *Ibid*.

355. *Ibid*.

356. "Biennial Report of the Fish Commissioner of the State of Nevada for the Years 1881 and 1882", State Printing Office, Carson City, Nevada, 1883, from McQuivey, *op. cit*.

357. McQuivey, *op. cit*.

358. *Ibid*.

359. *Ibid*.

360. *Ibid*.

361. *Ibid*.

362. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 36.

363. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 36.

364. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 50.

365. McQuivey, *op. cit*.

366. *Ibid*.

367. *Ibid*.

368. *Ibid*.

369. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 4.

370. *Ibid.*, page 56.

371. McQuivey, *op. cit.*

372. *Ibid.*

373. *Ibid.*

374. This referenced location would place the reservoir either at the headwaters of Pumpernickel Valley or Grass Valley in the Humboldt River Basin, or to the east and outside of the basin in Buffalo Valley. There is a Smelser Pass twenty-one miles south of Golconda between Pumpernickel Valley and Buffalo Valley. Due to the drainages involved, it is therefore unlikely that these fish could migrate downstream to the Humboldt River.

375. McQuivey, *op. cit.*

376. *Ibid.*

377. Dangberg, Grace, *Conflict on the Carson*, Carson Valley Historical Society, Minden, Nevada, November 1975, pages 16–17.

378. Shamberger, *op. cit.*, page 5.

379. McQuivey, *op. cit.*

380. *Ibid.*

381. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 36.

382. McQuivey, *op. cit.*

383. *Ibid.*

384. *Ibid.*

385. *Ibid.*

386. *Ibid.*

387. *Ibid.*

388. *Ibid.*

389. *Ibid.*

390. *Ibid.*

391. *Ibid.*

392. *Ibid.*

393. Shamberger, *op. cit.*, page 5.

394. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 10.

395. McQuivey, *op. cit.*

396. *Ibid.*

397. Biennial Report of the Nevada State Fish Commission for the Years 1887 and 1888; W.H. Cary, Fish Commissioner, February 9, 1889, from McQuivey, *op. cit.*

398. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 13.

399. *Ibid.*, page7.

400. McQuivey, *op. cit.*

401. Young, James A., and B. Abbott Sparks, *Cattle in the Cold Desert*, Utah State University Press, Logan, Utah, 1985, page 143.

402. Young, James A., *op. cit.*, pages 143-144.

403. McQuivey, *op. cit.*

404. *Ibid.*

405. *Ibid.*

406. Young, James A., Philip C. Martinelli, Richard E. Eckert, Jr., and Raymond A. Evans, *Halogeton: A History of Mid-20th Century Range Conservation in the Intermountain Area*, Miscellaneous Publication Number 1553, Agricultural Research Service, U.S. Department of Agriculture, August 1999, page 1.

407. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 15.

408. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 4.

409. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 4.

410. McQuivey, *op. cit.*

411. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Five, *op. cit.*, page 4.

412. McQuivey, *op. cit.*

413. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Three, *op. cit.*, page 23.

414. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 15.

415. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 36.

416. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Nine, *op. cit.*, page 37.

417. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number One, *op. cit.*, page 102.

418. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 50.

419. McQuivey, *op. cit.*

420. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 7.

421. McQuivey, *op. cit.*

422. The primary contentions questioning the law's constitutionality were first, that as a special law it applied to only particular rights to the use of water and embraces only a part of the territory of the State. Second, it took away vested rights of property without due process of law and without giving the owner an opportunity to be heard. Third, it granted rights and imposed burdens upon some of the citizens of the State, which are not granted to or imposed upon others. And fourth, it delegated the law-making power to the Governor and clothed him with power to create water districts and the discretion to extend to or withhold from the people of the State the provisions of a statute law. See Dangberg, *op. cit.*, pages 90–91.

423. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Six, *op. cit.*, page 3.

424. McQuivey, *op. cit.*

425. The current significance of the Valmy location lies in the coal-fired electrical power generating plant located near this site, on the north side of the Humboldt River and jointly owned by Sierra Pacific Power Company of Nevada and Idaho Power. Unit Number 1, with 254 megawatts of generating capacity, came on line in 1981 while Unit Number 2, with 265 megawatts of generating capacity, came on line in 1985. Each unit uses approximately 2,000 gallons of water per minute for cooling purposes. The water is presently pumped from the dewatering of the Lone Tree Mine. No cooling water is discharged into the Humboldt River. Source: Personal communication with William Bowers, Sierra Pacific Power Company, July 1999.

426. Nevada Historical Marker 167, "Valmy."

427. McQuivey, *op. cit.*

428. *Ibid.*

429. *Ibid.*

430. *Ibid.*

431. Rowley, William D., "The Newlands Project: Crime or National Commitment," *Dividing Desert Waters*, Nevada Public Affairs Review, Number 1, 1992, Senator Alan Bible Center for Applied Research, University of Nevada, Reno, page 39.

432. McQuivey, *op. cit.*

433. *Ibid.*

434. *Ibid.*

435. *Ibid.*

436. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 8.

437. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eight, *op. cit.*, page 4.

438. The writer was most probably referring to the Muskellunge, which is a close relative of the Northern Pike. Both species are highly predatory of other fish species. The Muskellunge (*Esox masquinongy*) is believed to have a native distribution originally restricted to an area west of the Appalachian Mountains, from Quebec and Ontario provinces in Canada south to Tennessee. Presently, it occurs from the St. Lawrence River and its northern tributaries, south in the Lake Champlain-Hudson River system, and in the Connecticut River (possibly introduced there), east of the mountains through New York and Pennsylvania as well as west of the Appalachian Mountains into the Mississippi River Basin. Interestingly, it was originally confused with *E. lucius*, or the Northern Pike, which in more recent years has been wrecking havoc in California lakes and seemingly defying efforts at eradication (e.g., Lake Davis in northern California). Whether it was Northern Pike being transported to California through Nevada by this newspaper reference or the Muskellunge is not known, but Northern Pike certainly ended up being introduced into California. Source: Lee, David S., et al., *Atlas of Northern American Freshwater Fishes*, Publication #1980-12 of the North Carolina Biological Survey, North Carolina State Museum of Natural History, November 1981.

439. McQuivey, *op. cit.*

440. *Ibid.*

441. *Ibid.*

442. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Twelve, *op. cit.*, page 15.

443. Shamberger, *op. cit.*, page 85.

444. McQuivey, *op. cit.*

445. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 13.

446. McQuivey, *op. cit.*

447. *Ibid.*

448. *Ibid.*

449. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Ten, *op. cit.*, page 5.

450. For more information on this, see Horton, Gary A., *Carson River Chronology – A Chronological History of the Carson River and Related Water Issues*, First Update, Nevada Division of Water Planning, Department of Conservation and Natural Resources, Carson City, Nevada, April 1997.

451. A.E. Chandler, who was the first State Engineer of Nevada (1903–1905) and later professor of Irrigation Law at the University of California.

452. Dangberg, *op. cit.*, page 96.

453. McQuivey, *op. cit.*

454. *Ibid.*

455. *Ibid.*

456. *Ibid.*

457. *Ibid.*

458. *Ibid.*

459. *Ibid.*

460. *Ibid.*

461. Bluejoint (*Calamagrostis canadensis*), also referred to as Canada reedgrass, is found throughout the southwestern United States, Nevada, the Sierra Nevada and the coastal mountain ranges of California. It prefers wet places in meadows and streambanks from low to high elevations. Bluejoint furnishes much forage for cattle and horses, but tends to be tough and unpalatable when the herbage is mature. Reference Source: Cronquist, Arthur, Arthur H. Holmgren, Noel H. Holmgren, James L. Reveal, Patricia K. Holmgren, *Intermountain Flora, Vascular Plants of the Intermountain West, U.S.A.*, Volume Six, The Monocotylendons, published for The New York Botanical Garden by Columbia University Press, New York, 1977, page 268.

462. McQuivey, *op. cit.*

463. *Humboldt River Basin, Nevada, Water and Related Land Resources*, Report Number Eleven, *op. cit.*, page 6.

464. McQuivey, *op. cit.*