

Upper Owyhee Watershed Assessment

IV. Historical Conditions

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IV. Historical conditions

Forward: This account relies on many sources. For the ease of reading, please note that ellipses, . . . , indicate a word, phrase, or short section has been omitted from a quote. Clarifying additions by the editor have been added in brackets, []. Where trappers' or settlers' words are quoted verbatim, some of the spelling and punctuation may have been changed but the words and word order are the original. To avoid confusion, the place names used are the current names for locations, except within verbatim quotations.

A. Pre-contact

Historical characterization of the landscape and conditions at the time of contact is an attempt to understand the 'pre-European' state of a river drainage and region that was influenced by Native American inhabitants for at least 10,000 years prior to European settlement. Archaeological research allows for an understanding of the prehistory which cannot be derived from historic documents. The Great Basin area of eastern Oregon, Nevada, and southern Idaho has been inhabited for more than 12,000 years.² The upper Owyhee subbasin lies within this area. In Idaho, Clovis projectile points have been found near the Bruneau and Snake Rivers.⁵¹ These projectile points date to between 11,500 and 11,000 BP (before the present). Projectile points archaeologists find on the surface of the ground suggest people were living in the area. However, the only sure way to document habitation is by dating charcoal left in fire pits where people lived and this requires excavation by archaeologists. There have been very few excavations of archaeological sites in the Owyhee uplands so the available record is sparse (Figure 4.1). Around 9,500 years ago, people inhabited the Dirty Shame rock shelter in the Owyhee uplands.⁵¹ This rock shelter is a few miles downstream from the upper Owyhee watershed. The earliest dated habitation within the upper Owyhee watershed comes from around 6000 BP at Nahas Cave.^{51,70,71}

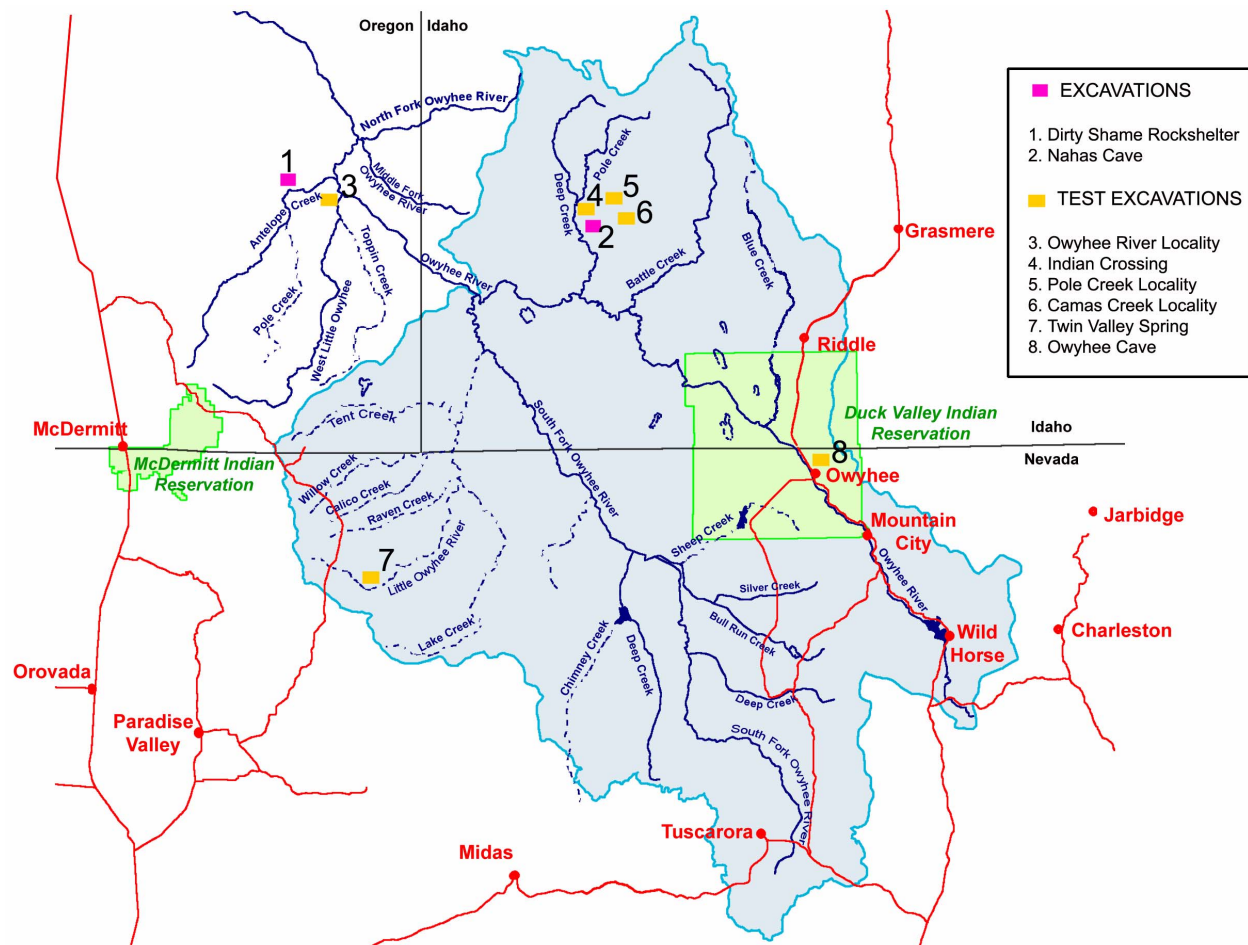


Figure 4.1. Location of archaeological excavations and test excavations in the upper Owyhee subbasin

Since the Owyhee uplands are currently semiarid and of recent geological formation, there is little soil formation. Most archaeological sites are on the surface of the land and the artifacts left by Native Americans are visible to hikers. These artifacts include flaked stone, ground stone, projectile points, petroglyphs, rock alignments, and some pottery. Plew surveyed along Pole and Battle Creeks in the subbasin and documented 700 archaeological sites.⁷¹ The survey included the creek valleys to 100 meters beyond the rimrock and a few walked transects across the open desert (Figure 4.2). “Most [archaeological] sites are located along alluvial fans and terraces in canyon bottoms, on bench terraces and talus areas and along and near rim rock.”^{71:57} In fact only scatters of flaked stone were common in the open areas between the creek drainages. This suggests an importance of the watercourses, possibly for water, to prehistoric inhabitants. On the basis of 700 sites in this portion of the upper Owyhee subbasin and the variety of projectile point types found it is clear that the region was inhabited by Native Americans for a long duration.⁷¹

Archaeological sites within caves provide more detailed records of prehistoric habitation. Nahas Cave in Idaho provides such a record. Excavated in 1979 and 1980, Nahas cave is a lava bubble that measures three meters across and 12 meters deep.

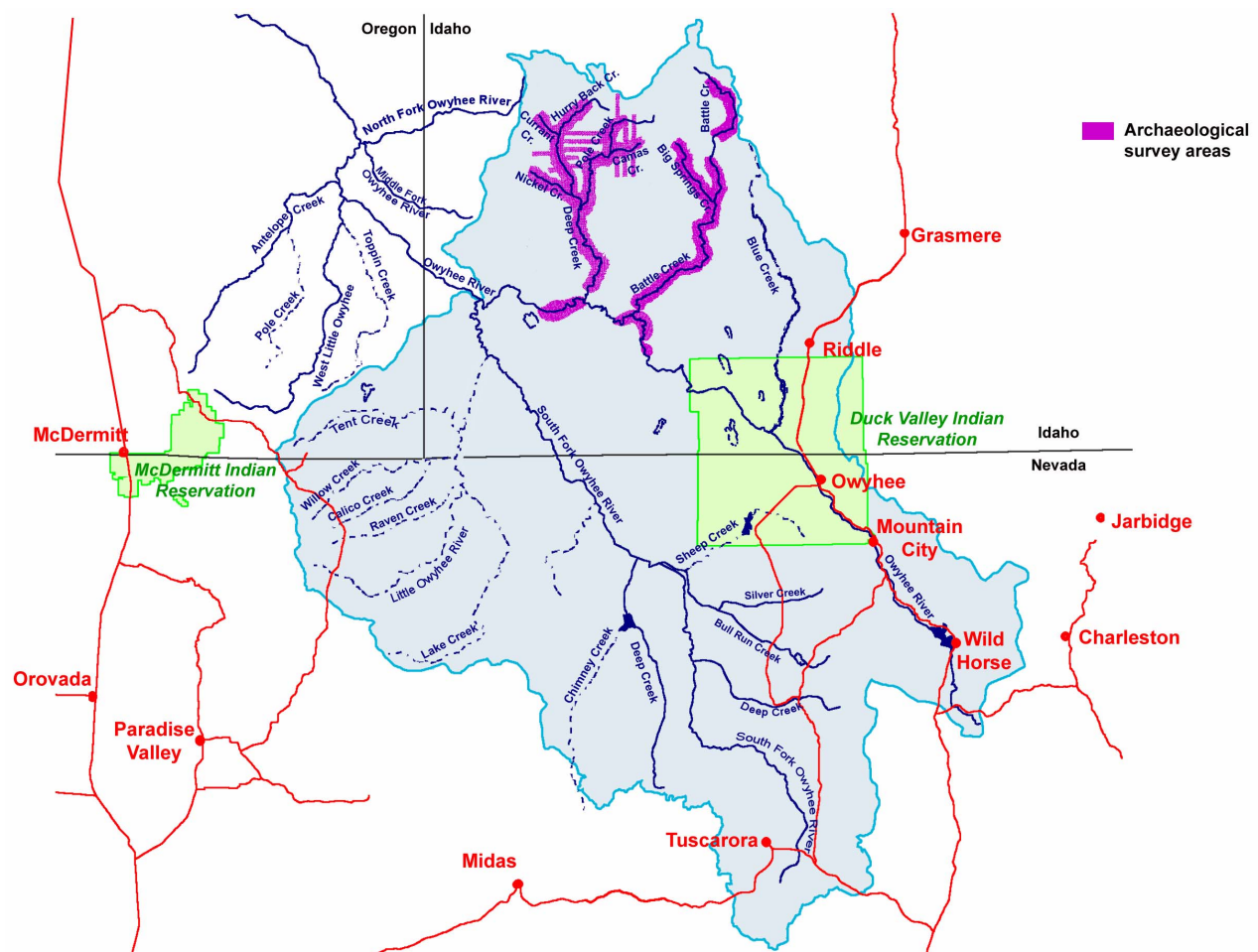


Figure 4.2 Location of archaeological surveys conducted by Mark Plew in the upper Owyhee subbasin.

The sediments fill was created by human garbage and windblown dust. Nahas cave was probably occupied as a hunting camp. The most recent Native American occupants left a few fragments of pottery in addition to the flaked stone projectile points and household garbage. Each successive layer of soil that was excavated showed older habitations and the changing styles of projectile points. The layers were also dated with eight radiocarbon dates.⁷⁰ "The earliest date of 5990 ± 170 BP . . . is associated with a fire hearth and mortar and pestal."^{70:98} In addition to hunting, "a limited groundstone assemblage suggests that some edible seeds and berries were consumed."^{70:98} The remains from Nahas Cave include seeds of chokecherry and hackberry.^{70,71} The animal remains are of antelope, deer, ground squirrel, muskrat, jack rabbit, woodchuck, cottontail, badger, porcupine, and unidentified birds.⁷⁰ For fish there are, "the remains of six individuals of the sucker family, Catostomidae, possibly *Catostomus comlumbianus*, Bridgelip Sucker, and one individual of the Cottidae, possibly *Cottus bairdii*, Mottled Sculpin . . . [and] the remains of three individuals of *Salmo gairdnerii*, the Steelhead Trout. A fourth individual tentatively identified as *Salmo gairdnerii* may be *Salmo clarkii*, the Cutthroat Trout."^{72:129-130}

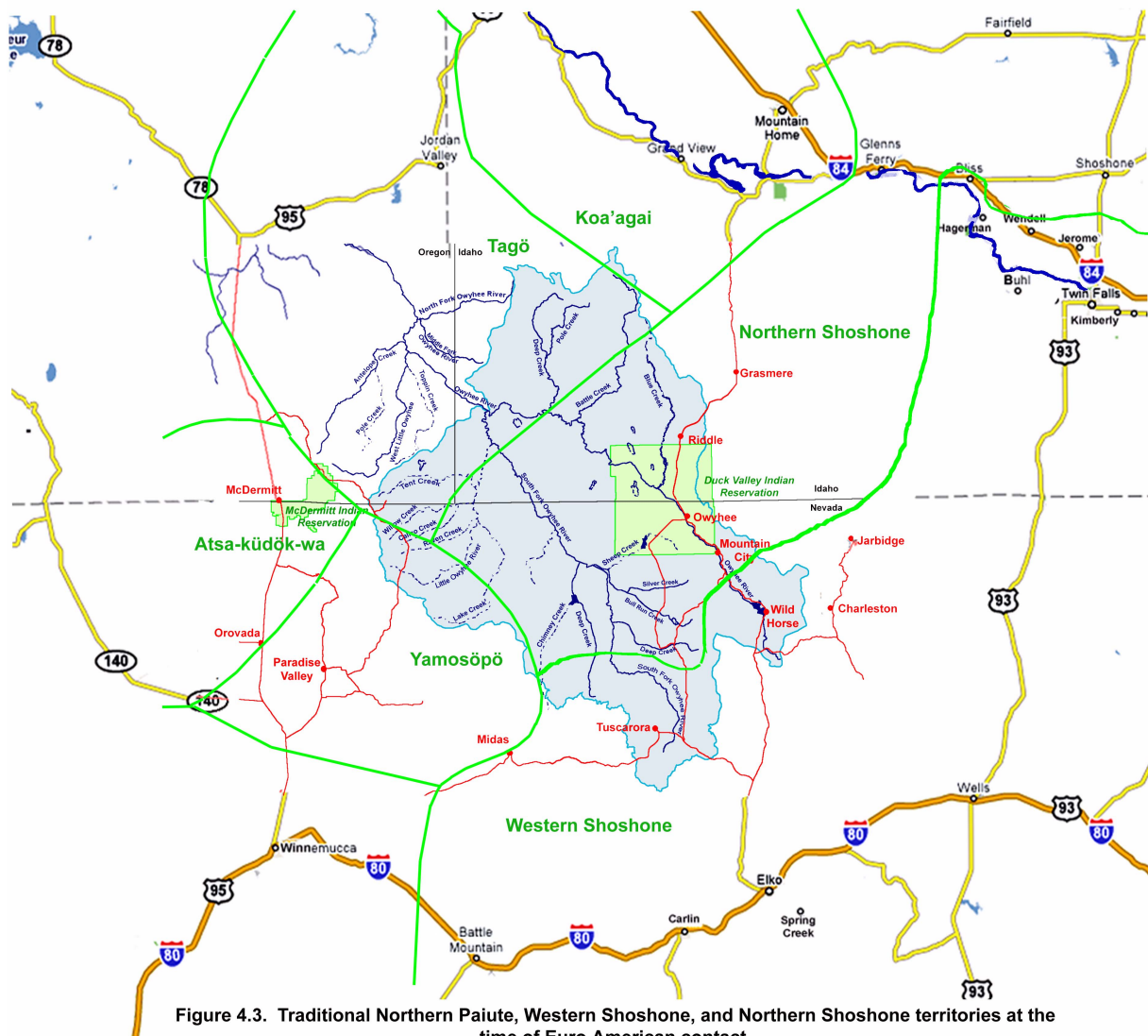
How much anadromous fish, like steelhead and salmon, were part of the Native American diet has been a highly debated topic. The importance of these fish runs varied by region. Native American populations along the Snake River in the Boise area were reported at contact as exploiting the yearly runs of anadromous fish.^{92,87} The ethnographic records for the Owyhee uplands are less detailed, so research has turned to archaeology. Nahas Cave yielded three (or possibly four) bones of steelhead trout from layers dating between 3000 and 500 BP.⁷⁰ The find was considered important because of how far the fish would have had to travel to make it to Pole Creek (Figure 4.1). However these three bones should be taken in context: 8,230 bone fragments were excavated at Nahas cave, of which six hundred were identifiable. The importance of these fish in the diet of Native Americans in the Owyhee uplands is unknown.^{70,71,72} In addition, the findings are qualified by the probability that only in early springtime would there have been enough water in Pole Creek for steelhead trout runs.⁷¹ Another archaeologist has cautioned that the fish runs would be unreliable as "the Western Snake River Basin represents the upstream limits of the Columbia River anadromous fishery in the southern Plateau."^{51:67}

The Native American inhabitants of the region were people who adapted to the environmental situation in which they lived. Like all resourceful people, they attempted to modify the environment for their advantage. While we do not have a clear picture at present of the degree to which Native American inhabitants were altering the Owyhee environment, archaeological research in the Owyhee uplands indicates that they were doing so.⁸³ These 'pre-European' land use practices could have been either beneficial or harmful to mammal populations, fish populations, and vegetation communities. "That prehistoric and early historic humans occupying Montana, Idaho, Washington, and Oregon influenced the abundance of game animals by their hunting practices is indisputable."⁴⁶ Great Basin Native Americans are known to have taken massive rabbit populations, employed fish traps, nets, weirs and dams, and burnt range lands.^{45,88,89} One of the Native American practices was promotion by propagation of economically important plant species, which would in turn affect the composition of vegetative

communities, whether they were those of upland soil, wetlands, or riparian zones. "Wild seeds were sown broadcast in central Nevada but neither irrigated nor cultivated. ... All groups burned brush to facilitate growth of wild tobacco and sometimes of other wild-seed plants."⁸⁷ Plants that may have been propagated include, but are not limited to, great basin wild rye, sunflower, wild tobacco, currant, biscuit root, bitter root, wild onion, sego lily, chokecherry, and wild rose. These plants currently grow in the upper Owyhee subbasin.

B. Native Americans at contact

When Europeans moved across the western US, they found the lands occupied by various Native American groups. The upper Owyhee subbasin crosses the divide between traditional Northern Paiute, Western Shoshone, and Northern Shoshone territories (Figure 4.3).^{54,89,89,92} While Paiute and Shoshone peoples had different languages, they were not culturally isolated from one another. Anthropologists have



noted that there was a zone of bilingualism and intermarriage between the Shoshone and Northern Paiute, in some places as much as 100 miles wide.⁵² Both Northern Paiute and Shoshone who used resources in the upper Owyhee subbasin at contact with European settlers shared cultural practices and diet since the region was marginal, with few available resources.

During the 1920s and 1930s the oldest surviving members of these groups were interviewed by anthropologists. The information these individuals provided from their own experiences as well as their grandparents' stories helps us understand who was living in which areas in the past as well as the ways of life between approximately 1800 and 1850.

In the west, the Northern Paiute bands of the Tagö-Töka and Yamosöpö tuviwarai inhabited the upper Owyhee subbasin. Tagö-Töka means "eaters of *Lomatium* sp. roots"^{19:468} which are more commonly known as biscuit root. Omer Stewart interviewed Tagö-Töka who were residing at the Duck Valley Indian Reservation.⁸⁹ He did not interview any of the Yamosöpö tuviwarai band whose name means "dwellers of Paradise Valley."¹⁹ While Great Basin bands were often named for foods that they were known to eat, there were many regions without dietary specialization. The upper Owyhee subbasin would have been one of these areas, as it lacks any single extremely influential food resource. "In these areas, subsistence pursuits were about equally divided among the taking of small game and large game, numerous seeds, berries, and some roots, upland game birds and occasional waterfowl, insects, and sometimes fish. The details of the regimes varied by area, but little resource specialization was apparent."^{19:438-439}

Julian Steward interviewed one Shoshone living near Elko and one from the Snake River, but no one in the area in-between.^{89,92} Neither of these informants was native to the upper Owyhee subbasin. One Nevada Western Shoshone band is discussed as inhabiting the North Fork of the Humboldt River, a location closer to the subbasin, but no information is given on their way of life as they followed the general pattern for inhabitants of the broader region.⁹² By contrast the Northern Shoshone of the Snake River plain were in greater contact with white immigrants and had changed culturally during the 1700s and 1800s. They had adopted horses for travel and engaged in long distance yearly moves between salmon, camas and bison resources. However, these strategies did not work in areas with dispersed and low density resources like the Owyhees. "A ... dispersed Shoshone population was found south of the Snake River, between the watershed separating the Owyhee and Bruneau rivers and the area of Bannock Creek. This area was also roamed over by mounted Shoshone and Bannock from the east, but the resident population was mostly unmounted until after 1850. The people subsisted on salmon, small game, occasional deer, roots, and berries."^{54:289} This unmounted, resident population was studied in greater depth by Harris.

Jack Harris and his wife Martha spent time on the Western Shoshoni Reservation at Owyhee, Nevada speaking with the *Tosawi* or White Knife Shoshoni.²⁹ The European name derives from the camps in the vicinity of Tuscarora and Battle Mountain where the white colored flint is found. "The White Knives practiced no agriculture; their

rivers yielded no vast quantities of fish; buffalo were too far east to be hunted. In fact, they lacked any dependable or regularly recurring source of food, and were forced to utilize for sustenance every aspect of an unfavorable habitat.”^{29:40} “The chief but scanty sources of animal food were the rabbit, antelope, deer and mountain sheep. . . . Insects such as crickets and ants formed a substantial item of diet, but the bulk of food consisted of numerous roots, seeds, plants and berries.”^{29:40} Food shortages forced the White Knives to cover a much wider range of territory than their northern neighbors along the Snake River who had salmon.²⁹ “The summer months found the White Knives’ camp groups ranging over an area which extended from southern Idaho to east central Nevada, roughly 25,000 square miles. Of course, not every camp covered this area but each group followed a more or less well-defined orbit, ranging from twenty-five to one hundred miles from its winter base.”^{29:44} The preferred area for winter camps was along the banks of the Humboldt River where a larger population could gather. Based upon the summer range, the population density of these Shoshone is estimated to be between one person per ten square miles and one person per fifteen square miles.^{29,71}



Photo 4.1. Mormon crickets swarming near Mountain City in the upper Owyhee subbasin

1. Native Americans following contact

Following contact with European settlers, the Native Americans living within the Owyhee uplands made major changes to their ways of life. Some of these changes were voluntary while others were forced upon them by circumstance. Harris chronicles these events for the White Knife Shoshone.²⁹ While most of the following events were centralized along the Humboldt River, the White Knife population affected were native to the upper Owyhee subbasin.

Northern Nevada and southwestern Idaho were not heavily traveled by European Americans until gold was discovered in California in 1848 and Nevada in 1849. The California migrations wrought a great ecological disturbance in northern Nevada. The decade of 1850-60 was eventful for the White Knives. “Even during this late period of 1850, it seems that the White Knives did not yet have horses. Mules and horses were stolen, it was true, but they were not used for transportation, but to supplement the meager food supply which had already been diminished by the activity of the fur-trappers . . . and intensified by the passing of the emigrant trains.”^{29:75} It wasn’t until

1854 that horse were noted being used as a pack animal by the White Knives, but soon after, in 1859, the horse had changed the tribe's dynamics as they transported food and camped in larger groups. "As early as 1855 and again in 1859, some Indians, with government aid, attempted to do some farming. However, these first farms were unsuccessful and abandoned."^{29:81}

The 1860s brought another set of changes to the White Knives. From the establishment of large groups, they started raiding European wagon trains and settlers. These hostilities ended in 1863 with a treaty that promised them money as well as the hope of a reservation.²⁹ However no reservation was established until 1877 and the fourteen intervening years were hard for the White Knife population. "When some of the Indians were successful in raising crops, the Whites [Euro-Americans] dispossessed them from the fertile land. This was done by due legal process. . . . In 1875, Farmer Gheen reported: 'Some of the Indians who are engaged in farming, are compelled to rent land from the whites, nearly all of the tillable land being claimed by the white settlers . . . The whites are rapidly settling this country, and in many cases the Indians are compelled to give up their little farms. In other cases, the necessary water used by the Indians in irrigating their small patches was diverted from the streams above the Indian farms by White ranchers, thereby rendering the land valueless.'^{29:81-82} Between their failure as farmers, the loss of native food supplies, and delays to receiving a reservation, "the White Knives could no longer forage as self-sufficient camp units and so resume their former mode of life. Thoroughly discouraged by their failure to compete with the Whites as farmers, disheartened by the exploitation and their distrust of Whites, many Indians completely gave up the fight to gain their livelihood from the land. . . . Their solution was to attach themselves . . . to mining towns, ranches and railroad towns. Their new attempt at adjustment was to eke out what existence they could by doing wood-cutting, herding, washing clothes, [and] odd jobs."^{29:82}

In 1877 a reservation was established at Duck Valley for the Western Shoshonean groups.

C. At contact

Characterization of the landscape and conditions at the time of contact must rely on the observations of the few individuals who kept records, primarily diaries, of their journeys. From these observations of small sections of the landscape, we can extrapolate to conditions in the upper Owyhee watershed.

1. The fur trade

We do not know whether the fur trade that existed on the coast had already affected the area by encouraging the taking of animals for fur by the Native Americans. In the last decade of the 1700s, "a healthy 'ship based' fur trade flourished."³⁶ The editor of Robert Stuart's narratives notes that "Seafaring folk who, hailing principally from Boston and Salem, Mass., had for years been accustomed to triangular voyages in which they laded their ships with trading goods beloved by Indians, exchanged these goods for furs among the . . . [people] on the Pacific coast, bartered these furs for tea, nankeens, and silk in China, and then with their precious oriental cargo returned to their home port."⁹⁰

It didn't take long after the journey of the Corps of Discovery across the US before the exploitation of the western region of the continent expanded. One member of the Lewis and Clark expedition, John Colter, remained in the West as a fur trader. The fur trade spurred the initial exploration of the region by nonnative peoples. By 1809 there were 25 Russian colonies along the Pacific coast of North America, extending as far south as California.⁶⁹

Groups of trappers were some of the first people to make written records of the conditions in southeastern Oregon, southwestern Idaho, and northeastern Nevada at the time of contact. Two principal trapping companies exploited the region.

One company exploiting the region had been granted a Royal Charter in 1670. The Governor and Company of Adventurers of England Trading into Hudson Bay was better known as The Hudson's Bay Company.⁴⁹ A group of trappers had formed another company, the North West Company or Nor'Westers, in the late 1770s. Their competition with the Hudson's Bay Company for control of the northern fur trade motivated exploration into the North American interior. Twelve years ahead of American explorers Lewis and Clark, Alexander Mackenzie, a Scotsman, had crossed Canada and reached the Pacific.⁴⁸ The fierce rivalry which developed between the Nor'Westers and the Hudson's Bay Company led to the expansion of trade into new territories, particularly by the North West Company.

New competition for the British companies came from Americans. John Jacob Astor, one of the world's richest men, saw dollar signs. He formed the Pacific Fur Company in 1810 intending to establish a fur-trading base of operation at the mouth of the Columbia River. Fort Astoria was established in 1811.⁶⁹ Wilson Price Hunt, sent by Astor to find a convenient overland route to the Oregon coast, kept sketchy notes on his journey westwards to Astoria in 1811 to 1812. Robert Stuart, sent back to the east to gain help from Astor, kept more complete notes on his eastward journey from Astoria in 1812. Both these men, like other early travelers, found routes which followed the Snake River from what is today Wyoming to Farewell Bend, Oregon (Figure 4.4).

During the war of 1812 between Great Britain and America, the British controlled the seas and could arrive at any time and seize Astoria and its properties by force. Therefore the Pacific Fur Company sold its interest in its forts in the northwest to the North West Company. When the war ended in 1814, the treaty provided for the return of all captured property. However, Astor did not get Fort Spokane or his other posts back because they had not been captured but sold.^{15,66}

The North West Company was overextended and unable to sustain its network. In 1820 they merged with the Hudson's Bay Company. Now the Hudson's Bay Company controlled almost three million square miles.⁴⁸

By the mid-1820s, independent American traders were trapping along the Snake River. George Simpson, the Hudson's Bay Company governor felt this was an invasion of the western fur country. He decided on a scorched earth policy. Oregon and the West would be trapped clean. Not a single beaver would be left alive. He stated that "strong trapping expeditions should be sent south of the Columbia. These may be called the 'Snake River Expeditions.' While we have access we should reap all the

advantage we can for ourselves, and leave it in as bad a state as possible for our successors."⁴⁷

2. The journals

There are virtually no early records specifically of the Owyhee Watershed. The records which exist are journals of the trappers and later of early travelers and settlers. They recorded what was of concern to them. The trappers kept track of the number of beaver harvested, of the condition of their horses, of encounters with Native Americans, and of hunger and hardship. The records of the emigrants traveling along the Snake River or the Humboldt River dealt with sickness and death in their trains, disputes among members of the parties, and lists of places where they stopped. Neither set of chroniclers set out to describe the countryside. From information gleaned from different writers, we can get an idea of the conditions in the upper Owyhee watershed at the time of contact.

a. The brigades.

The Hudson's Bay Company sent out brigades of trappers in the 1820s that included anywhere from 50 to 200 men, women, and children. Besides trappers, there were hunters, spouses, and families.⁵⁷ John Work's brigade consisted of 115 people. The 21 men and one slave were probably armed. Most of the 29 women were probably Native American wives of the trappers. They cooked, packed and unpacked the equipment, skinned beaver, and cleaned and stretched the hides. The 22 boys and 23 girls shared the work. They gathered wood, built fires, and helped keep track of the horse herd which consisted of 272 head at the beginning of the trip. Work's brigade started with 337 beaver traps.³³ The Snake River Brigade under Peter Skene Ogden used 200 horses for riding and carrying supplies, traps, and furs.¹⁰⁴

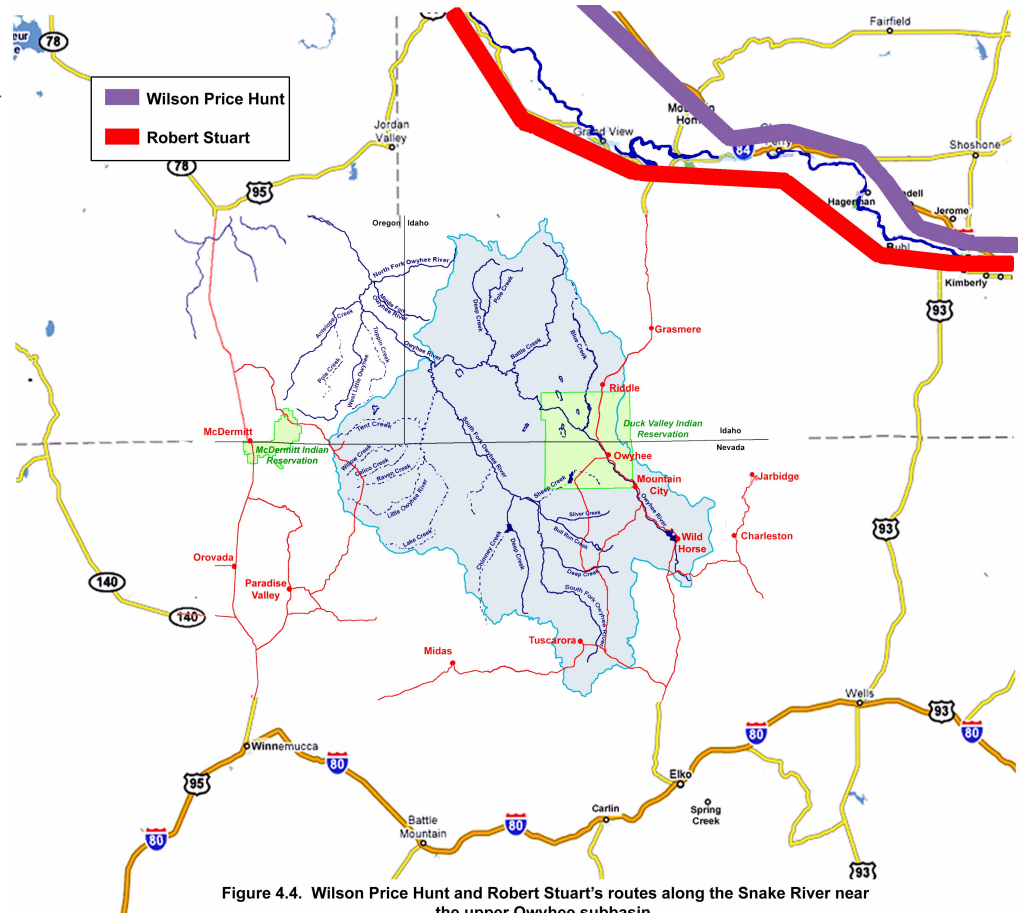


Figure 4.4. Wilson Price Hunt and Robert Stuart's routes along the Snake River near the upper Owyhee subbasin.

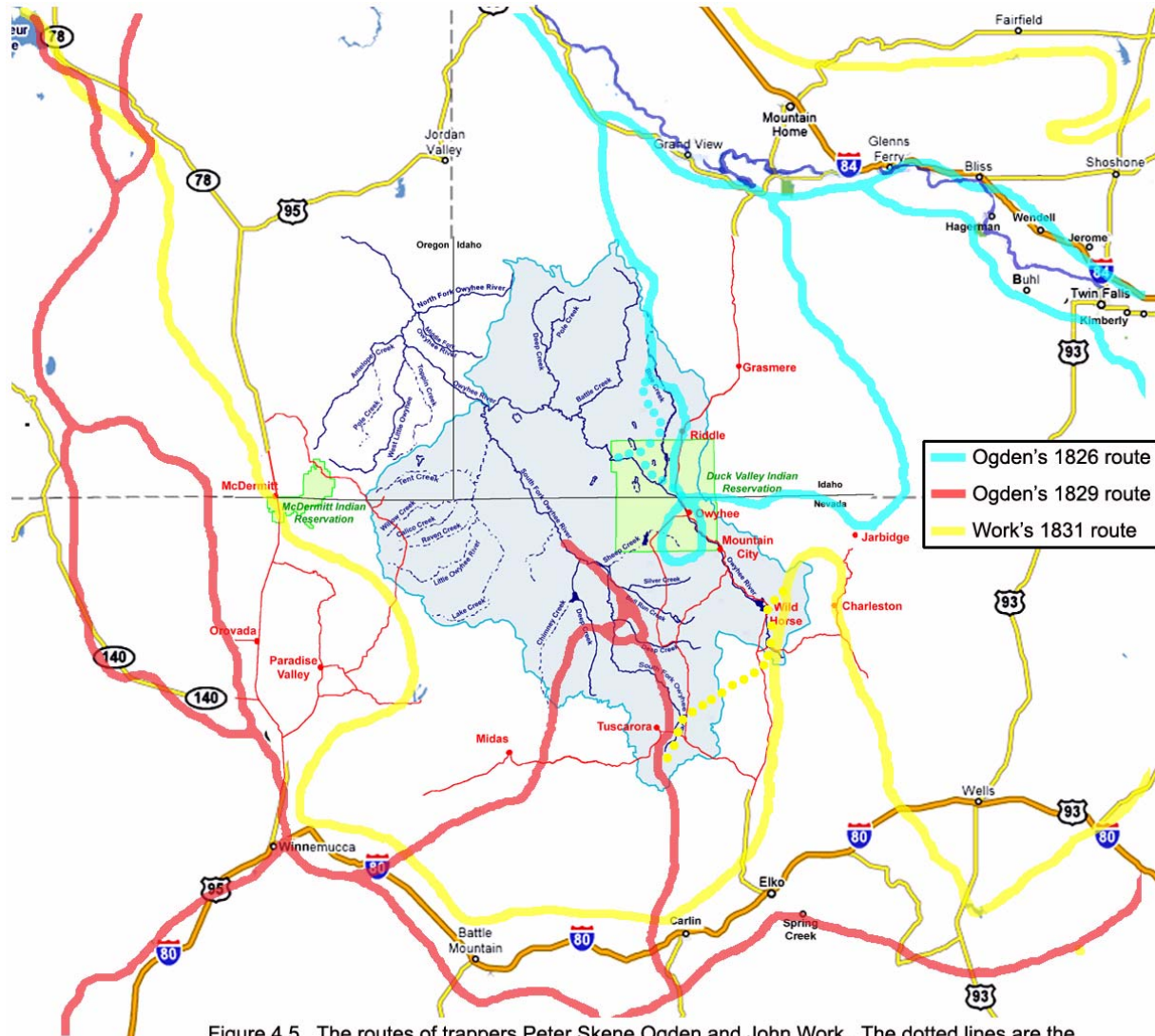


Figure 4.5. The routes of trappers Peter Skene Ogden and John Work. The dotted lines are the author's determination based on the original journals.

Two of Ogden's trapping expeditions took him into the upper Owyhee subbasin. John Work's first Snake Country expedition on behalf of the Hudson's Bay Company, after taking over that region's trapping operations from Peter Skene Ogden, also took him into a small section of the upper Owyhee subbasin (Figure 4.5).

b. The effect of trapping on conditions

Peter Skene Ogden kept diaries of trapping trips from 1825 to 1829 while leading the Snake River Brigade of the British Hudson's Bay Company.

Already by 1826, Ogden was noticing a change in the condition of the countryside. There weren't as many beaver. In February of 1826 he noted changes on two rivers. After sending trappers up the Malheur River he wrote "Trappers who have been some distance up this river . . . report there are but few beaver. . . . It is rather strange for in 1819 this stream was well stocked in beaver and from its not having been trapped since, I had hopes of finding some more."⁶³ He found a similar situation on the Payette River, "it was then [1819] rich in beaver but now destitute."

Later in the journey when he was within the upper Owyhee watershed, he laid the blame first on "American traders [who were]. . . exerting themselves to ruin the country as fast as they can and this they will soon effect,"⁶³ and on the Native Americans "The fork we left this morning from was not many years since well stocked in beaver but the Snakes have destroy'd all not leaving one."⁶³

Ironically a short while after blaming the Americans for a lack of beaver, his diary written near the northwest corner of Duck Valley Indian Reservation reads "This day 11 beaver 1 otter. We have now ruined this quarter. We may prepare to start [leave]."⁶³

In 1829, Ogden recognized that the Hudson's Bay Company trappers were largely responsible for the elimination of beaver. Soon after Ogden had entered the upper Owyhee subbasin from the south, he wrote, "It is scarcely credible what a destruction of beaver by trapping this season, within the last few days upwards of fifty females have been taken and on an average each with four young ready to litter. Did not we hold this country by so slight a tenure it would be most to our interest to trap only in the fall, and by this mode it would take many years to ruin it."⁶⁴

c. General description of the upper Owyhee subbasin

The topography of the upper Owyhee subbasin has not changed since Euro-American entry into the area. Therefore, we can expect that at the time of contact, there were similar differences caused by elevation. The higher areas of the Bull Run and Independence Mountains would be cooler and experience more rainfall. Like today, the climate would be highly variable.

One member of Wyeth's 1832 party, John Ball, kept notes which he later edited. He had been traveling with a group of trappers on the Humboldt. When some of them went westward, Ball, with 12 others, turned north and traveled down the Owyhee River to the Snake River.

"Our aim was to get back on to the Lewis [Snake] river and follow that to its junction with the Columbia. And I now presume we were on the headwaters of the Owyhee, the east boundary of Oregon. And the next day and for days we kept on the same or near. We pursued it till so shut in that we had to leave it by a side cut and get onto an extended plain above, a plain with little soil on the basaltic rock, and streams in the clefts or canyons. One day we traveled 30 miles and found water but once, and in the dry atmosphere our thirst became extreme. On approaching the canyon we could see the stream meandering along the narrow gorge 1,000 feet down, and on and on we traveled not knowing that we should survive even to reach it to quench our thirst. Finally before night we observed horse tracks and that they seemed to thicken at a certain point and lead down the precipitous bluff where it was partially broken down. So by a most difficult descent we reached the creek, dismounted and [went] down its banks to quench our thirst. And our horses did not wait for an invitation, but followed in quick time. The bluffs were of the burnt rock, some places looking like an oven burned brick kiln, and others porous."⁴

Since the beaver that the trappers sought lived along waterways, the trappers tended to travel in river and stream valleys.¹⁰⁴ The main camp was usually established along the river with trapping up subsidiary tributaries. Both Ogden and Work used “road” to mean the route which they chose for moving the whole camp. This was seldom right next to the river, but on the land to the side or above the river.



Photo 4.2. The canyon of the east fork of the Owyhee River.

Ball's description of expanses of nearly barren basaltic rock was echoed by numerous entries written by John Work in his journal. “The road very hilly and rugged . . . The country has a bare appearance.” “The road is very hilly, rugged and stony.” “The road hilly and uneven and in places stony,” or “stony and generally gravelly and hard, which much wears down the horses' hoofs and renders their feet sore.”¹⁰¹

Ogden expressed similar sentiments when he wrote that “we had a level road but a stoney one,” and on a different day that they “had no cause to be pleased with our road still less our poor horses for it was one continued stone from the time we started to our encampment.” One day they didn't move the camp since “the horses that were on discovery yesterday from the effects of the stones can scarcely crawl this day.” He also commented on the lack of stones when the route was “very hilly but fortunatly not stoney.”⁴⁷

In addition to stony land, both Ogden and Work also found deep gullies or canyons which impeded their passage. Although Work had described part of his travel as being on a road which was “very hilly and rugged, being over a number of deep gullies,” his expedition did not attempt to continue to follow “one stream which runs to the N. W. through a narrow channel bordered by steep, impassable rocks [Wild Horse].”¹⁰¹

Ogden encountered the same problem along the Owyhee. On June 12th, 1826, his scouts found that “the river is closed in by high cut rocks simalar to those we saw on Riviere au Bruneau and no doubt equal in length[.] they ascended a high hill and as far as the eye could reach it was one continued rock.” The next day some Indians “gave our men to understand that . . . it was impossible for us to follow the river.” After checking in another direction, on June 16th he wrote “I am at a loss what course to take to extricate ourselves . . . I sent Mr. Dears but he returned late in the evening and gives

us no hopes from the quarter he has been in as far as the eye could reach one continued rock and stone[.] We must before we start tomorrow examine another quarter."⁶³

Three years later, following the South Fork of the Owyhee, Ogden's camp "were obliged from both sides of the river being so rocky to leave it and ascend some high hills. We had not proceeded far when again our progress was stopped by steep gullies of cut rocks, and by winding up and down until near sunset we advanced not more than eight miles, and had some difficulty in reaching the river." The next day he wrote, "So far as they [trappers] have been are one continued rocks . . . I sent three men on discovery late in the evening. They returned having reached the main branch seen by me in 1826, they also saw the mountains on the south side of the South Branch. They followed the two streams to their junction and as far as the eye could reach one continued rock, and from the time they started to their return could not reach the river. . . . I must now retrace back my steps."⁶⁴

i. Plains

Although Ogden and Work both described much of the countryside through which they are passing as rock or stony, they also encounter more hospitable areas. John Work wrote that, "this little valley is about 20 miles long and 15 wide."¹⁰¹

Peter Ogden wrote "after so long traveling over stones and gravel we were rather surprised to find the banks of this river composed of good rich soil." However, some playas on what is today the Duck Valley Indian Reservation had filled with water and he recorded that "we cannot proceed far on this side there being a lake and swampy country which will take us a day to go round."⁶³

Leaving the Humboldt watershed and entering the Owyhee watershed, Ogden wrote that they had "Crossed the mountains and encamped at 12 a.m. at the commencement of a large plain." Farther north he recorded that it was "nearly two miles [of] one continued hill and rock, still the river fine, we then reached a fine level plain about six miles in length."⁶⁴

ii. Mountains

Both Ogden and Work comment briefly on the Independence and Bull Run Mountains, impressed by the amount of snow still on them. In



Photo 4.3. Snow covered peak in the Bull Run Mountains on June 1

June 1826, Ogden wrote that “we are surrounded by lofty mountains on all sides well covered with snow as in the middle of winter.”⁶³ Work wrote that there “is still a good deal of snow in large banks in the mountains” and “to the westward there is a high rugged mountain covered with snow.”¹⁰¹

iii. Climate

John Ball noted that “in the dry atmosphere our thirst became extreme”⁴ Although neither Ogden nor Work comment on the lack of humidity, Wilson Price Hunt's party, being the first Euro-Americans to utilize a path along the Snake River was not prepared for the arid nature of the region and the resulting need for water away from streams so “several Canadians had begun to drink their urine.”³⁴ In the surrounding regions of Idaho and Nevada, the lack of water was also mentioned by trappers and others when they were cutting across country.⁸²

Both Hudson's Bay brigade leaders into the upper Owyhee subbasin noted variations in temperature in the Nevada section of the subbasin within the space of a few days. In April of 1829 near Tuscarora, Nevada, Ogden complained that it was “very sultry equal to the heat in June.” Ten days later somewhere on Bull Run Creek, possibly at a higher elevation, “it commenced snowing and continued all day. Nearly a foot has fallen.”⁶⁴

South of Wild Horse Reservoir, Work wrote that “These nights past we have had sharp frost, but here the weather is sultry” and later that it was “cloudy, sultry weather in the morning, which was succeeded by thunder and heavy rain and hail, raw, cold weather afternoon.”¹⁰¹

Ogden also noticed differences in temperature between years. In June of 1826 near present day Owyhee, Ogden's party “found nearly three feet of snow but this only for a short distance[,] here it was plainly visible to all the vegetation is very backward [season wise] . . . the summer heat has not been great this season and indeed this day we experience no inconvenience from our winter dress nor have we since the spring commenced”.⁶³ A few days later he wrote, “It froze a quarter of an inch in thickness”.⁶³

3. Vegetation

What was the vegetation in the upper Owyhee subbasin prior to the advent of Euro-American settlers into the area? The trappers' sketchy descriptions are probably the best records we have. Most of the trappers' observations were terse and mentions of vegetation were usually only an aside.

Except for Ogden and Work, the other trappers skirted the upper Owyhee subbasin, but their writings paint similar pictures of the area. The principal routes utilized between trapping areas were along the Humboldt River to the south of the upper Owyhee subbasin and along the Snake River to the north of the subbasin.

a. Few Trees

i. Snake River Plain

Within the Snake River plain, there were few trees. Slightly to the east of Boise, Wilson Price Hunt recorded in his diary that “The country was devoid of wood”.³⁴ Both

Captain Nathaniel Wyeth and Ogden mentioned the lack of trees as a deterrent to building rafts or canoes for river travel. Wyeth "took a ride up the river to find a camp where timber, fit for a raft which we propose to build to carry some of the loose baggage and some men who are on foot can be found, [but] found none."¹⁰³

Ogden stated "If this was a country of wood we might soon make a canoe . . . but we cannot even find willow to make a raft still less scarcely a sufficiency to cook our victuals."⁶³ He reiterated this in another entry. "The country [is] level, soil sandy, no wood to be seen excepting a few willow on the banks of the river and not even in abundance."⁶³ The next day they "encamped on a small river destitute of wood" and the following day "In hopes of finding grass we continued on till near night, but in vain, and encamped without wood, food for ourselves, and no grass."⁶³

By contrast to the other rivers, the Boise River had timber along it and this was frequently noted. Wyeth,¹⁰³ Hunt,³⁴ Stuart⁹⁰ and Col. Fremont¹⁰⁵ all note the atypical vegetation along the Boise River.⁸²

ii. Humboldt River Plain

Peter Skene Ogden's expedition of 1829 was the first known exploration by a non Native-American along the Humboldt River. He also noticed the lack of trees and wrote "the river is scarce in wood." In another entry he stated "Wood very scarce, only a few willows on the banks of the river." Elsewhere he also found "willows in abundance."⁶⁴

John Work traveled a similar path to Ogden's along the section of the Humboldt River directly south of the subbasin. He also noted the willows and wrote "The river here has a good deal of willows on its bank."¹⁰¹

The other record we have of early trappers along the Humboldt is an account of an expedition of American trappers led by Joseph R. Walker in 1833.⁷⁹ Walker roughly followed Ogden's route from Elko west. Zenas Leonard kept a journal on the trip and later published a chronicle of the trip. He wrote that they followed "a large stream [Humboldt River]; and to which we gave the name of Barren River — a name which we thought would be quite appropriate, as the country, natives and every thing belonging to it, justly deserves the name. — You may travel for many days on the banks of this river, without finding a stick large enough to make a walking cane. — While we were on its margin, we were compelled to do without fire, unless we chanced to come across some drift that had collected together on the beach."⁴⁴

iii. Within the upper Owyhee subbasin

The total number of entries into their journals made by the trappers within the upper Owyhee subbasin is quite limited. In 1826 Ogden's brigade were trapping within the subbasin for only 12 days. In 1829 they were there for 19 days. John Work was only in the subbasin for 13 days.

Ogden wrote in 1826 that they "saw yesterday . . . a fork of Owyhee River but from all appearances destitute of . . . wood, there being but a few willows and thinly scattered."⁶³ And willows are again mentioned when he wrote "this stream certainly

looks well, well lined with willows."⁶³ Work also commented on the presence of willows along stream banks. "The different forks in the valley have some willows on the banks."¹⁰¹

No other entries specifically mention a lack of wood. However, some of the observations on the general appearance of the countryside might be assumed to support this. In 1829 Ogden stated that "we had this day a level country, but a most barren one, covered with worm wood [sage brush] as is generally the case, travel in any direction you please."⁶⁴ Likewise Work wrote "The country has a bare appearance."¹⁰¹



Photo 4.4. Willows and a beaver dam on Trent Creek in the upper Owyhee subbasin.

Probably even more indicative of the lack of trees along the waterways is the fact that their presence is noted along specific streams. Where Burns Creek enters the South Fork of the Owyhee from the mountains to the east, Ogden wrote that they had "crossed over the plain and reached the junction of the different forks which forms a fine stream, well wooded."⁶⁴ As they are leaving the subbasin he has scouted ahead and found Chimney Creek. The next day he wrote "We reached the creek seen by me yesterday . . . its being well wooded and deep."⁶⁴

South of Wild Horse, John Work noted "a branch [tributary] of Ogden's river where it issues from a steep, snow covered mountain. This stream is well wooded with poplar and willows." Then when Work ""Crossed the mountains . . . The road was in places nearly barred with burnt fallen wood. The little fork, where we are encamped is well wooded with poplar and willows."¹⁰¹

As brigade leaders, neither Work nor Ogden followed the smaller streams up into the mountains as that was the job for their trappers. Therefore, where they were noting some trees along streams flowing out of the mountains, it might not be too much of a stretch to infer that other streams in the mountains might have trees along their banks. Just before leaving the subbasin John Work wrote that "some of the men visited the head of the river to the mountain, and two forks that fall in from the eastward to near the same, and though they are well-wooded and apparently well adapted for beaver, yet scarcely a mark of them is to be seen."¹⁰¹

b. Willows

In the previous section several citations mention willows. Similarly, John Work noted that "The part of the river we passed today is well-wooded with willows"¹⁰¹ Aren't willows trees? The willow which the trappers mention is generally not a tree. It is an upright, deciduous shrub which may grow to 23 feet but is generally about 12 feet tall and about 15 feet wide. It grows in sagebrush country along creek bottoms, both on the shoreline and sometimes in the water. Willows form dense thickets of pure, even-aged shrubs. Short-lived, they are one of the most shade-intolerant native species and are threatened by both fire and drought. They can not survive long if the water table becomes too low.^{13,14}

Willows were important to trappers because they provided building materials for the beaver dams and houses. Willows are often the most available species in much of the beaver's range and favored by the beaver. In addition to willows, beaver might use sagebrush, driftwood, aquatic plants, or other debris in construction of a dam. Bark, leaves, and growing tips of willow also make up a large portion of beaver diet in many areas.^{3,7} Willows also provided a building material for Native Americans⁸² and John Work. Near McDermitt, John Work "Proceeded up the river three miles . . . and succeeded in crossing it by means of a bridge of willows."¹⁰¹

c. Other vegetation

The records remaining are only accounts of trapping expeditions on the eastern side of the upper Owyhee subbasin. There are no journals of any observations on the western side. There may have been few streams with willows or other conditions which beckoned trappers into the area.

Both Ogden and Work passed to the west of the subbasin (Figure 4.5). Near McDermitt, two of the men in John Work's party spotted "a small Indian camp, but [they] fled on our appearance and concealed themselves among the wormwood [sagebrush]."¹⁰¹ A couple of days later, Work also noted lots of sagebrush, "The road good but in places stony and embarrassed with wormwood."¹⁰¹ Further to the west of McDermitt, Ogden said they were traveling "over a plain covered with worm wood."⁶⁴



Photo 4.5. A large "plain . . . covered with worm wood" near the Idaho - Nevada border in the upper Owyhee subbasin

South of the subbasin near Elko, Ogden also wrote that the large plain was "covered with worm wood."⁶⁴

Since the trappers' horses required grass, the condition of the grass in an area was important. In the subbasin Ogden had written in 1826 that "our horses being greatly fatigued and having been nearly two days without grass we encamped early on a small brook."⁶⁴ The presence of grass could affect plans. As Ogden left the subbasin and recognized the terrain, he wrote "We encamped an hour earlier than usual knowing well if we advanced farther our horses would be without grass."⁶³

South of the upper Owyhee subbasin a number of entries in Ogden's 1828 journal concern the need for grass. "Grass very scarce and our horses so weak." "For the preservation of our horse . . . from want of grass . . . are in a low state." One time he moved camp "with the hopes of finding grass for our horses". In the next camp he wrote "although grass scarce here . . . I did not raise camp."

As contrasted to the relatively bleak impression of the subbasin given by mentions of sagebrush plains and lack of grass, Ogden also wrote that he had seen "in this country certainly a fine variety of flowers, many known and many unknown to me. A strange sight to see red clover in abundance but not more than an inch in length. In this days journey a botanist would have had full employment and probably would have many additions to his stock."⁶³ Also, the many references to the Native Americans digging roots would indicate that the plants producing these roots were abundant around Duck Valley. Ogden also referred to one area as "fine pasture".⁶³

At the time of Euro-American entry into the region, much of the landscape of the upper Owyhee subbasin probably had vegetation similar to that described in these fragments gleaned from the trappers' journals. Sagebrush plains, areas with little grass, and expanses of rocky ground predominated. Some streams' banks had willows along them and parts of the swampy areas of Duck Valley had more verdant vegetation.

4. Game

Both Peter Skene Ogden and John Work mentioned times of starvation. This shortage of food is particularly amazing since the trapping parties did eat the beaver which they trapped. Also, the large groups were accompanied by hunters whose sole function was to provide the rest of the party with meat. Joe Meek explained this aspect of trapping.

"It was the custom of a camp on the move to depend chiefly on the men employed as hunters to supply them with game, the sole support of the mountaineers. When this failed, the stock on hand was soon exhausted, and the men reduced to famine. This was what happened to Sublette's company in the country where they now found themselves, between the Owyhee and Humboldt Rivers. Owing to the arid and barren nature of these plains, the largest game to be found was the beaver, whose flesh proved to be poisonous, from the creature having eaten of the wild parsnip in the absence of its favorite food. The men were made ill by eating of beaver flesh, and the horses were greatly reduced from the scarcity of grass and the entire absence of the cotton-wood."³⁸

a. Scarcity of animals

Within the upper Owyhee subbasin, John Work noted that "There are some cranes in the valley" following his statement that "Several of the people were out hunting, but with little success, which I regret as provisions are getting pretty scarce in the camp." Still on the east side of the Independence Mountains, he wrote "Not an animal except a chance antelope to be seen." However, after crossing the mountains to the west side and still within the subbasin, he recorded that "This seems to be a miserably poor country, not even an antelope to be seen on the plains."



Photo 4.6. Sandhill cranes in the Mountain City valley.

After leaving the basin Work wrote that "The best hunters are out, but as usual did not see a single animal of any sort."¹⁰¹ Likewise, Ogden stated that there was "not a trace of an animal to be seen in any direction . . . makes our situation the reverse of being pleasant."⁶³

Joe Walker's expedition experienced a similar lack of game. Zenas Leonard wrote that "having traveled through a poor, sandy country extending from the buffaloe country of the Rocky Mountains, to our present encampment, a distance of about 1200 miles, . . . and so poor and bare that nothing can subsist on it with the exception of rabbits — these being the only game we had met with since we had left the buffaloe country, with the exception of one or two antelopes. Notwithstanding these plains forbids the support of animals of every description."⁴⁴

b. Substitution of roots

Ogden also mentions the lack of game when commenting on the Native-Americans' use of wild plants. In the upper Owyhee subbasin he wrote "This appears to be the season of roots in this quarter for all we see are busily employed in collecting them . . . if providence had not given them roots to subsist on 6 months in the year they would soon perish for want in such a barren country. They have no other resource to prevent them from dying."⁶³

Five days later he commented that "all along our [route] this day the plains were covered with women digging roots [.] at least ten bushels were traded by our party."⁶³ His own party took advantage of the fact that "the Camass root was to be seen in abundance and a considerable quantity was collected by the women of the camp."



Photo 4.7. Flowering camas in the upper Owyhee subbasin. Camas bulbs were one of the staple roots harvested from the upper Owyhee subbasin.

Earlier he had complained that “we must as we have done content ourselves with a dish of roots in lieu of buffalo or beaver.” A group of Indians which they encountered further along the route “were busily employed collecting roots [...] a considerable quantity were traded from them[...] indeed two thirds of the camp subsist entirely on them, they far from being unpleasant in taste of flavour, but to me as well as others cause severe pain in the bowels with other unpleasant effects I shall not here mention.” Obviously unhappy with the diet since “almost any thing would be preferable to the roots we now subsist on”, he must also have rejoiced when “All our trappers came in and our success this day amounts to 44 beavers[.] This enables all once more to feast.”⁶³

John Work also traded with Indians within the subbasin. “Some Indians visited us with a few roots to trade . . . The small quantity of roots they bring . . . provides several people with a meal occasionally which is very acceptable to them as provisions . . . scarce among us.”¹⁰¹

As Ogden was leaving the subbasin he observed that “We well know that neither summer or winter are they any [deer] to be seen from River Malade (Sickly River) to Burnt River and this certainly, I am convinced, is the principal and only cause which obliges the Natives to go to buffalo [west of Yellowstone] otherwise many would perish from want . . . those who unfortunately for them who have no horses pass their lives without ever tasting meat.”⁶³

c. Sacrifice of horses

The extent to which Ogden and Work’s brigades sometimes lacked game is shown by the sacrifice at times of their own animals although loath to do so. As Ogden left the basin in 1826, he recorded his worries. “I trust we will preserve them [horses] with the exception of those [which] should we not procure salmon will inevitably fall for

the kettle . . . a more wretched country was never seen and which I cannot prevent."⁶³ His worry was warranted as a little later he wrote "when we last passed here a horse was then killed for food and the same [h]as again been acted here this day."⁶³

Just after leaving the subbasin, John Work wrote "I much regret finding the river so high that it cannot be hunted as the people's last reliance was upon the few beaver which they expected to take in it in order to make up the hunt, but, more particularly, for food. The most of them are becoming very scarce of provisions, and they have now no other recourse but to kill horses."¹⁰¹ A couple of days later, "Two of the men, J. Troupe and G. Rocque, killed a horse having nothing to eat, the provisions being all gone." And, "One of the men, P. O'Brien, was under the necessity of killing one of his horses to eat. Thus are the people in this miserable country obliged to kill and feed upon these useful animals, the companions of their labors."¹⁰¹

Near Paradise Valley, Ogden also was worried and wrote "we are now nearly destitute of food, the three horses found have been killed for food, and should we not soon find beaver, many more will soon fall."⁶⁴

d. Antelope (pronghorn)

However, the countryside was not entirely devoid of game. Antelope were occasionally mentioned by both Ogden and Work. Although trained hunters accompanied the party, they weren't always successful.

In 1826, two days before entering the upper Owyhee subbasin Ogden commented that "an antelope was seen also near our encampment." Antelope were mentioned again only the day before the brigade left the subbasin, "Our hunters seeing tracks of antelopes lost no time following them. They saw six, fired but without effect. A fresh meat would be very acceptable to all and to none more so than myself." The next day Ogden wrote "Our hunters joined us as we reach'd the encampment. Only one antelope was seen by them and fortunatly killed and still more so as it so happen by my hunter."⁶³

Twice in the few days before the brigade entered the upper Owyhee subbasin, Work discussed the results of hunting expeditions. "Some of the people were out hunting. F. Payette and L. Kanotti killed each an antelope. These are the only animals to be seen here, and they are so shy that it is difficult to kill any of them. Several of the people are getting short of provisions." "Some of the people were hunting antelopes, which are the only animals to be seen here, but only one was killed." On the day they entered the subbasin, he wrote "Not an animal to be seen but antelopes and but few of them, and even these are so shy that it is difficult to approach them."¹⁰¹

The day they left the subbasin, Work wrote, "Some of the people are out hunting but without success. A chance antelope is the only animal to be seen." Once they were traveling along the Humboldt River, "They saw a small herd of antelopes in the plain, but they could not be approached." "This is really a miserable, poor country, not even an antelope to be seen." After they had traveled clear across to the base of the Steens mountains, Work wrote, "Two antelopes were seen yesterday, which was a novelty."¹⁰¹

e. *Bison*

Throughout the region west of the Rockies, the records of various trappers record little game.⁸² Although there is no doubt that there were some deer and pronghorn, in none of the journals is there any mention of bison. Ogden wondered "why buffalo should be confined to certain tract of country"⁶³ since some of Duck Valley was an equally appropriate habitat. Daniel Montgomery wrote later, "So far as I know, there has never been a trace of buffaloes found west of the main range of the Rockies, except one report that I got thirty or forty years ago from a pioneer named Jonathan Keeney. In 1843-4 he wintered near the sink of Lost River, in central Idaho, near where . . . Mackay now stands. He told me a bunch of thirty or forty head perished there that winter."²¹ Examining reasons for the lack of bison west of the Rockies, Daubenmire¹⁰⁷ says that the phenomena was first remarked by Zenas Leonard. In 1832 Leonard "wrote in his diary that the failure of bison there seemed 'somewhat singular, as the country is just the same, if not better as to grass.'"⁴⁴ Lyman and Wolverton⁴⁶ review a number of different hypotheses for the "paucity of bison in southern Idaho (and areas west and north) throughout the last 10,000 years."⁴⁶

f. *Native consumption of game*

The variety of game eaten by the different tribes who roamed into the upper Owyhee subbasin is consistent with a general scarcity of game. The Tagötöka interviewed by Omer Stewart were willing to both hunt and consume small animals such as mice and chipmunks. In addition to eating deer, antelope, elk, buffalo (from trips east of the Rockies), and mountain sheep, the Tagötöka ate porcupine, jack rabbit, white rabbit, cottontail rabbit, pocket gopher, kangaroo rat, field mice, muskrat, wood rat, woodchuck, squirrel, ground squirrel, chipmunk, raccoon, bobcat, badger, and beaver.⁸⁹ In addition a number of bird species were taken as food. Jack Harris's White Knife informants said that in addition to an occasional pronghorn, deer or mountain sheep that "Insects such as crickets and ants formed a substantial item of diet, but the bulk of food consisted of numerous roots, seeds, plants and berries."^{29:40}

5. *Seasonal water flow*

There are a few mentions in Work and Ogden's journals that could be interpreted as indicating fluctuations in water flow due either to season or to upstream storm events. Ogden recorded two instances of a creek or river rising or falling in a very short period of time. On June 8th, the trappers "found many of their traps high and dry the water having fallen nearly 1 foot perpendicular."⁶³ Another time he commented that "Horse thieves had certainly a favourable night for stealing but did not think proper to make the attempt, the water having risen nearly one foot perpendicular."⁶³

Seasonal variations were indicated by Work when he was traveling near Wild Horse; "The water has been lately very high and all the plain overflowed, . . . but is now subsiding."¹⁰¹ Another day he stated "The river here has been lately very high, and overflowed its banks, but the waters are subsiding, and river about 10 yards wide. Have fallen a good deal."¹⁰¹ As Ogden was leaving the subbasin to the south, he wrote "we reached a fine large stream [probably Rock Creek] . . . but in the fall little or no water remains in it".⁶⁴

6. Conclusions

What sort of picture emerges from the writings of the trappers while traveling in and skirting around the upper Owyhee subbasin? Predictably, the observed climate was very similar to what we would note today. The summer days were hot with almost no rain. Away from the mountains, there were expanses of sagebrush, stretches of rocky ground, areas with little grass, and verdant valleys.

Except for the main rivers and the streams of the Bull Run and Independence Mountains, there were few easily accessible water sources in the summer. Some water courses in the area were also noted as varying in flow at different seasons. There were even observations of overnight fluctuations both up and down.

The vegetation along the rivers in the area was generally willows similar to the coyote willow and other shrubby willows present along the river banks today. Even the willows were not always abundant along river banks. There were trees along mountain streams.

Perhaps the most amazing observation is the generalized severe scarcity of big game, game birds, and rabbits.

D. California and Oregon Trail travelers

The California Trail passed south of the upper Owyhee subbasin while the Oregon Trail passed to the north (Figure 4.6). In 1836, Narcissa and Marcus Whitman traveled along the Snake returning to their mission in Walla Walla.⁹⁹ However, the first wagon train is considered to be the Peoria Party in 1839.²⁵ The first travelers along the California Trail were the Bartleson-Bidwell party of 1841.^{5,78} They roughly followed the later route of the trail. Other small parties of emigrants used the trail until the discovery of gold in California in 1848 when suddenly there were massive parties of emigrants traveling the route along the Humboldt.¹¹ At the same time, the Oregon Trail along the Snake River also became a heavily used route.⁶⁷

Because both trails were somewhat remote from the upper Owyhee subbasin, no attempt has been made to utilize the diaries kept by emigrants along either trail to describe conditions in the upper Owyhee subbasin.

E. Early settlement

1. Discovery of gold

Rich deposits of placer gold were found along Jordan Creek in Idaho in 1863 followed by the discovery of quartz ledges where hardrock mines could be developed.⁹⁸ Miners and gold seekers moved to the area from Idaho and elsewhere. With both placer and hard rock mining, there were "two hundred fifty mines recorded from 1863 to 1865."²⁷ The towns which grew up to supply the mines, Booneville, Ruby City, and Silver City, were the first permanent settlements in the Owyhee watershed. These towns were located just to the north of the upper Owyhee subbasin in the middle Owyhee subbasin. However, the development of thriving communities in the middle Owyhee did not lead to settlement in the adjacent areas of the upper Owyhee.

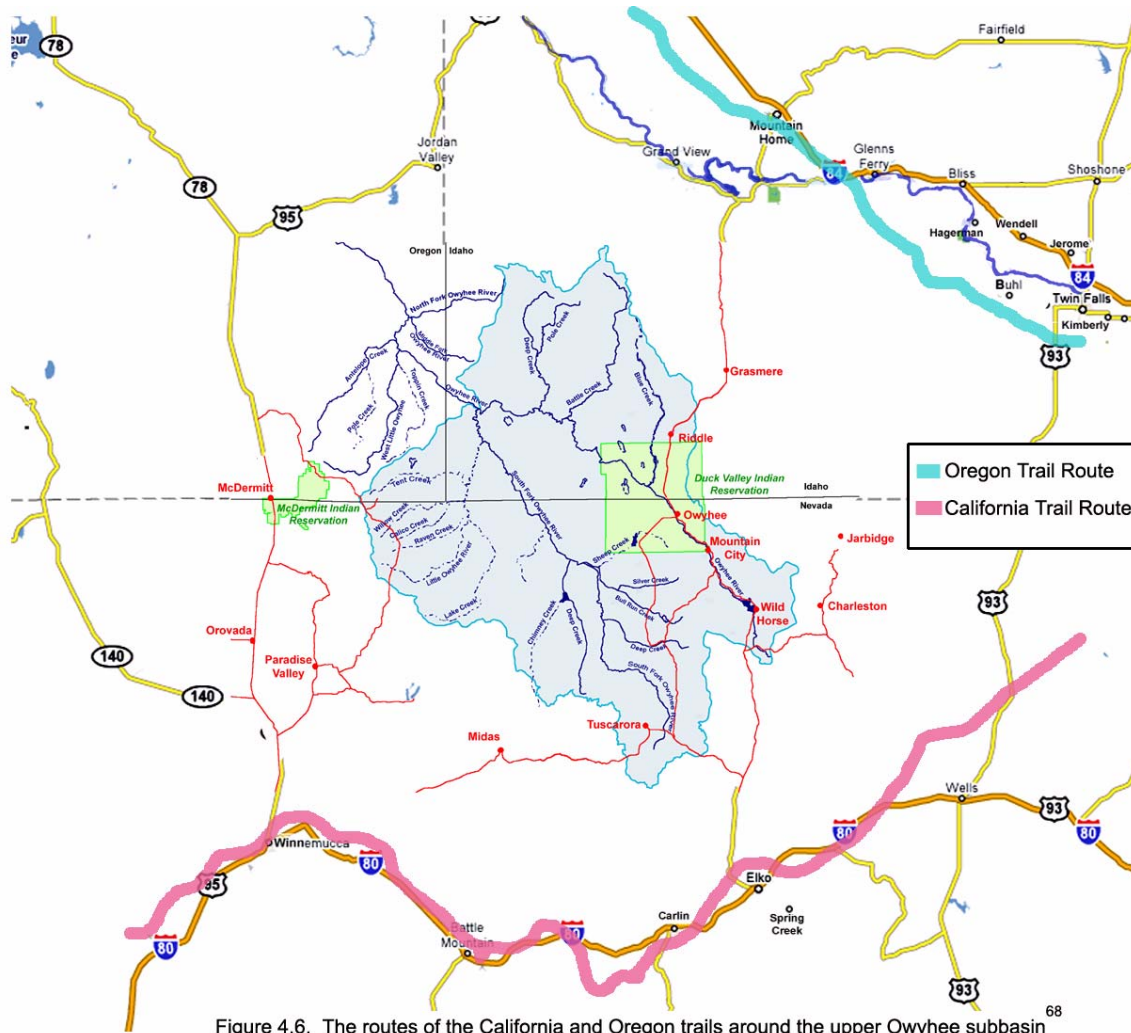


Figure 4.6. The routes of the California and Oregon trails around the upper Owyhee subbasin

Placer gold was discovered in the upper Owyhee subbasin along McCann Creek in Nevada in 1867.²⁴ The area was called Tuscarora and the discovery of gold led to an influx of prospectors into the subbasin. Gold discoveries were made in other areas of the subbasin and by 1868 there were the beginnings of mining towns at Mountain City and Columbia. The original homestead on Jack Creek also was established at that time.²⁶ Throughout the 19th century other towns were started near new gold or silver mining (Figures 4.7 and 4.8).

2. Development of towns

After the discovery of gold at Tuscarora, gold was found in nearby districts. Following the initial strike in any district, there was an influx of miners. Rich mine fields like that around Tuscarora attracted not only the prospectors and hard rock miners but also the gamblers, the promoters, and the adventurers. The first discoveries were rapidly followed by the development of a sizable camp of men and women.⁹⁷ Even small towns such as Blythe City (Blue Jacket mine) might have a justice of peace or constable.²⁶

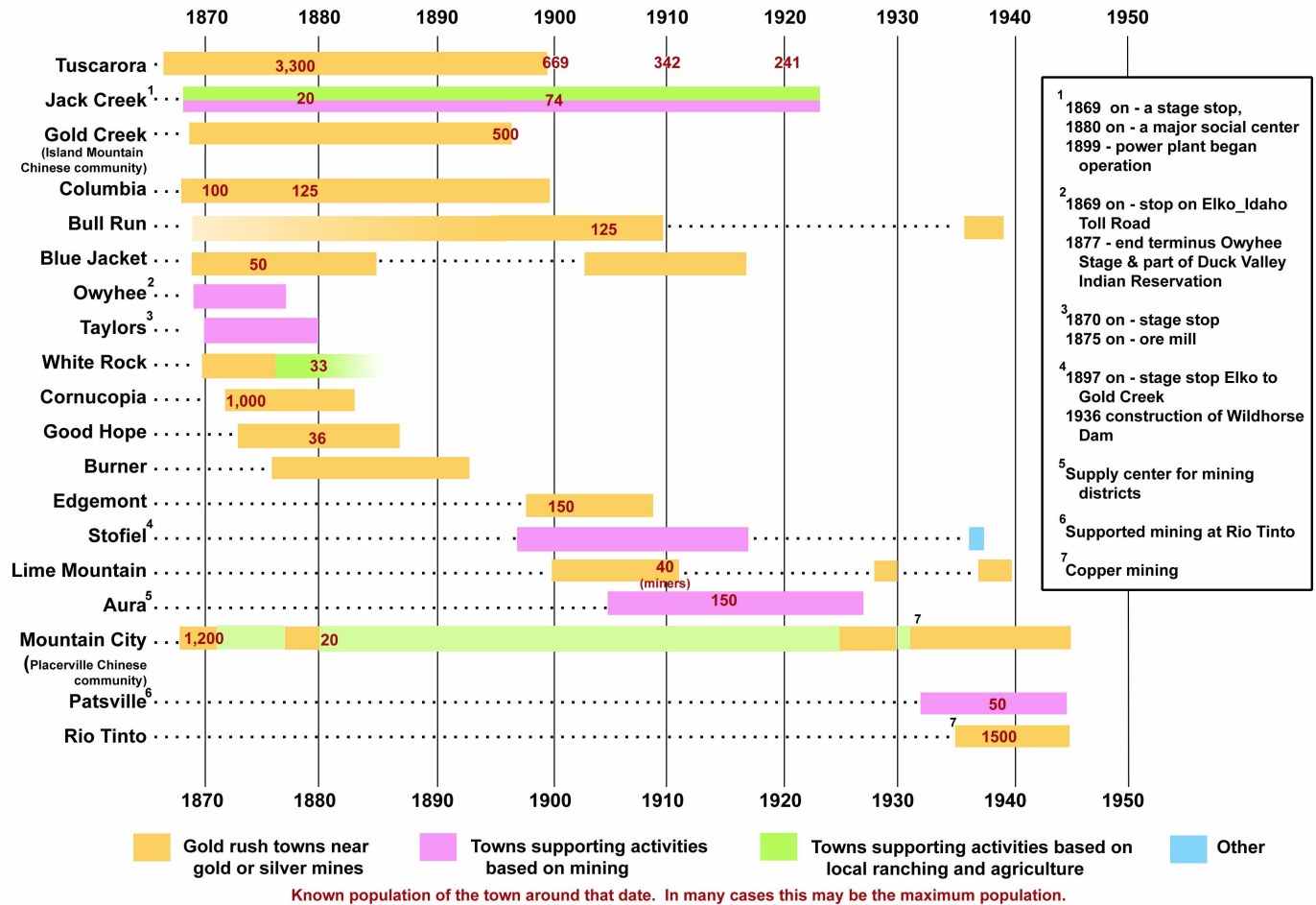


Figure 4.7. Periods of activity of towns in the Nevada section of the upper Owyhee subbasin.

Cornucopia demonstrates the rapid development of an area following the discovery of gold. Placer gold was located near Cornucopia in 1872, and by August 1873, 1,000 people lived in town. In addition to the hotel, boarding house, and dry goods store, town included three saloons, two restaurants, two butcher shops, a bakery, a blacksmith shop, and a small school. For entertainment there were horse races and dances. In 1875 one of the saloons was issued the first gaming license in Elko County.²⁶ Although the original gold found was placer gold, later gold discoveries were lode deposits and hardrock mines were developed.²⁶

Tuscarora grew to be the largest town in the upper Owyhee. The initial placer operations were labor intensive, and Euro-American miners hoping to get-rich-quickly became discouraged.²⁶ In 1869 the Central Pacific Railroad had been completed; Chinese laborers dismissed from the railroad were drawn to Tuscarora.^{26,59} When disgruntled whites sold claims to the Chinese, the Chinese organized into companies for high-volume placer operations. By 1870 only fifteen white prospectors were left and 104 Chinese. The discovery of rich silver lodes located close to town caused another rush of both white and Chinese prospectors.



Photo 4.8. Gold veins occurred in the quartz deposits near Cornucopia

At one point Tuscarora had the largest Chinatown outside of San Francisco. There were two tongs, immigrant societies organized for mutual business and social support, in Tuscarora. Each year the "election" of the "president" of Chinatown provided spectator sport for most of the silver camp's population. A rocket shot into the air carried a bomb. Whichever tong could retrieve the bomb and place it on the steps of their house could keep it. The only rule in the free-for-all was no pigtail pulling. Inside one of the 20 bombs stuffed with presents, candy, and cookies was a gold ring. The candidate

from the tong that found the ring was Chinatown's president for the next year.³² However with the influx of people, the Chinese eventually became not only a segregated, but frequently a despised, minority.²⁶

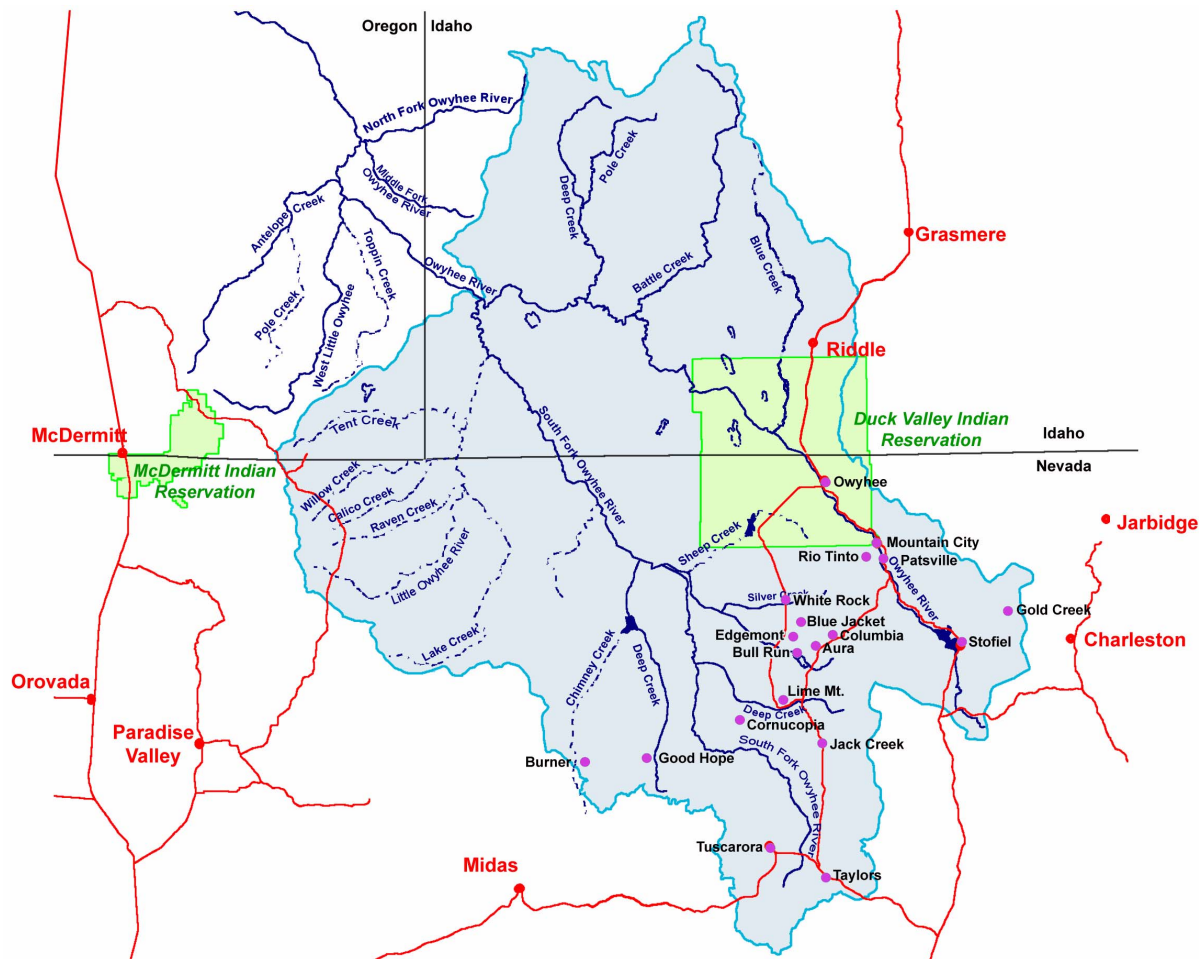


Figure 4.8. Mining era towns (●) in the upper Owyhee subbasin

During Tuscarora's heyday there were around 3,300 residents. David MacLain lived in Tuscarora about 1880. In 1938, he recalled that "there were two large boarding houses in the place, two good-sized hotels, several general stores, saloons, a drug store, a jewelry store, a gun shop, and enough houses to comfortably care for the population."⁹⁷ There were also two breweries, several attorneys, two newspapers, service clubs, bands, the Tuscarora baths, a racetrack, and a baseball team. Educational institutions included not only the Tuscarora Polytechnic Institute but also ballet and ballroom dancing academies, and an elocution school.^{26,59}

A new ore discovery not only led to people rushing into an area, but a stage line was quickly established. Passengers, freight, and mail were carried on the stage lines. Nearly all these stages carried mail which was eagerly awaited by prospectors and pioneers. Stage lines were scheduled runs. A few ran daily, some weekly, and others twice or three times a week. Tuscarora, Cornucopia, and Mountain City within the subbasin all had stage lines connecting them in various directions.^{17,26,102} Many of the roads on which the stages ran were toll roads, constructed by individuals who ran them for profit. Cornucopia's residents' only roads out of town were toll roads.²⁶



Photo 4.9. One of the remaining houses in Tuscarora.

In addition to towns that developed close to mining, other towns in the upper Owyhee subbasin were primarily stops on stage routes. A stage stop might be slightly more than a ranch house or develop into more of a town around a hotel. Jack Creek, Taylors, White Rock, Stofiel, and Owyhee Meadows all served largely as stage stops (Figure 4.8).^{26, 41,65}

In 1877, Rutherford B. Hayes established the Duck Valley Indian Reservation. Recognizing that the Duck Valley Tribal Council operates as a sovereign entity, the history of the lands and towns of the reservation presented in this assessment terminates in 1877.

3. Mining

Mining was not limited to solitary miners. Development of the larger lodes necessitated more labor. Miners and mill operators were hired and most of the larger mines were owned by a company rather than an individual.²⁶

a. Mining Districts

When the discovery of gold brought an influx of miners into an area, it was frequently beyond the reach of effective government. Miners began to organize a local mining district to provide some form of government for the mines.⁹⁶ In 1931 Ricketts defined a mining district as

“ . . . a section of country usually designated by name, having described or understood boundaries within which mineral is found and which is worked under rules and regulations prescribed by the miners therein. There is no limit to its territorial extent and its boundaries may be changed. . . . The organization of mining districts is entirely optional with the miners, as there is no law requiring such organization.”⁷⁶

When the miners began pouring into the upper Owyhee subbasin, the General Mining Act of 1866, and later the Mining Act of 1872, stated that local rules should be recognized and confirmed. Even with effective government in an area, miners continued to organize mining districts.⁹⁶ Reuben Riddle, whose family later were some of the first settlers in Duck Valley, had a background in both surveying and mining. After he moved to Mountain City in 1870, he was asked to help formulate new laws for each of the mining districts.⁶²

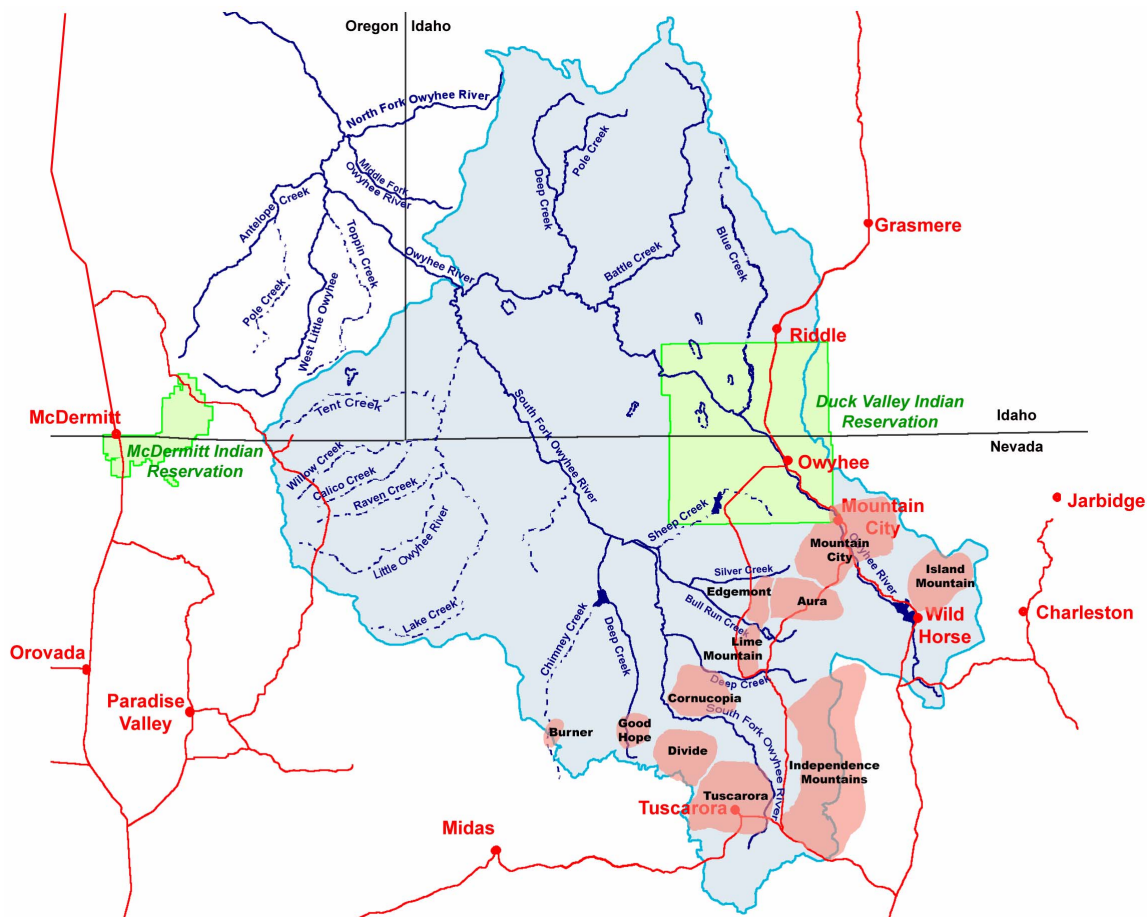


Figure 4.9. Current Nevada mining districts in the upper Owyhee subbasin.

District boundaries were fluid, and both the names of districts and the boundaries varied over time. The names currently used may have been applied to a different district in the past.^{Appendix B} Figure 4.9 shows the current Nevada mining districts.

b. Mining techniques^{53,80,94}

In the Tuscarora District, by 1871 placer ores were being mined extensively in a square-mile area, principally by companies of Chinese miners who ran dirt, sand, gravel, and water through sluices.

The water which was needed for mining operations had to be diverted. Usually a rock dam was built across the stream at the point of diversion. Frequently the first spring flood would wash out the dam and it would need to be rebuilt.¹⁰⁴ Both Tuscarora and Gold Creek miners built several-mile long ditches to bring water from more distant sources.²⁶

High grade lode ore is relatively uncomplicated to mine, whereas processing gold and silver placers require special techniques. The best, and earliest known solution to this problem was the use of mercury. When gold and silver particulates (and those of any other metal but platinum or iron) are brought into contact with mercury, they amalgamate or clump. Amalgamation was used by placer miners to recover fine particles. Mercury was placed behind the riffles of their sluices, and the amalgam that was heavier than regular gravel and sand particles was collected at intervals.

Sluices were effective methods for collecting ore occurring in small particles, however the mercury they used was not all recaptured. In California, where placers were mined extensively, sluice losses of mercury have been estimated at a minimum of 10% per year, and more typically 25% of the total used. An individual sluice would have an operating requirement of at least 0.1 pound of mercury per square foot.

Amalgamation was also used extensively in the processing of lower-grade hard-rock ores. Stamp mills would crush the ore to a sand-like particle size. Using the Washoe process developed in Nevada's Comstock Lode, the crushed ore was placed in shallow iron tanks, combined with mercury and salts of sodium chloride and copper sulfate, heated and agitated. In the late 1800s and early 1900s, gold and silver miners in the upper Owyhee subbasin used mercury to process much of the ore.

Once amalgamated, gold, silver, and other metals would be separated from the mercury by retorting (heating to distill mercury vapors). Precious metal separation by boiling off mercury works because the boiling point of mercury is 357°C but the boiling point of gold is 2808°C and silver is 2210°C. The volatilized (gaseous) mercury would be captured, condensed and reused. This was an important step, since mercury itself was an expensive metal. Regardless, mercury losses on the Comstock Lode using these methods were approximately 1:1, with an ounce of mercury lost for each ounce of silver or gold produced. A similar loss could be expected in the processing of ore in the upper Owyhee subbasin.

Mercury amalgamation was the only known way to process low-grade ore until the arrival of cyanide. Nevada's first cyaniding plant was built in Tuscarora District in 1892 with additional plants built to rework tailings in 1898 (at the Independence Mine)



Photo 4.10. An abandoned structure in the canyon below Blue Jacket mine.

and 1911. Cyanide was also used in the Bull Run District beginning in 1899. It is unclear to what extent the cyanide process supplanted amalgamation or if it merely supplemented the mercury process by allowing the processing of tailings from earlier operations.

c. Boom-bust cycles

Sometimes ore reserves played out quickly and a town lasted only a short period of time (Figure 4.7). A national depression or drop in ore prices might lead to the closure of nearby mines. In some cases a small number of prospectors remained, processing placer gold or working small veins. A new discovery or reopening of a mine would result in another influx of miners, sometimes reviving the town.

Until the 20th century, Tuscarora's mining never completely stopped and it repeatedly picked up following a downturn.³¹ Bull Run exemplifies the more precipitous ups and downs of some of the other towns. Although gold was discovered in 1869, little was produced before new discoveries were made in 1896. All activity ceased in 1910 and the residents left. The mine was reactivated in 1936 with a 25 ton mill. Although a 100 ton mill was built in 1939, all work ceased in 1940.²⁶

d. Natural resource consumption

Prior to 1903, there were no complete records of precious metal production. The upper Owyhee subbasin probably produced in excess of \$10,000,000 of gold and silver.^{56,84} The lode gold came primarily from Tuscarora and Edgemont. Gold prices

varied little, \$18.94 per ounce,⁵⁶ so around 53,700 ounces of lode gold were mined before 1900.⁴² Placer gold was produced primarily at Island Mountain and Tuscarora. Placer gold production prior to 1899 has been estimated at 77,800 ounces.³⁹ Silver varied considerably in price, from \$.59 to \$1.75,²³ averaging \$1.08 an ounce so based on the profits about 6,950,000 ounces of silver were also produced.

Wood was needed both for mine timber and as an energy source. During the 1870s and 1880s woodlands were severely depleted as energy sources for the mining industry.¹⁰⁴ The development of lode deposits at Cornucopia was slowed by a lack of wood for mine timber. Wood timbers from abandoned mines might be salvaged for reuse. The mine timbers at Lime Mountain came from old mines at Kennedy.²⁶

A huge demand for fuel was created by the mills. By 1877 in Tuscarora "the lack of wood necessitated the use of sagebrush."²⁶ During the fall and winter, Chinese made up a large portion of crews hired to cut sagebrush to fuel the steam boilers in the silver mills and mines of Tuscarora. Sagebrush was harvested up to 25 miles from town.³¹ The mills at both Cornucopia and Good Hope also ran on sagebrush.²⁶ Obtaining fuel for all uses was a problem. The Tuscarora Times-Review "called attention to a message from telegraph company headquarters in San Francisco. The message warned that the telegraph lines to Tuscarora would be taken away if Tuscarora-Elko teamsters didn't quit chopping down the poles to use as fuel."⁷⁴

4. Timber industry

Jack Creek was a major source of the wood used in Tuscarora. Both mine timbers and firewood were brought from there. An 1881 description identifies both the general scarcity of trees and the forested hills around Jack Creek. "Wood is found in the gulches in limited quantities, but in the Jack Creek range, on the east, there is plenty of timber, and a sawmill is established on the creek by that name, whence come the mining timbers for the Tuscarora silver mines. About forty men are constantly employed



Photo 4.11. Ruins of the mill at Tuscarora

in the lumbering business at this mill."⁹³ Between 1877 and 1892, 200,000 linear feet of mine timber and 12,000 cords of firewood were harvested around Jack Creek.²⁶

On the other side of the mountains, Reuben Riddle started a lumber and saw mill in Mountain City in 1870.⁶²

5. Livestock industry

Miners and the other people in the developing towns required food. Cattle were introduced to the region to feed the miners. Sheepmen also realized that "gold-seekers would pay high prices for mutton, especially when beef was scarce."²⁷ Jack Harrington was possibly the first rancher near the Nevada mines. He homesteaded on Jack Creek in 1868 and was a rancher all of his life.²⁶ Other entrepreneurs had already recognized the grazing potential of the land just north of the subbasin. In 1867 Con Shea brought in a herd of long horns from Texas for the start of the cattle business in the Owyhee region.⁶ Pick Anderson, who settled at Golconda in Nevada sometime before 1874, utilized the range on Juniper Mountain in the upper Owyhee watershed (Figure 4.10) Cattlemen frequently also ran sheep. At one time Pick was grazing twenty thousand head of cattle and fifteen to twenty bands of sheep.²⁷

Near Tuscarora, the South Fork Owyhee River flows through Independence Valley.⁵⁸ This crescent shaped valley is about twenty five miles long and eight miles wide. By 1871 there were five ranches in the valley and the number continued to increase over the years.⁶⁵ One of these original ranches as owned by two Basque brothers, the Altubes. They drove 3,000 cattle from "Old Mexico" to Independence Valley. Their ranch, near Tuscarora was roughly 20 miles long by 10 miles wide and they also ranged their cattle on thousands of acres of public land.⁴³ In 1881 Independence Valley was described as having "an abundance of water, many small creeks rising in the mountains and swelling the main stream. . . . Along the river are



Photo 4.12. Looking out over Tuscarora towards the upper end of Independence Valley

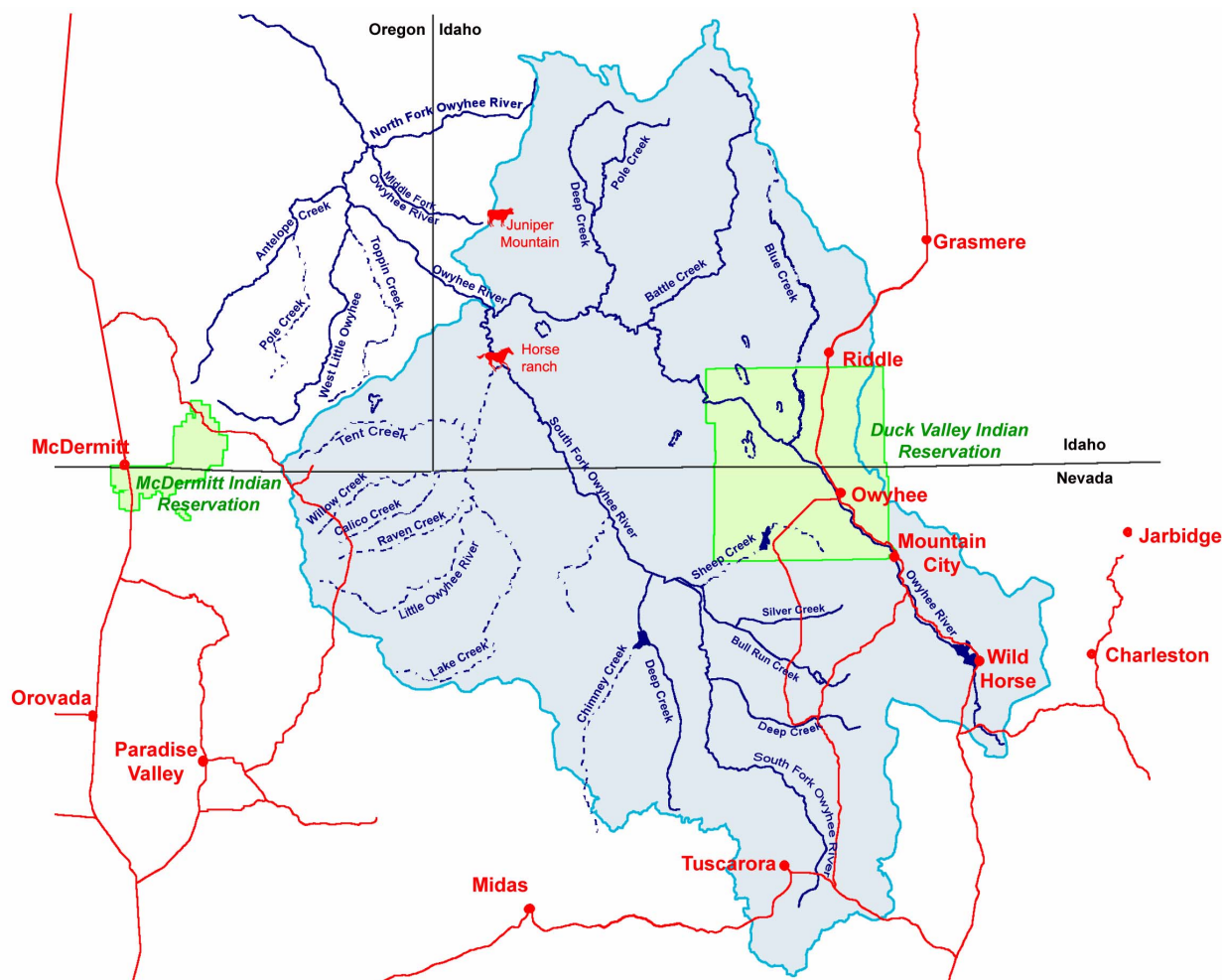


Figure 4.10. Early use of the Idaho section of the upper Owyhee subbasin.

beautiful meadows that widen out in some places to three miles, which produce thousands of tons of hay. Lying at an altitude of 7,000 feet above the level of the sea, grain does not grow as well as could be wished, though it is raised to some extent. . . The land is used principally for grazing purposes, only about 300 acres being devoted to agriculture, most of which lies in the eastern portion of the valley.”⁹³

Grazing on the range followed the Spanish system of open-range livestock.¹⁰⁴ However, the large operations tacitly utilized different areas. Cattle were generally moved with the seasons. Sagebrush ranges were used in the spring and fall while mountain ranges were summer pastures. During the winter, cattle were moved to areas where they wintered on bunch grass and winterfat (white sage), frequently at the margins of playas (salt deserts).¹⁰⁴ In 1870, David Shirk, who was supplying cattle to the mining towns just north of the subbasin, drove cattle up from their winter range to Duck Valley. He identified it as an ideal summer range, with miles and miles of waving bunch grass covering the hills and mountain slopes.⁸¹ Few ranchers thought about putting up hay for cattle although from the earliest days most ranches put up some hay for stock horses.¹⁰⁴ Homesteaders with just a few cattle supplemented their income by

making and selling butter and cheese. As their herds grew, they also turned their animals out on the Owyhee desert.⁶²

With the completion of the transcontinental railroad, shipping cattle by rail cars changed the economics of ranching. Some ranchers expanded their operations and ranchers with bases outside the upper Owyhee subbasin used the upper Owyhee subbasin as part of their range. Humboldt Valley ranchers used the Owyhee Desert to winter cattle.¹⁰⁴ One outfit, Jarvis and Brass purchased steers to winter them on the Owyhee desert and canyons. Other cattlemen like David Shirk only used the upper Owyhee subbasin for summer range.⁸¹ In the Idaho section of the subbasin, cattle of the Horn outfit had ranged into the lower country, including Duck Valley, starting around 1880.⁷⁷

Horse ranching was also profitable in the sagebrush/grasslands. "Southeastern Oregon and northern Nevada were well known by 1880 for producing fine cow horses"¹⁰⁴ In 1880 a horse ranch was established just downstream of the confluence of the South Fork Owyhee River and Little Owyhee River in the upper Owyhee subbasin (Figure 4.10).⁸

During the 1879-80 winter, there was little snow on the ground in the Owyhee Desert. Many intermittent and ephemeral streams lacked water. Since the cattle stayed close to existing water supplies, the forage, mainly winterfat and Indian ricegrass, was entirely consumed near water sources. Cattle starved, but few ranchers started putting up hay. Sheep, which could obtain water from skiffs of snow and were less selective browsers, were less impacted.¹⁰⁴

From 1886 to 1889, precipitation throughout the region was reported to be below normal. There was a terrible drought in the spring and summer of 1889. Waterholes dried up and feed was scarce. Streams that had been perennial for as long as the oldest settlers could remember shrank to interrupted pools, then dried up completely. Cattle were already in poor condition when an early December snowstorm brought seven consecutive days of blizzard conditions. Snow storm followed snow storm and temperatures through February reached record lows. Elko newspapers estimated that 95% of livestock was lost.^{102,104}

"The transplanted Spanish system of open-range livestock was dead."¹⁰⁴ One immediate effect of the harsh winter was an increase in the sheep on the range. Previously the range sheep industry had competition from established cattle ranches. However, there were fewer sheep losses over the extreme winter; the sheep industry was smaller and sheep were better adapted to the environment and forages of the desert ranges.¹⁰⁴

F. End of the nineteenth century, early twentieth century

By the end of the 1800s, changes in the upper Owyhee subbasin included the introduction of cattle, sheep, and horses on the range. Towns had appeared and disappeared.

The changes in the subbasin during the 19th century following Euro-American settlement set the stage for activities in the succeeding decades. The routes of principal

roads evolved near where they are today. By 1927, the highways on the Rand McNalley road map are shown in their current locations.⁷⁵

The principal enterprises in the subbasin during the 1800s were engaged in mining or ranching. Mining and the associated towns relied on the geology of the region and the location of gold and silver deposits. Ranching relied on utilization of public lands for grazing on the extensive, unpopulated Owyhee uplands. The amount of land which could be homesteaded was quite restricted so some control over use of the rangelands was exerted by ownership of the lands with water.

Many of the records consulted for the following section of the history do not have exact dating, especially those recollections written long after the fact. There has been an attempt here to develop an accurate sequence for the changes recorded below, however many of the topics cover several decades and there may be some unintentional errors.

1. Effects of the white winter, 1889-1890

a. On vegetation

Two decades of unlimited livestock grazing had severely reduced the pristine plant communities of the sagebrush grasslands. Cattle and sheep had selectively eaten the perennial grasses. The perennial grasses were largely bunchgrasses which reproduce by seed. The two decades of excessive grazing had virtually eliminated seed production in many areas. Low reserves of grass seed in the soil meant that perennial bunchgrasses couldn't respond to improved growing conditions like shrubs and juniper.¹⁰⁴

The water provided by the snows of the white winter promoted excellent plant growth. In the spring of 1890, the ranges had virtually no cattle on them. Shrubs took advantage of the lack of perennial grasses to expand their dominance. Shrub establishment included stands of the desirable browse species bitterbrush, but also included an abundance of toxic big sagebrush. There was a basic change in forage resources of sagebrush grasslands. The juniper woodlands also greatly expanded.¹⁰⁴

b. On ranching

i. Expansion of sheep

The first Basques in the upper Owyhee subbasin had arrived in the Nevada portion in the early 1870s.¹⁶ These original settlers like the Altube brothers on Spanish Ranch and the Garats on the YP Ranch were cattlemen. Sheep and cattle were frequently run on the same ranch, although the range sheep industry didn't really take off until the beginning of the 1900s. Young men from the Basque Country were willing to take the lonesome job of sheep herder even though the job was different from what they had done in the old country.⁴³ Their dependability and hard work led sheep owners and ranchers to hire workers from this immigrant group. By the late 1880s, Basques were also working in eastern Oregon and southwestern Idaho.¹⁶

The diet of sheep and cattle overlaps. However, sheep are browsers, eating forbs and brush. Cattle are grazers, preferring grass. Following the white winter, the

Altube brothers on the Spanish ranch greatly increased the numbers of sheep they were raising. To herd them they hired Basques. At one time the Spanish Ranch ran about 18,000 cattle and 12,000 sheep on the same ranch.⁴³

As the sheep industry expanded, more labor was required. Some Basque sheepherders took sheep instead of wages. As these new outfits grew, they tended to hire newly arrived Basques, frequently family members.^{43,12} Many of these sheep bands were grazed on public lands. When a sheep herder had no home base, his herd was considered a tramp sheep outfit.⁴³

ii. Cattle outfits

Some small outfits like the Horn outfit were forced out by the winter of 1889-1890.⁷⁷ Surviving ranchers realized the need to put up hay for the winter to feed cattle that grazed on the sagebrush ranges.¹⁰⁴ The Riddle brothers had built up a cow herd with a home base at Whiterock. Following the winter of 1889-1890 when the need for winter feeding became apparent, they felt the Duck Valley wild hay meadows could provide a good source of hay. Owyhee County, Idaho could be homesteaded since surveys to establish townships had been completed. The Riddle brothers were among the earliest Euro-Americans who settled in that part of the Idaho section of the subbasin.^{30,62,77,85,104}

The number of settlers who followed the Riddle brothers and their families into the Duck Valley region was limited.⁷⁷ In 1898, the Wickahony directory, which included not only Duck Valley but families living in other nearby drainages listed, 18 ranchers.¹ The 1919 Idaho Farm directory listed people by their home town and then the township and range of land which they



Photo 4.13. Irrigated hay fields in the upper Owyhee subbasin being used for fall pasture after harvest.

owned. It listed 22 land owners as living in Riddle. Of these 22, only 16 owned land in the Idaho section of the upper Owyhee subbasin. Eight of these were Riddles, three were Yates and two were Stones.²²

2. Water

The need for a reliable source of winter feed led to an increase in the need for water. Hay required water. Existing natural hay meadows could be enlarged by

flooding adjacent areas. However, irrigation was necessary to economically grow larger amounts of forage in the semiarid environment.¹⁰⁴

In the Nevada section of the upper Owyhee subbasin, the mining companies were already utilizing water, the twelve-mile-long ditch at Gold Creek being the greatest redirection of water by miners.²⁶ The ranchers on the western side of the Bull Run and Independence Mountains were utilizing the water from the creeks flowing out of the mountains. Water was a finite resource and increased demands on this resource highlighted the need for laws governing water rights. In general, water laws in the West evolved from mining laws. Western semiarid states were granted authority to regulate waters for irrigation whereas the federal government controlled stock water.¹⁰⁴

As state laws evolved, the upper Owyhee subbasin occupied areas where the appropriation doctrine for water rights was used. Water rights were based upon the beneficial use of the water rather than upon the ownership of land. The priority for the rights was based upon when the user first began to utilize the water for the stated purpose or when the construction of diversion works began. The owners of the earliest water rights could use the water even if it meant that the owners of later rights were deprived of water.¹⁰⁴ Ranchers were frequently the first settlers to make beneficial use of the water, so their water rights were established under the “prior appropriation” doctrine. Idaho, Oregon, and Nevada all recognized and protected such rights.⁸⁶

Although Reuben Riddle had filed a number of water right claims in the upper Owyhee subbasin by 1874,⁶² many early water users did not file claims until a much later date. Then people encountered problems in remembering the dates, locations, and amounts of water utilized as long as fifty years previously.¹⁰⁴

Where placer miners wanted to divert water from a stream, they had been piling rocks across the stream to create a primitive rock dam. The first spring flood would wash out the dam. When ranchers began irrigating with diverted water, they built similar rock dams. In the spring, before they could start irrigating, they needed to repair the dam.¹⁰⁴

Irrigation greatly increased the available forage base in the subbasin. This forage could be converted to hay for winter feeding and irrigated farming became integrated into range livestock operations.¹⁰⁴ To provide enough water and irrigable land to grow hay to feed their herd through the winter, ranchers acquired tracts of private property. During the summer the herds drank from streams and springs on the public lands where they were grazing, but established water rights were crucial for the success of a ranch. When land was sold, it was understood that the water rights on both the land and on the public portion of the ranch’s grazing allotment were included.⁸⁶

3. Settlement in Idaho

a. Land ownership

The number of land patents issued is some indication of the number of ranchers or farmers in an area. A land patent documents the transfer of land ownership from the federal government to an individual.⁹ Most of these transfers were based on one of the homesteading acts. Sometimes each member of a family filed a claim but the claims

were managed as a single ranch. A rancher might file claims for different sections of land at different times. There was a steady increase in the number of patents issued in the Idaho section of the upper Owyhee subbasin. Prior to 1900 there had been only three patents issued. Other than land deeded to the state of Idaho or to railways, between 1900 and 1909, 17 patents were issued. Between 1910 and 1919, 88 were issued. And, 165 patents were issued between 1920 and 1929 (Table 4.1).⁹

Figure 4.11 is a generalization of the pattern of settlement in the basin based on the land patents.^{Note A} By 1909 individuals had settled in the Riddle area and along the headwaters of Pole Creek and along Battle Creek. The following decade patents were also issued along Deep Creek and Blue Creek. A common element of all these lands was their placement along water courses, underscoring the integration of water for irrigating hay with ranching. Both the Riddle and Stone families constructed reservoirs to hold water from melting snow.^{30,85} Henry Rhubelt built a reservoir on Shoefly Creek.⁷⁷ Many of the later claims were adjacent to land directly north of the upper Owyhee subbasin and may have been parts of larger operations.

Table 4.1. Number of patents issued in the Idaho section of the upper Owyhee subbasin through 1929. Townships listed are only those where patents were issued.⁹

Township	Range	Before 1900	1900-1909	1910-1919	1920-1929
14S	2E	3		5	10
14S	3E		11	17	14
13S	3E		1	14	13
13S	2E		2	2	7
10S	1E		1	4	7
10S	1W		2	13	8
16S	5W			1	
15S	1W			2	2
14S	5W			1	1
14S	2W			2	1
13S	4E			1	
12S	3W			4	6
12S	1E			1	5
12S	2E			1	5
11S	1E			1	1
11S	2E			1	2
10S	3W			2	9
9S	3W			2	8
9S	1W			2	2
9S	1E			9	5
8S	1W			1	
8S	1E			2	3
16S	1W				1
15S	4W				1
14S	1W				1
14S	1E				2
13S	1E				3
12S	5W				1
12S	1W				2
11S	4W				8
11S	3W				6
10S	4W				10
10S	2W				6
9S	2W				14
8S	3W				1
Total		3	17	88	165

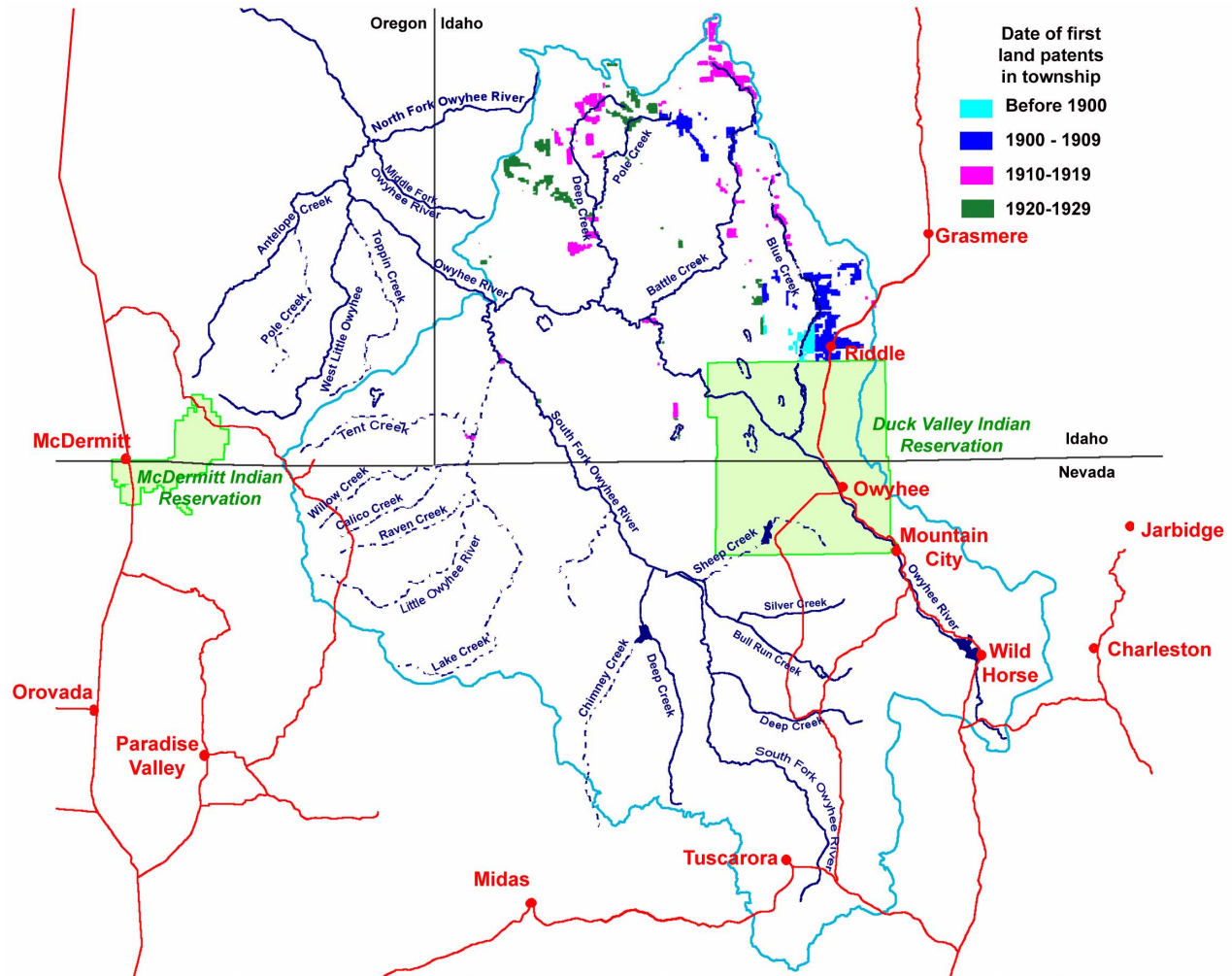


Figure 4.11. Progressive land settlement in the Idaho section of the upper Owyhee subbasin by date of entry in the township. Cumulative land ownership over the decades.

Not all of the settlers were successful. Even the Riddle's small apple orchard across from a stream flowing out of a spring never produced. However, the Riddle families successfully grew wild varieties of hay for winter feed. Horse drawn sleighs crossed the snow covered fields of winter to deliver loads of hay to the cattle.³⁰

Three German emigrants who settled on Harris Creek and at Dad Springs "couldn't develop sufficient water for farming so they only stayed a few years, selling out to Mr. Sewell."⁷⁷ Joseph Sewell, the owner of a general store and trading post in Owyhee, waited, and "when all the available land with water was located and proved upon he bought each settler out, finally owning all the land on Blue and Little Blue Creeks all the way to the head of each creek."⁷⁷ He built reservoirs on both creeks. He ran both cattle and sheep.

Since homesteaded land could be sold once it was "proved up", the number of original patents might not represent people living on the land. The 1919 Idaho Farm directory not only lists thirteen upper Owyhee subbasin land owners living outside the subbasin, but also includes one livestock company based in Grandview.²²

There were no claims made on a huge section of the upper Owyhee subbasin. These areas might have enough water for cattle to graze on them, but there was not adequate water for producing hay to winter the cattle (Figure 4.11).

b. Snippets of life

The density of settlers in the Idaho section of the upper Owyhee subbasin during the first two decades of the 1900s was low. Marjorie Hawes remembers that they considered people living 45 to 50 miles away as neighbors. Before the advent of motorized travel, families would make about two trips per year to get supplies.^{10,30} The ranchers would cure hams and bacon when fat hogs were killed in the fall, but they had to purchase flour, sugar, bayo [sic] beans, dried fruits, coffee beans, coal oil, and Chinese block matches.³⁰

Marjorie had her first automobile ride in Mountain City about 1906.³⁰ By 1915, her family had a car. The roads were dusty and full of both ruts and chuck holes. Since tires blew out frequently and had to be fixed on the road, they could make Bruneau in a day or all the way to Mountain Home if they had few blow-outs.³⁰

Many of the original homes were rock houses.¹⁰ The earthquake of October 3, 1915, in Pleasant Valley, Nevada resulted in considerable damage in southwest Idaho a hundred miles from epicenter.^{108,109} After the earthquake, the Hawes wood frame house listed and had to come down. Marjorie wrote, "Everyone was building rock houses around the area so we joined the club" and built a new two story house of stone.³⁰ A scarcity of local wood meant that sagebrush was used as fuel both in the kitchen stove and the fireplace.¹⁰ A huge sagebrush was even turned into a Christmas tree.³⁰ There were flocks of ducks and geese which fed on the wild meadows. These not only made good eating, but their feathers were made into feather beds and pillows.^{10,77}

In 1926, thirteen year Oliver Tremewan's jobs on the ranch outside Mountain City included irrigating, haying, building fence, gathering cattle, fixing machinery and breaking horses. In the winter he also sawed blocks of ice from the frozen pond and stored them in a hole.⁵⁰

Some areas retained more of their pioneer aspect for longer. Nancy Fretwell's parents purchased the 45 Ranch at the confluence of the Little Owyhee River and South Fork Owyhee River in 1937. Nancy remembers a one room main house built into the hillside. There was no ceiling but a sheet tacked across the room. When the Mormon crickets were bad, they would build up on the sheeting until it wouldn't hold, then they dumped out. In addition to the main house, there was a sod roofed bunkhouse, a rock and willow barn, a rock chicken house, and a rock ice house to store blocks of ice. During World War II, they would make one trip per year out to Mountain Home to purchase a year's supply of goods.²¹

4. Grazing Pressure

When livestock were first introduced, the grass on public lands was "free" and lured livestock growers to turn out herds of sheep, cattle, and, sometimes, horses to roam freely. There was a "winner take all" attitude that encouraged grazing.^{40,28} To protect their interests to the free grazing range, livestock owners acquired lands with

water resources. "Owning the sources of water was a means of controlling the surrounding grazing lands."⁴⁰

The established sheep and cattle operators had a base property. Many of these were developed to raise hay for wintering the stock.⁵⁵ "Several large local cattle operations branched into the sheep business with scarcely a comment from their neighbors."¹⁰⁴ "It was the tramp cowman and tramp sheepman who caused the friction. They had no base property, so mooched off those who had put together an outfit. Cattlemen and sheepmen alike fought these itinerant individuals,"²⁷ frequently completely migratory Basque herders who owned no base property at all.¹⁰⁴

There is evidence that during the late 1880s Sparks and Tinnin, large ranchers in the Nevada section, recognized that the rangelands were nearing grazing capacity.¹⁰⁴ However, in 1914 Owyhee County was being touted as having grazing lands which "were almost limitless in extent."²⁰ As the number of cattle in Owyhee County declined from a high of 100,000 head before the white winter, the sheep industry increased to 200,000 sheep in 1914. Sheepmen had holdings ranging from 3,000 to 50,000 head which grazed in bands of from one to three thousand. Owyhee County was described as providing "the most ideal conditions for stockmen that are to be found within the state [Idaho]."²⁰

G. End of an era

1. Taylor Grazing Act

Years of unbridled use of western range lands eventually resulted in the passage of the Taylor Grazing Act of 1934. To undo the over-grazing of the open range by sheepmen herding sheep wherever there was grass and water and by cattlemen and horse owners who turned their herds out onto the public domain, the Taylor Grazing Act required livestock owners to show proof of a base of operations. This requirement would eliminate "tramp" operators. The BLM began to adjudicate the range based on the productive capability of the base properties, prior use of the federal land, and a system of seniority that gave old time operators preference over late comers.²⁷

The Taylor Grazing Act also ended the policy of the previous 150 years of transferring public lands into private ownership. It withdrew public lands from homesteading. Now to file a desert claim, a man had to prove that his quarter section was more valuable for agriculture than for grazing. "The only way he [could] prove that [was] to get water enough to irrigate it."³⁷

2. Dam construction

Downstream from the upper Owyhee subbasin, near the mouth of the Owyhee River, the Owyhee Dam was constructed during the 1930s. A dam was also constructed in the subbasin on the Owyhee River upstream of the Duck Valley Indian Reservation. Wild Horse Dam was authorized by congress in 1931 to provide water storage for the reservation. Construction was begun in 1934 and completed in 1938. Wild Horse Dam is owned by the US Department of the Interior Bureau of Indian Affairs.

18,60,73,91

On the South Fork Owyhee drainage the Willow Creek Dam was constructed in 1931. It was a WPA project for flood control and irrigation.¹⁰⁰ This dam is currently owned by the Petan Company. There are another five dams on their holdings, including the Bull Run Dam on the Bull Run Creek. (At the time of writing this assessment the author did not have information on when the other five dams were constructed.)

Although small dams had previously been built, the larger dams had a much greater impact on the hydrology of the subbasin.

3. Mining

Mining in the upper Owyhee subbasin has never completely stopped. There was a resurgence around Mountain City in the 1930s with the opening of the Rio Tinto copper mine. The buildings constructed at the mine and in the supporting town of Patsville have become ghostly structures since the mine closed in the 1940s.



Photo 4.13. An abandoned store in Patsville south of Mountain City

4. Conclusion

As the geography and natural resources of the upper Owyhee subbasin are complex, so its history varies. The passage of the Taylor Grazing Act and the increased water available for irrigation behind dams introduced a new era. Technology in mining and ranching was evolving along with a greater awareness of how to protect natural resources. Along with the rest of the nation, the upper Owyhee subbasin slowly slipped into the modern age.

Note A. The Idaho land records database viewer was used to identify the current boundaries of private land in Owyhee County Idaho.³⁵ A land patent search was conducted for every township and range in the Idaho section of the upper Owyhee subbasin. All Idaho private land within the subbasin was identified by the first patent issued within the township.⁹ This gives a rough idea of the settlement pattern of the area, but individual properties settled later than the initial patent are not identified separately.

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