

HISTORY OF IRRIGATION IN THE STATE OF WASHINGTON *

PREFACE

The Great Northwest has taken its place among the leading sections of our country in politics, in education and in material wealth. With this rise has come, on the part of the people, a strong interest in all those factors that tended to aid in securing advancement.

The days when man must toil long hours, contending with nature for supremacy, are past. Man, today, in ease and comfort, enjoys the fruits of all those earlier efforts, but not unmindful of all that he owes to those who blazed the trail, he must live again, in narrative and song, the past. He would know their experiences that he may profit by them, and undertake the incompleted plan with a clear vision so as to carry it to its completion for the greatest good to the greatest number.

No factor has played so great a part in our economic development as irrigation. Nor can any factor play a greater part in the future, for the time has hardly yet arrived when the great population makes irrigation a real national necessity, such as it is today in India, or was in ancient Egypt. It is our purpose to trace its growth as influenced by the individual, the group, the state and the nation.

This work does not admit of much detail, nor would it be possible to even mention the projects to be found throughout the state. It does attempt to represent the various types, in different localities, and to show the divers ways and means employed to reach the one great end: to make out of nature's elements a real habitation for man.

There is much conflict of interest between the federal government and private companies and a lack of active interest on the part of the state, but these are little emphasized, nor is there much attempt made to analyze the causes. Such an analysis would necessitate the entrance into political questions; suffice to say, no little discord and indifference has been due to lack of experience and an inability to realize the great good to be derived by all the people of the state from development in any one of its parts.

The references listed would hardly be a complete bibliography of the subject, since much material exists which has not yet been segregated by states, but belongs to the subject as applied to the

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whole arid West. The references used are found in the Seattle Public Library, the University of Washington Library, Professor Edmond S. Meany's private library, together with Government documents from Washington, D. C., and Olympia. Another source of material has been persons of various localities who have grown up with the country. We are especially indebted to Marvin Chase, state hydraulic engineer; Judge William C. Brown of Okanogan, Judge Kauffman of Ellensburg, Professor W. D. Lyman of Walla Walla, and Anton Gritsch of Waterville, Douglas County.

THE PRE-TERRITORIAL EPOCH

"Paradise is in the geographic center of the State of Washington, the home of the big red apple, where dollars grow on trees," said Dr. C. H. Burbank before the National Congress of Irrigation. (*Report of 1911 Congress*, p. 218.) But only the possibilities of a paradise were here when the curtain of History was drawn; nor were those possibilities evident to the eye untrained to penetrate nature's hidden treasures, for a desert waste stretched far and wide, avoided by man and beast. To the hearty pioneer came the vision and the inspiration to make the desert bloom. Willing and ready was he to toil and sweat that the parched earth might have the water from the hundreds of seemingly selfish streams.

Before the coming of the white man irrigation was not practiced by the Indians of our state; although we find it not uncommon among the natives of Arizona and New Mexico. One of the finest examples of an aboriginal irrigation ditch is to be found in the Verde Valley, Arizona. It extends across the northern and western parts of what is known as the Cape Verde Settlement. The ditch is forty feet above the river. Commencing at the north end, the ditch extended through the settlement, terminating in a storage reservoir at the south end.

But the Indians of our state, if we may trust tradition, have the honor of being the first or among the first to have irrigated. When, in 1884, the Northern Pacific Railroad was built through Union Gap, an old ditch was destroyed which was, according to Jay Lynch (*Senate Executive Document*, Vol. 5, 2d Sess., 63d Congress, p. 112), the property of the Indians, for he testified, "there were old canals and fruit trees down below Union Gap that, according to the Indians, were planted and irrigated from the Yakima River before the treaty of 1855."

They were known with certainty to have taken advantage of sub-irrigation as the means best suited to the growing of their corn.

The natural slough of the Waneto, near Union Gap, which runs parallel to the Northern Pacific Railroad for twelve miles, had long been used by the Indians to furnish them the much needed moisture. This method was also used by the whites. Judge William C. Brown says (in a personal letter): "Old Fort Okanogan was established by the Astor Company in 1811, and was continued by the North-West Company and the Hudson's Bay Company up until 1860, but the people of the Hudson's Bay Company did no irrigating in our sense. What gardens they had were on sub-irrigated ground along the Okanogan River."

The first to recognize irrigation as a necessity and call the attention of Congress to it was Nathaniel J. Wyeth, who was well acquainted with the country, and in letters to Congress expressed the belief that the agriculture of the country must always be limited to the wants of a pastoral people, and could be carried out only in the immediate vicinity of streams; and that if a large population is to inhabit this section, irrigation must be resorted to.

But even in his day there must have been some irrigation other than that by sub-irrigation, for in the *Report of the Territory of Oregon*, Charles Wilkes, commander of the United States Exploring Expedition, 1838-1842, says (*Oregon Historical Society Quarterly*, Vol. XII, p. 290, September, 1911): "They raise on their small patches corn, potatoes, melons and so forth, irrigating the land for that purpose." With this the veil of History rises.

The first authentic record that we have makes Marcus Whitman the pioneer in efforts along these lines within our boundary, and fitting it is; for the missionary came to found homes and help the Indians to settle down into an agricultural people. He brought with him in 1836 apple seeds, which he planted in the following spring. Snowden says (*History of Washington*, Vol. III, p. 127): "The soil was fertile and easily brought under cultivation. By the aid of a little irrigation, which was easily provided by a ditch made without difficulty in the loose soil, wonderful crops were produced. A garden and an orchard were planted. Year by year the cultivated area was increased, and, what was better than all, a few Indians were induced to plant small fields and gardens of their own and care for them in a satisfactory way." This was by 1841. He says further (Vol. II, p. 130): "They, the Indians, became demanding, asking to be paid for the water used in irrigation. They demanded water from the Whitman irrigating ditch for their gardens, and when it was refused, because there was not more water than was needed at the Mission, they made a rude ditch of their own and closed that of the

Mission entirely." Charles Wilkes visited the Waiilatpu Mission during his exploring expedition, 1838-1842, and says (Vol. IV, p. 396): "The Indians have learned the necessity of irrigating their crops by finding that Dr. Whitman's succeeded better than their own. They therefore desired to take some of the water from his trenches instead of making new ones of their own, which he very naturally refused. They then dug trenches for themselves and stopped up the doctor's. This had well nigh produced much difficulty; but finally they were made to understand that there was enough water for both, and they now use it with as much success as the missionaries." With the death of Whitman, in 1847, little was done in developing irrigation in Walla Walla County, because the up-country was suited to wheat growing, and though the Columbia River has water enough to supply all the needs of irrigation, unfortunately the river is hundreds of feet below the level of the arable land, and its waters can be taken out only upon a very narrow strip of sandy bottom-land.

Not only was irrigation practiced at the Waiilatpu Mission, but it was carried out also at the Lapwai Mission, Idaho, which was then a part of Oregon, later Washington, Territory. Rev. H. H. Spalding started apple trees in 1837 on the Clearwater River. At the same time, or perhaps the next year, Mr. Spalding assisted Red Wolf, a Nez Perce chief, to plant apples at the mouth of the Alpowa, in what is now Garfield County. "These trees are still standing in a fine state of preservation," says Professor William D. Lyman (*Illustrated History of Walla Walla*, p. 154). Though he says nothing about irrigation being used, Wilkes tells us (*Narrative*, Vol. IV, p. 461: "Mr. Spalding had taught the Indians the art of cultivation; many of them have now plantations. The grass remains green all the year round. In their cultivation irrigation is necessary, and the wheat fields, as well as those of vegetables, etc., were treated in this way. Indian corn succeeds well."

Although these mission sections may claim the earliest authentic records for irrigation, the Yakima country was not far behind, and had soon gained first place in extensiveness of acreage. The second Catholic Mission, St. Joseph, was built April 3, 1852. This was among the Yakimas. Fathers Pandosy and D'Herbonnez established this mission on the Ahtanum. Philip H. Sheridan tells us (*Personal Memoirs*, p. 63) that early in the winter of 1855 the cavalry camped at the Mission of Father Pandosy and "the troops turned their attention to cabbage and potatoes in the garden." He does not mention irrigation, but no garden grows today in the vicinity of the Mission without irrigation, and irrigation is very readily carried on in that

particular section. But we have more direct evidence that these mission fathers carried on irrigation from A. J. Splawn's book. Having discussed the first ditch built by the whites (*Ka-mi-akin*, pp. 265-266), he says: "The first one was built by the Indians many years before. I saw it in 1864, and it was then an old ditch. It was on Chief Kamiakin's place, at present owned by A. D. Eglin. The ditch was taken out of a prong of the Ahtanum, and ran about one-quarter of a mile. It irrigated the garden of Chief Kamiakin. The chief was a close personal friend of the Catholic missionaries, and they, I presume, suggested the ditch to him."

THE TERRITORIAL EPOCH OF CANAL BUILDING

The settler recognized early the value of water, and everywhere we find him making use of it with good success. According to Professor Lyman (*Illustrated History of Walla Walla*, p. 154): "In 1859 J. W. Foster brought trees from the Willamette Valley and planted them on his present place. The orchard on what is now the Ward place was set out in 1860 by A. B. Roberts.

"We also find White Salmon in Klickitat County to be the oldest settlement, one Erastus S. Joslyn and his wife having come to what is now known as the Byrnett ranch in 1852, building a cabin and setting out a small orchard, placed a tract of land in cultivation and acquired a considerable herd of stock. We are not absolutely certain that these orchards were irrigated, except that those particular places are today irrigated.

"In the testimony given in the case of Benton *versus* Johncox, it was shown that W. B. Crosno appropriated sufficient water to irrigate his one hundred and sixty acres in 1869, and that William Hatton had fifty acres in cultivation in 1869, and that there were sixty or seventy acres in cultivation in 1872. U. S. Hatton irrigated one-half of his land in 1870, which was sold to Crosno, and by him to Morris. J. P. Marks appropriated, in 1871, sufficient water to irrigate his premises, and in 1873 he had one-half of his land under irrigation. Besides these in the Ahtanum, others were being carried on in Kittitas County. In the Thorpe *versus* Tenem Ditch Company case, testimony was given to the effect that Charles Splawn came into that country, took up land and irrigated twenty-five acres, at all time after 1869." In 1873 J. M. Thorpe irrigated two orchards, one on each side of Tenem Creek. Water was taken in five ditches from the creek.

Columbia County, too, had its pioneer days before the '70s. Wilson McBride, county engineer, says (personal letter): "There

were small private irrigation ditches previous to 1870 on the Touchet and the Tucannon Rivers."

The Okanogan country, having been settled early, was early in its attempts at irrigation. Judge Brown says (personal letter): "As far as I know, the first irrigation carried on in the Okanogan country was by the late Hiram Smith, commonly known as and called Okanogan Smith. He came to this part of the country at the time of the rush of placer miners to the Thompson River in the Cariboo country in 1858 or thereabouts. He stopped and mined on the Similkameen, a few miles from where Oroville now is, and a year or two later he established a store or trading post on the east shore of Osoyoos Lake at the mouth of Nine-Mile Creek, and put out quite a few fruit trees, of which an old apple tree is still alive and bearing. He also had some meadow, garden, etc. This must have been about 1860. There are several other told-timers that came in during the '60s and went back into the stock business on what is known as the 'Fifteen-Mile Strip,' which was a strip of ground detached from the Indian Reservation lying immediately along the south of the international boundary. These men did some irrigating, but not a great deal, but there is reason to believe that the Indians along the creeks began to follow their example, a few years after, only on a very small scale."

"The first little stream of water used in the Wenatchee Valley was taken from the Squillchuck Creek in 1870. It was used to irrigate about one acre of garden. This was enlarged and extended later into the Miller Ditch." (United States Department of Agriculture. Office of Experiment Station Bulletin 214, p. 31.)

These individual enterprises were soon followed by group effort, for no other thing requires unity on the part of the community so quickly as irrigation. In 1868, Kittitas County developed rapidly, and in that year the Union Pacific Railroad was completed, and many of its workers sought homes and their fortunes in the Northwest. Mr. Ludi had, in 1868, a garden with peas, beans, cabbage and other vegetables. Agriculture developed slowly but surely. The first irrigation ditch of considerable size constructed in the county was the Manastash Canal, built about 1874 by the farmers on the creek from which it took its name. It was comparatively small, but its importance was great, as it "served to demonstrate the practicability of irrigation under the conditions found there. It still continues to serve the community."

A year later the Tenem Ditch was built. It was a tremendous undertaking for its time. The ditch was built nine miles long, and it has not been "superseded by any more capacious canal, though

its capacity has been increased somewhat." It now carries five thousand inches. The Tenem Ditch was commenced in 1873, and by 1875 had been built. This was to irrigate West Kittitas Valley. Water was first let into the ditch in 1873 and the head gate put in that year.

On page 157 of the *History of Klickitat, Yakima and Kittitas Counties* is given the earliest coöperative efforts in the Yakima country, the "result of raising forty bushels of wheat to the acre near Moxee Bridge, was the starting of an irrigation enterprise by a species of farmers' coöperative company. The promoters were Messrs. Goodwin, Stollcop, Vaughn, Mayberry and Simmons. Work was begun by these men during the spring of 1868, the intake being located a mile above the mouth of the Naches River. The ditch was a small one. It had to be constructed under difficulties by men who were not blessed with an abundance of capital, and its progress was slow. By the early '70s it was turned to good account for farming near its head, though it was not completed to Mr. Goodwin's place until several years afterward. In later times it was greatly enlarged and improved and became what is known as the Union Canal."

Mr. Lesh, in his *State Horticultural Report*, 1892, makes 1874 the date when the Union Gap Ditch was first used, and speaks of its being six miles long, seven feet wide, one and five-tenths feet deep and costing \$2,000.

The next was that of the Shanno Brothers, but we are not sure of the time, for 1871 and 1872 are both given. Mr. Splawn gives the earlier date. This ditch brought water out of the Wide Hollow Creek, or as Mr. Splawn gives it, "from a branch or slough of the Ahtanum Creek," to their homestead located on the sage flat between Yakima River and Ahtanum Creek. The first ditch did not prove successful, so they decided to build a larger ditch. They began work on this in 1873 and its source was the Naches. The ditch was eighteen feet across at the bottom, carrying water eighteen inches deep. Its length was eighteen miles. Water reached Oldtown, or Yakima City, in 1875. "This was the first ditch of large size and public utility to be constructed in the county. While the ditch later known as the Union Canal was sooner started, it was of slower growth, and did not develop into an important factor in the agricultural progress of the country until some time afterward." (*History of Klickitat, Yakima and Kittitas Counties*, p. 178.)

This marks the close of irrigation as an individual affair, for from the time the curtain of history rose in Egypt, irrigation has tended to coöperation of the handful of dwellers upon a small creek to the millions of dwellers upon a water system such as the Nile. Our

streams were made common property, conserved by the state for the benefit to the greatest number.

From 1880 to 1890 activity increased, but with it came conviction that irrigation is too big an undertaking for one individual or groups of individuals without support from either state or nation, and already a few of our far-seeing leaders advocated the Federal Government's building and controlling projects such as our present decade has made a reality. Wherever there was an available water supply, the farmers had begun to make use of it for irrigation, especially such plants as are injured by the long summer droughts, and the "garden" of which Dr. Burbank spoke was beginning to emerge. Governor Moore, in his Report of 1889 to the Secretary of the Interior, voiced this sentiment when he says: "In Yakima and Kittitas Counties considerable areas have been reclaimed by irrigation and are proving of enormous value. The introduction of water by the individual or private company is too expensive. It is hoped that within a few years the National Government will have devised and carried into effect a comprehensive system of water supply for this and other arid regions of the West, and thus solve the problem of providing homes for the homeless. In 1883 construction work on the Northern Pacific Railroad was begun and twenty-five miles were built that year. In 1884 it was extended to North Yakima. This proved a great factor in settling the country, and thus gave impetus to the development of irrigation."

During this period was built the canal of the Ellensburg Water Company, commonly called the "Town Ditch." Construction on this canal began, according to Judge Kauffman, in 1885. According to the *United States Census Report of 1890*, seventeen miles had by then been completed at a cost of \$45,000, irrigating two thousand acres and each shareholder getting one-half miner's inch of water in 1889. "This," says B. F. Reed, in his magazine article, "was the first canal of any size constructed in the egg-shaped Kittitas Valley." It was enlarged and lengthened in 1890. It now covers fifteen thousand acres.

In that county was also built, in 1889, the Westside Irrigation Canal, a canal fourteen miles long, twelve feet wide, and estimated to irrigate thirty thousand acres. This company was composed of irrigators who were the water users.

In 1885 was incorporated the Ellensburg Water Company, with a capital stock of \$40,000, subscribed by the farmers and real estate men, to construct the largest canal in the county, the water to be taken from the Yakima River. After ten miles were completed the work

was suspended until 1891, when it was extended ten miles farther. S. T. Packwood was its president for several years.

The Moses agreement, 1886, opened up the Okanogan country, which brought in many settlers, and in 1887 a great many ditches were taken out from the various creeks flowing down to the Okanogan River; also many ditches were taken out in the Methow. "Irrigation in this country was in full swing in 1888," says Judge Brown. "The irrigation was, until about 1904, for alfalfa; for there was no railroad transportation, so cattle and sheep were fed and sent out on the hoof, but with the big fruit land boom, commencing about 1904, came the great revival and expansion of irrigation and the great rise in the prices of irrigated land."

The more slowly developed counties had their pioneer days during the '80s. In Douglas County, Harry Thompson irrigated a quarter-acre berry patch in Brown's Canyon with water brought from a spring on a hill. Early stock raisers on East Foster Creek irrigated gardens in 1886. One, Platt Corbaly, came in 1884 and planted an orchard on a hillside, which necessitated considerable irrigation; he found that much water is lost in open ditch. Many other instances of small beginnings were cited by Anton Gritsch, pioneer of Douglas County, but to mention all would be of little value, even if time permitted. While these were being built, coöperation was not far off. In 1885, six or eight neighbors divided up the water and flumed it. Near Orondo, Frank Hunt, Doc Smith and his brother brought down water from the Badger by an eight-inch pipe line laid extending the length of the canyon. In Chelan County, in the early '80s, Dutch John diverted water from the Stelmilt, and during those years the "Settlers' Ditch" was built near Wenatchee. This was a coöperative enterprise, built by the settlers for their special benefit.

Less irrigation was developed in Klickitat. It was carried on in the lowlands along the Columbia. Water from springs was used higher up, and we find windmills were used to pump water to the higher lands. The largest project during this period was the Cameron Ditch from White Salmon, begun in 1886. The ditch was four miles long and six feet wide at the bottom, and cost \$3,000. This was built by irrigators for their own use.

In Spokane, Lincoln and Stevens Counties irrigation was carried on in a small way, but increased steadily, as the benefit derived warranted the expenditure of considerable sums. It was done where water is easily gotten or where its farmers were "accustomed to irrigation." The more progressive recognized that by putting abundant water on the land they increased greatly the yield, and a second or

even a third cutting of forage plants was possible. In Stevens County, on the western edge of the Colville region, along the banks of the Columbia, is a succession of terraces where irrigation is generally necessary. Water is taken from the small creeks which flow into the Columbia. In Walla Walla County irrigation was carried on along the Snake, Columbia, Walla Walla and the Touchet Rivers, "wherever water can be brought out by small ditches, water wheels or force pumps."

The greatest progress along these lines was in Yakima, undoubtedly because here irrigation was most needed, and the results the most apparent, for the rainfall at Fort Simcoe is ten and six-tenths inches; Pleasant Grove, ten inches; Kennewick, six and six-tenths inches, while the eastern part averages: Colville, seventeen and two-tenths inches; Dayton, twenty-six and seven-tenths inches; and west of the mountains, one hundred and ten inches. According to the *Agriculture Bulletin of 1910*, twenty-inch precipitation is "approximately the dividing line between the sections in which irrigation is necessary to the maturing of crops and those in which it is not necessary."

After 1870, the influx of white settlers was rapid, and after 1880 the small ditches came to be enlarged and considerable tracts were irrigated. The Ahtanum and Wide Hollow ditch was built in 1879, taking its water from the north side of the Ahtanum Creek. Its length as given by D. E. Lesh was, in 1889, ten miles, and it was five feet wide, irrigating "about 250 acres." The Fowler ditch was built in 1884, and has since been extended through Union Gap, and is now known as the Lombard and Horseley ditch. It takes its water from the Yakima River and runs to the east side into the Moxee Valley, and by 1889 was eight miles long and watered fifteen thousand acres.

The Moxee Company's ditch was built in 1888-1889, and nearly crossed the valley north and south, watering all the company's land. The company consisted of Gardiner Hubbard, of Washington, D. C., and William Ker, Esq. Outside capital marks a new era in irrigation undertakings. The ditch was eighteen feet wide, contained three feet of water and supplied thousands of acres.

In Governor Squire's Report for 1884, he says: "A corporation for the purpose of irrigating the lands of the Moxee Valley, which is about twelve miles by five miles, known as the Yakima Farm and Ditch Company, was organized some time ago. This ditch will cost about \$40,000, and irrigate twenty thousand acres."

The Seattle *Post-Intelligencer* early in 1889 says that the only extensive work is that by the Selah Valley Ditch Company. It is

twenty-four feet wide at the bottom, three and a half feet deep of water, its intake is up in the Naches River about thirty miles, and irrigates twenty thousand acres just north of North Yakima. Besides these larger projects were the many lesser enterprises too numerous to mention. The greatest of all the projects commenced in the period was the Sunnyside Canal, but this properly belongs to the 1890-1900 period, in that the earlier companies were made up of land-owners who combined for the purpose of more efficiently and cheaply obtaining water for their own lands — *i. e.*, the stockholders were local men, the capital was local, and the purpose was improvement of their respective lands. In 1889 outside capital was attracted by apparent opportunities for profitable investments in irrigation projects, whose purpose it should be to sell water as a commodity, and make their profits on the large amount of water they had to sell.

A good summary of this period is found in the Secretary of State's Report for 1892. He says: "On June 1, 1890, of 11,237 farms found in thirteen counties, or nearly two-thirds of the whole number in the state — of these farms 1,046, or nearly one-tenth, contained irrigated areas. The number of irrigators was 1,046, the total irrigated acreage in crops was 48,199 acres, and the average value of products per acre was \$17.90. And the counties using irrigation are: Asotin, 320 acres; Columbia, 139 acres; Douglas, 1,016 acres; Franklin, 44 acres; Garfield, 229 acres; Kittitas, 25,212 acres; Klickitat, 1,702 acres; Lincoln, 239 acres; Spokane, 80 acres; Stevens, 1,350 acres; Walla Walla, 2,809 acres; Whitman, 530 acres; Yakima (including Benton), 15,129 acres."

In 1890, in the number of irrigators, this state stood at the foot of the list, having a few less than the Territory of Arizona; and also the smallest acreage of the eleven leading irrigation states. In value of lands irrigated the state occupied an intermediate position, while in average value of products it stood high.

The '80s stand out as an experimental stage in artesian wells, by individuals, state and county. In Governor Watson C. Squire's Message and Report to the Legislature, 1885-1886, he says in speaking of Yakima: "Hundreds of small ditches have already been constructed and the good results are apparent." And in his report to the Secretary of the Interior for 1885 he says of Douglas County: "This is the finest and largest body of unbroken land, and would be settled more rapidly if water could be obtained. Artesian wells have been sunk sixty to one hundred feet, one two hundred and twenty-five feet, and failed to get water. . . . The people desire that Congress make an appropriation to be applied to sinking one or two wells on the

prairie, thereby testing the question whether or not water can be obtained. . . . Sales of land by the Government to actual settlers would return into the national treasury a far greater amount than would be appropriated." Also in his report, in 1886, to the Secretary of the Interior, he says: "It has been found desirable to attempt to artificially irrigate the soil in certain parts of the territory, and for this purpose the Legislature appropriated \$6,000 to expend in sinking artesian wells in the counties of Franklin and Adams. It is hoped the general government will take an interest in this subject and by appropriation will assist in developing these arid tracts of land." But the Federal Government was not favorably inclined to assuming such responsibility, though in 1892 it had a geological survey made to determine the feasibility of artesian wells as means of water supply.

Israel C. Russell began work April 1, 1892, under the direction of the United States Geological Survey. He stated the conditions favorable to artesian wells as being a "saucer-shaped formation composed of alternating layers of gravel and sand and clay, and reported that, with one or two exceptions, conditions in eastern Washington are unfavorable to the hope that artesian water can be obtained." But the state, ignorant of geological conditions, did its little toward aiding the communities, and a few individuals scored great success. Governor Eugene Semple's Report to the Secretary of the Interior for 1887 states: "The territory is now experimenting with artesian wells, toward which it has appropriated \$2,500 to be used in Adams County."

February 2, 1888, an act was passed appropriating \$1,000 for the purpose of sinking an artesian well in Yakima County, provided the county commissioners appropriated a like sum and provided for the disbursement thereof. The county commissioners were to locate the said well in that portion known as Horse Heaven. As each one hundred feet was completed, the county commissioners were to report to the territorial auditor. The contract was not to extend beyond the finding of water or the expending of that amount of money. We know that this offer was accepted, for in the State Auditor's Biennial Report, 1892-1893, note is made that the state paid \$1,100 on the artesian well in Yakima County. We find today: Well No. 30, Section 36, Township 8 North, Range 26 East, "one and one-half miles southeast of the Hayden Well, drilled at the joint expense of Yakima County and the state. It is six hundred and thirty feet deep; water in it stands three hundred feet. About five thousand gallons a day are gotten." (*Department of Interior Water Supply*, Paper 316, p. 34.) The *Census Report for 1890* states that the well is reported to have

cost \$3,400, due to the necessity of drilling through several hundred feet of basalt.

Near Ellensburg two wells were sunk but without success, and in Adams and Douglas Counties individual efforts ended more or less in failures. In Yakima County results were better. According to Russell's Survey, 1892, two wells are given in Wide Hollow, one on P. S. Wood's place, two hundred and fifty-six feet, water in it six feet; the other on John Miller's place, but the pressure was very slight, and the *Census Report of 1890* says "neither flows." But the Moxee Valley proved to be the saucer-shaped formation described by Israel C. Russell, and here success crowned the efforts. The principal wells are found within an extent of territory aggregating not more than six square miles. In this limited territory thirty wells were sunk in twelve years, and the area irrigated as shown by the Bureau of Statistics, 1903, was 2,900,015 acres.

According to Mrs. Lila Dickson (personal letter): "A man named Bradford . . . decided to drill for water at a water hole called Mud Springs, about a mile east of his place." He, with Scudder and several others, formed the Yakima Land Company, and began work, and "after a long, discouraging time got a fine flow in the year 1892, and ran the water in ditches. In 1895 the second well was finished on the old Peck place. This was called the Clark well. The warmer water proved the better for irrigating purposes. The wells at Willow Spring and Mud Springs are not flowing, but the Clark well is one of the good wells today."

In 1907 a survey was made of the eastern part of Yakima and Klickitat Counties and the western part of Franklin County, five thousand acres, to determine the supply and the possibility of increasing it by sinking deep wells. Well No. 1 of the Yakima Land Company was the first flowing well in that part of the state. It is located in Section 3, Township 12 North, Range 20 East, is six inches in diameter, three hundred and fourteen feet deep, and discharges at the rate of 0.6 second feet, the water having a temperature of seventy-five degrees. Well No. 2 is located in Section 4, Township 12 North, Range 20 East, is eight inches in diameter and six hundred and eighteen feet deep. The Washington Irrigation Company drilled Well No. 1, located in Section 31, Township 13 North, Range 20 East. Its temperature is seventy-three degrees.

We could hardly call artesian well experiments a success, but they did make it evident that water users must be provided with sufficient water during the dry months, and so the idea of reservoirs presented

itself as a means of conserving the water which goes to waste during the winter and spring. A new phase of irrigation is before us.

TERRITORIAL EPOCH OF IRRIGATION LEGISLATION

Though an interesting beginning had been made in pre-territorial days, it could hardly be said to have reached any importance, nor to have received more than accidental notice by the Territorial or Federal Governments. Though the day was far hence when the Federal Government considered it within its jurisdiction to construct reclamation projects, yet it adopted a policy which tended toward federal activities in irrigation, first indirectly and later indirectly. In 1855 Governor Isaac I. Stevens made a treaty with the Yakimas by which they ceded a large area of land to the United States, reserving to themselves the land known as the Yakima Indian Reservation, consisting of 1,092,819 acres, 120,000 acres of which are irrigable. At this time irrigation was little known, and it does not appear that the subject of water right bore any important relation to the treaty, but nevertheless the treaty intended that the Indians should become agricultural people and "their lands devoted to their arts, and it was within the minds of all the parties that such use could not be made of the lands without the Indians having the right to the appurtenant waters." The treaty also provided "for the expenditure of \$60,000 the first year after the treaty was signed, in providing for the removal to the reservation, breaking up and fencing farms." Also to establish two "schools, one of which shall be an agricultural and industrial school . . . and one plowmaker's shop . . . and employ one superintendent of farming for the instruction of the Indians." (Treaty with the Yakimas.) The treaty was ratified by the Federal Government in 1859, and the "Indians at once commenced to irrigate the land in a crude fashion, using oxen for breaking the sod. In 1865 they had ten to twelve hundred acres under irrigation," according to testimony before the commission created to investigate the feasibility of procuring the impounded waters for the Yakima Indian Reservation (pp. 65-72). Irrigation was necessary, as only a small area of land reserved was susceptible to profitable agriculture without water being conducted to it, and thus the Federal Government, intentionally or otherwise, forced itself into reclamation activity and was the first to build a ditch below Union Gap. "By the Treaty of 1855 Governor Stevens was to avoid the payment of annuities to the Indians and to substitute implements of agriculture." (Snowden, *History of Washington*, Vol. III, p. 263.) We see here the force of necessity shaping a policy which later was urged by the National Irrigation Congress

to be instituted by the Federal Government for its citizens as well as its wards.

The National Government was the first to legislate on the question of irrigation. Article IV, Section 3, of the Constitution gives Congress the right to "make all needful rules and regulations respecting the territory or other property belonging to the United States," and since all through the West homesteading was coupled with irrigation, July 26, 1866, Congress passed a statute recognizing the "customary priority rights," whenever, by priority of possession, rights to the use of water for mining, agriculture and manufacturing or other purposes, have vested or accrued and the same are recognized and acknowledged by the local customs, laws and the decisions of courts, the possessor and owner of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals . . . is confirmed; but whenever any person in construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party . . . shall be liable for such injury or damage.

In 1870, July 9, Congress passed a second act, providing "that all patents granted or preëmption or homestead allowed shall be subject to any vested and accrued water right or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by the preceding section."

This is of peculiar interest, for by these laws the development of irrigation is left to "local customs, laws and decisions of courts," and by these acts the Supreme Court held that the United States surrendered any control it might have had over non-navigable rivers, as though it would have nothing to do with that phase of its development in which it was to play such a prominent part not long afterward.

With vast areas of arid land, we find the United States once more considering the problem of water supply, and so on March 3, 1877, was passed the Desert Land Act, by which six hundred and forty acres of arid land were offered on condition that the settler reclaim the land within three years and pay \$1.25 per acre. Proof must be made that at least one-eighth of the land has been actually reclaimed.

But this did not work out as had been hoped; for the difficulties met with in trying to reclaim the land were far too great for the individual who had little money, where water was hard to get and the available streams had been largely appropriated. The National Government was driven one step farther, and on October 2, 1888, the act was approved which provided for the investigation as to the

extent to which the arid region of the United States could be redeemed by irrigation, and for the selection of sites for reservoirs necessary for the storage and utilization of water for irrigation. It further provided for the segregation of such lands as could be irrigated or used for reservoirs. Thus the territorial days close a "new attitude" on the part of the Federal Government.

The attitude of Washington Territory was even more halting and shows less consistent trend toward something definite. It tried to be helpful, but was never a leader. In those days the Washington Legislature made few general laws, so each particular case was made the subject of special legislation. The first of these was in the case of fixing the right of riparian proprietors and others on Mill Creek, below the Yellow Hawk or South Fork of Mill Creek, and also of those upon Yellow Hawk and Garrison or Babcock Creek, in Walla Walla County, passed January 20, 1864.

First: "In Mill Creek, below the head of the Yellow Hawk sixty per cent. of said stream and remaining forty per cent. in the Yellow Hawk."

Second: "Forty per cent. of the waters of the Yellow Hawk to Garrison or Babcock Creek and the remaining sixty per cent. to remain in and flow over the bed of the Yellow Hawk, so called."

Section 2: "Any person or persons interfering in land or riparian right in the premises or vicinity of the premises hereinbefore described are hereby authorized and empowered to remove from the bed or banks of either of said streams any and all obstructions, either artificial or otherwise, to the flow of the water over and upon the beds and hereinbefore described channels of said streams."

This interesting act was followed by one, "regulating irrigation and water rights in the County of Yakima," passed November 13, 1873. "A person or persons or corporation or company who may hold a title to any agricultural land within the limits of Yakima County, Washington Territory, shall be entitled to the use and enjoyment of the waters of the streams or creeks in said county for the purpose of irrigation and making said land available for agricultural purposes to the full extent of the soil thereof. When such a person has no available water facilities upon the same, or when it may be necessary to raise the same in order to irrigate, he shall have the right of way over any tract or piece of land for the purpose of conducting and conveying said waters by means of ditches, dykes, flumes or canals. In all controversies respecting the right to water under the provisions of the act the same shall be determined by the date of the appropriation as respectively made by the parties. The

waters of the streams or creeks of the county may be made available to the full extent of the capacity thereof for irrigation purposes, so that the same do not materially affect or impair the rights of the prior proprietor, but in no case shall the same be diverted or turned from the natural channel, ditches or canals of such proprietors so as to render the same unavailable. . . . This shall not impair or interfere with the rights of parties to the use of the waters of such stream or creek acquired before its passage."

In connection with artesian wells, a few legislative acts provided some money, as has already been shown, but all endeavors lacked system, and the people were not interested.

With the rapid development of irrigation it is hardly surprising that there should be some litigation. In 1884 the case of Thorpe *versus* Tenem Ditch Company excited much interest. Thorpe made a homestead filing in 1874, the land was surveyed in 1874, and the Tenem Ditch was completed in 1875. The beneficiaries of the plaintiff claimed to have appropriated two-thirds of the water of Tenem Creek in 1873. Thorpe claimed that his homestead settlement on unsurveyed land through which the Tenem Creek ran invested him with the rights of riparian owner. An appropriation was made by the defendant before his filing, and for that reason they held that he (Thorpe) was not riparian owner. The company claimed to have been the first appropriators, since the United States cannot be said to have disposed of land under the preëmption law until final proof and payment; and not under the homestead laws until final proof of the homesteader. In the Superior Court the decision was given in favor of Thorpe, but the case was appealed to the State Supreme Court, and in 1889-1890 this court reversed the decision on the ground "that the appropriator of the flow of water over the public lands of the United States has by local custom which is recognized by the United States a vested right therein which cannot be defeated by one who, having consented to such appropriation, subsequently files homestead entry and obtains a patent for the land. Conceding that the statutes of Washington Territory of 1873 do not extend the right to appropriate waters to any except land-owners, they are not intended to restrict the right of prior appropriation as it existed by local customs and under decisions of the courts, by which it was immaterial whether the appropriator was a land-owner or not." (*Washington Reports*, Vol. I, p. 560.)

Another case of interest came up on November 17, 1894, growing out of the question of riparian right. One Henry Isaacs had, in 1861, diverted water for the running of a mill. In 1863 the land around

this had been purchased by Artemus Dodge, who, in 1865, received a patent. When in 1896 Isaacs used more water, it worked a hardship on the irrigators, whence the case of George Barber *versus* Henry Isaacs was given in favor of Isaacs, on the ground that the act of July 26, 1868, "merely recognized the custom then existing, and persons acquiring land before that act took the land subject to the right of prior appropriation in the waters of the stream running through or by such lands."

One other case of interest was that of Benton *versus* Johncox. Benton was a riparian proprietor on the Ahtanum Creek, as were also many others. Later, settlers came in farther up the Ahtanum and some settled on bench land. These diverted water to irrigate their lands, and the surplus water taken to the bench land was not returned to the creek. Benton instituted action to "restrain certain of the appellants from diverting the waters of said stream and conducting the same to land situated at a distance therefrom for the purpose of irrigation. (*Washington Reports*, Vol. XVII, p. 277.) Many riparian owners joined the plaintiff in claiming the relief sought. The Superior Court awarded a "perpetual injunction restraining each and every one of the non-riparian owners of land from diverting or interfering with the water of the stream." In this case the Supreme Court sustained the lower court in its decision, on the ground that the making of valuable improvements, and the ownership of land and the appropriation of water, does not destroy the right of the riparian owner.

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[*To be continued*]