CHAPTER XV

GRAND LAKE-BIG THOMPSON WATER DIVERSION PROJECT, ONE OF THE BIG DEVELOPMENTS OF THE WEST, NOW A CERTAINTY.

On June 28, 1938, the people of Northeastern Colorado, at a special election called for that purpose, registered a vote of more than 18 to 1 in favor of the Grand Lake-Big Thompson Water Diversion Project, which act was the last step in the long series of steps, legal and legislative, necessary to securing for this section of the state an adequate and unfailing supply of water for irrigation. As this History goes to press the Project has advanced to the stage of final surveys and the awarding of contracts for the various features of the enterprise.

It is not expected that so gigantic a system can be completed and put into operation in much less than five years time; yet it holds a sure hope for the future that must put heart into discouraged farmers and shorten the time of waiting. No more will parching fields and withering crops fill farmers with dismay, for they will know that already the days of drouth are numbered; that only a while longer must they hold on while the work goes forward that is to bring abundant water for all needs.

INCEPTION AND EVOLUTION OF THE BIG IDEA

The thought culminating in this great project is not of recent date. More than sixty years ago, indeed near to seventy, it germinated in the minds of the settlers of this region. Back in the 1870s, or possibly earlier, when the second settlers coming in found the first settlers already in possession of the rich bottom lands and themselves obliged to locate on the higher benches, the question of water for irrigation became an all important one; and, stretching over the years since that time, no more vital nor baffling problem has ever confronted the people of Weld and other northeastern counties.

It was not only the second settlers, but the first also, that faced the problem; the first held no monoply of the streams

and could not, even had they wished, prevent second comers from tapping the streams. As time went on all saw the streams losing volume with no other source of supply in sight; and the problem grew in importance and perplexity as year by year the volume steadily decreased.

In the year 1881 E. S. Nettleton, Colorado's first state engineer, expressed the conviction that sooner or later water would have to be brought through the Rocky Mountains from the western slope to the eastern. This may or may not have been the origin of the thought, but it surely was the first official expression of it and many minds were ready for its reception. Within the years immediately following many other engineers and surveyors explored the region in search of a practical plan for the accomplishment of that end. Through the 1880s and '90s explorations went forward and the turn of the century found explorers recording results and convictions.

In 1903 Andrew McMillan, George Hodgson, John Zylor, a Mr. Coburn and two miners whose names are not now available surveyed a track for a tunnel to start from a point in Township No. 2, Range 74 west, pass through Mt. Audubon a distance of four miles and strike the South Fork of the St. Vrain in Boulder county. These surveyors, as others, bore their own expense, but felt repaid because their experiments ended in the firm conviction that a plan was feasible. And time has verified their conviction.

In 1904-5 the National Reclamation Bureau took a hand, their experiments evolving a plan to divert the waters of the North Fork of the Colorado River into Grand Lake, thence into a reservoir and from that through a twelve mile tunnel into the Big Thompson or the St. Vrain.

In 1905-6 a survey was made by students in the engineering department of the Agricultural College outlining a tunnel plan from Grand Lake to Moraine Park. And as experimental surveys went on it became more and more a settled conviction in the minds of surveyors that a diversion plan could be worked out; and then, in 1915, the first essential legal step was taken making it a possibility.

This was when the Act ceding Estes Park to the government for a National Park was before congress, and when a brilliant young lawyer of Weld county, Delph Carpenter, appeared before that body and urged as a part of that Act a provision for a Right of Way for a bore or other means by which at some future time water might be brought through the mountains beneath the surface from the western slope to the eastern. No definite time nor plan was stated; it was only that this young lawyer, in harmony with the surveyors and engineers, saw the vision, and knew that a legal step must open the way. The depth of the debt of gratitude Northeastern Colorado owes to Delph Carpenter can only be measured as the future years demonstrate the wisdom and foresight of his timely act, without which the great thing consumated in 1938 would not have been possible.

WHY IT WAITED SO LONG

Notwithstanding all the demonstrated needs and feasibility of bringing the waters of the western slope to the arid acres of the eastern, yet it was as though that development awaited other seemingly unrelated developments to open the way for a practical working out of a definite project. Between 1915 and the decade of the 1930s this apparently unrelated condition took shape, emerging in the early years of that decade as a connecting link.

By 1933 the natural development of the economic system had resulted in an army of the unemployed, in numbers running into the millions. The development of machinery and other causes had brought this about and unemployment had become a National problem; relief measures had come into being but they were not enough; besides, were conducive to the growth of an un-American principle; American workers wanted work, not charity, and work with pay should be found. And here the National Administration stepped in, asking the American people to suggest projects that would at once preserve the self-respect of the workers and be of service to the country as a whole.

This new attitude of the government fitted in exactly with

the condition that had already developed in Northern Colorado: the need for water that was available but could not be had because of the tremendous cost in labor and money; the thing that was too big for any private enterprise, or, even for the combined co-operative effort of all the people of Northeastern Colorado with the limited resources at their command; the thing that had to wait for something bigger. And now comes the Government; great Uncle Sam himself, with pockets bulging, and asks for projects to employ the unemployed. Weld county was one of the first to get its breath and step forward with a project; it was the long cherished dream of a trans-mountain water supply.

On a day in the early summer of 1933 the county commissioners received a letter from Governer Edwin C. Johnson asking for practical suggestions that could be used by the government for the employment of labor and the benefit of the country.

The board at that time consisted of William A. Carlson, chairman, James S. Ogilvie and S. K. Clark. Deeply they pondered the problem and then into the mind of the chairman came the thought of Grand Lake. At once he sought the county surveyor, breaking into his office unceremoniously with the words: "Lew, what do you know about Grand Lake?" and "Lew", who had already done a great deal of exploratory surveying as well as thinking, promptly replied: "I think I know a lot about it." Then, bringing forth a wealth of maps that had been evolving through the years, he showed elevations, distances and estimates and assured his visitor it could be done, but added mournfully, "it would cost a mint of money." Then both stopped, stared at each other and tried to re-adjust their thoughts to the new condition of a "mint of money" waiting to be spent. Yes, there *was* "something new under the sun."

The next step was to consult with the Chamber of Commerce. Its president, Charles Hansen, of the Greeley Tribune, entered enthusiastically into the project, called a meeting of the executive committee and set the machinery in motion that after five years culminated in the record breaking vote that made the Grand Lake Water Diversion Project a reality. Through five

years of able and unremitting effort, through threatening failure or promising success his interest never wavered nor did his vigilance relax. And now when success has led on to the next step, his associates have made him President of the Northern Colorado Water Conservancy District. A fitting tribute to his ability and faithfulness.

At that first meeting of the executive committee and the county commissioners, the first matter to be considered was financing the initial steps before the Bureau of Reclamation should be called in. Pledges were made by the two bodies. The minutes of the commissioners' meeting of September 11, 1933, record the appropriation of $2,000. The Chamber of Commerce appropriated between $700 and $800 and added to that sum as time went on. The Larimer county commissioners appropriated $700, and now they were ready for the next step.

Here the Reclamation Bureau was invited in and from this point forward the story will unfold through the pen of Ralph E. Johnston, of the Greeley Tribune Staff.

THE HISTORIC STEPS AS THEY WERE TAKEN

Weld and Larimer counties agreed to pay the expense of a preliminary project survey to be made by L. L. Stimson of Greeley, engineer. In December, 1933, R. J. Tipton, engineer in charge of such investigations, issued a report unreservedly recommending the plan.

The next step was the formation of the Northern Colorado Waters Users Association, a mutual non-profit corporation formed to promote interest in the project, accumulate data regarding the necessity for its construction and in general do everything possible to assure completion of the project.

The Association was incorporated June 25, 1935, and Charles Hansen, Publisher of The Greeley Daily Tribune, was elected President. Moses E. Smith of Ault was named Vice-President and Fred Norcross of Greeley was named Secretary-Treasurer. Directors were named from six of the seven counties that stood to benefit by the diversion project.

The Directors were: Weld County, Charles Hansen, Moses E. Smith and William A. Carlson; Larimer County, Dr. Charles A. Lory, President of the Colorado State College of Agriculture, Burgis G. Coy and R. C. Benson; Boulder County, W. E. Letford and T. M. Callahan; Morgan County, J. M. Dille; Logan County, Robert J. Wright; Sedgwick County, Charles M. Rolfson. Because only about twenty-two square miles of land in Washington County was affected, its representation was combined with that of Morgan County. Association offices were established in Greeley with J. M. Dille of Fort Morgan as resident manager.

The Association went to work. Meetings were held throughout the District. Ditch companies, civic and community organizations, business firms, county and city governments, railways, Chambers of Commerce and the Sugar Company contributed funds to support the Association's work.

Eventually a plan was worked out by which the project could be built by the United States Bureau of Reclamation, an agency of the Department of the Interior that has constructed major irrigation and reclamation projects including Boulder Dam.

With a Federal appropriation of $150,000 to finance the work, a survey of the project was made by the Bureau of Reclamation, including detailed engineering studies and cost estimates. The report, made February 3, 1937, by Porter J. Preston, Senior Engineer of the Reclamation Bureau, Denver, was highly favorable.

Estimated cost of the irrigation features of the project was set at $24,800,000. The report also considered possible future hydro-electric plant developments to cost $19,000,000.

The Bureau of Reclamation report stated, in brief, that there was 615,000 acres of irrigated land in Northern and Northeastern Colorado, much of which had inadequate water; that there were no economically useable new supplies on the Eastern Slope and that there was 310,000 acre-feet of water that could be diverted annually from the Western Slope, the diversion of which would not encroach upon present or future irrigation needs of the western side of the Divide.

The Bureau estimated cost of construction at $2.00 per acre-foot per year, over a repayment period of forty years and that increased crop production would enable Eastern Slope users to pay for the project out of income created by it. The report also outlined the possibilities for power production in six suggested power plants, using the water as it courses down the eastern face of the range in the Big Thompson river.

The principal engineering features of the project are:

—On Colorado River—

1. Storage reservoirs (Green Mountain Reservoir) on Blue river sixteen miles southeast of Kremmling, to replace water diverted to Eastern Slope.
2. A hydro-electric plant at the Green Mountain dam.
3. The Granby storage reservoir located on the Coloado river six miles northeast of Granby. This reservoir will collect the flow of the Colorado river at this point as well as the flow of some smaller streams.
4. Shadow Mountain Lake, created by a dam three miles south of the village of Grand Lake. Level of Shadow Mountain Lake will be the same as Grand Lake with which it is connected.
5. Electrically driven pumping plant on shore of Granby reservoir to lift water into canal feeding Shadow Mountain Lake and Grand Lake. The canal is four and one-half miles long.
6. Outlet canal from east end of Grand Lake to west portal of tunnel.
7. A transmountain diversion tunnel under the Continental Divide 13.1 miles long, extending from Grand Lake to a point in Wind River about five miles southwest of Estes Park village.

—On Eastern Slope—

8. A conduit 5.3 miles long from east outlet of tunnel to power plant on Big Thompson river just below Estes Park.
9. Waste rock from tunnel to be terraced and landscaped to conform with natural surroundings.
10. Power Plant No. 1 on Big Thompson river just below Estes Park to utilize diverted Western Slope water.

1. Four additional power plants down the Big Thompson canon to utilize fall of water as it is diverted.

12. Three storage reservoirs, with intake and outlet canals, along the foothills. Reservoirs known as Carter Lake Reservoir, eight miles northwest of Berthoud; the Horsetooth Reservoir, five miles west of Fort Collins and the Arkins Reservoir, near the mouth of the Buckhorn Creek.

13. A canal from the Horsetooth reservoir to the Cache La Poudre river and extending north to a pumping plant which lifts water high enough to serve the North Poudre Canal.

14. Electric transmission lines to connect the Valmont steam plant of Public Service Company of Colorado with all the hydro-electric plants suggested, with the tunnel portals, the Granby pumping plant and the North Poudre pumping plant.

In the spring of 1937, the Colorado Legislature through the efforts of Moses E. Smith passed unanimously a law providing for the setting up of water conservancy districts. The law provided that the Board of Directors should have the power to levy and collect taxes on all property in such districts when established, provided the levy did not exceed one-half mill until water is delivered, and not to exceed one mill after water is delivered, except that an additional one-half mill levy may be made to pay deficiencies in income if needed. The Board also was given power to levy and collect assessments for water sold, such payments to be collected through regular tax channels.

Under the general terms of this law, the Northern Colorado Water Conservancy District was set up to finance repayment of the costs of the irrigation features of the Colorado-Big Thompson Project. Of this total, three-fourths to be raised through sale of water at $1.50 an acre-foot per year while the remainder would be raised through general district tax levy. This schedule of payment is for forty years, the period during which the District's share of the cost of the project is to be repaid.

After the law had been passed providing for the formation of water conservancy districts, the Northern Colorado Water Users Association in Greeley began a campaign to obtain signatures to petitions asking the Weld County District Court to es-

tablish the District. The petitions were presented to District Judge Claude C. Coffin in Weld County District Court September 20, 1937.

The District as originally outlined in the petitions contained 2,315 square miles or 1,481,000 acres in Boulder, Larimer, Weld Morgan, Washington, Logan and Sedgwick Counties. The District included irrigated lands and improvements on irrigated lands valued at $37,129,665.

On September 28, 1937, Judge C. C. Coffin announced the membership of the first Board of Directors of the Water Conservancy District. Six were appointed to serve for terms of two years and five for terms of one year. The appointments were:

Boulder County: W. E. Letford (2 years) and Ray Lanyon (1 year).

Larimer County: Robert C. Benson (2 years), Ralph W. McMurry (1 year) and Ed. F. Munroe (1 year).

Weld County: Chas. Hansen (2 years), Moses E. Smith (1 year) and William A. Carlson (2 years).

Morgan and Washington Counties: John M. Dille (2 years).

Logan County: Robert J. Wright (1 year).

Sedgwick County: Charles M. Rolfson (2 years).

The Board of Directors met in Greeley the next day, September 29, and elected Chas. Hansen of Greeley Chairman of the Board and President of the Northern Colorado Water Conservancy District. John M. Dille of Fort Morgan was elected Secretary-Manager of the District.

The Board, at its organization meeting, voted a tax levy of three-tenths of one mill upon all property, both real and personal, in the District. This tax was for the year 1937 and was payable in 1938 through regular tax channels, the tax being collected in each county by the County Treasurer.

The levy, equivalent to thirty cents on each $1,000 of tax valuation, was estimated to raise $42,000 on the $140,000,000 of tax valuation in the District.

The first session of the seventy-fifth Congress passed an amendment to the Interior Department's appropriation bill making an initial appropriation of $900,000 for construction of the

Colorado-Big Thompson Project as a U. S. Bureau of Reclamation project. Colorado's Congressional delegation, led by Senator Alva B. Adams and Congressman Fred Cummings, stood shoulder to shoulder in waging the successful fight to obtain final passage of the appropriation.

The original plan was for the people of Northern and Northeastern Colorado within the area to be benefited to pay for the Irrigation features of the project while the Federal Government, through the Reclamation Bureau, would pay for power features.

Early in May, 1938, a conference between representatives of the Conservancy District and the U. S. Bureau of Reclamation officials in Washington resulted in a change being made in the set-up for financing the project.

The original plan for the District to repay the costs of the irrigation features of the project, called for a capital commitment on the part of the District amounting to $25,000,000 The conference in May resulted in a fifty-fifty division of the costs of the $44,000,000 project between the Bureau of Reclamation and the Conservancy District The new plan, therefore, reduced by $3,000,000 the initial capital commitment on the part of the taxpayers of the Conservancy District.

Should total costs of the project exceed estimates, the District would be committed to pay only half of the excess. Considering the $3,000,000 reduction in the District's share that has been made, the project would have to cost $6,000,000 more than estimates to make the District's share as large as it would have been under the former set-up. The top limit of the cost to the district, has been set at $25,000,000.

The new plan provides that the District pay half of the maintenance and operating costs of the irrigation features of the project and those features which are joint power and irrigation units. But because of the reduction in the District's share to $22,000,000, this fifty per cent. of the operating and maintenance costs will not increase the charge that is made for water which will be $1.50 per acre-foot per year plus one mill tax on all property in the District until the District's share of the cost is paid. which shall be within forty years, without interest. After

the repayment of $22,000,000 is made, only half of the operating and maintenance cost will remain to be paid by the District.

By May, 1938, the sum of $2,150,000 was appropriated for the project. This included the initial appropriation of $900,000 and an appropriation passed by Congress and signed by President Roosevelt setting aside $1,250,000 more for construction. In May, engineers of the Reclamation Bureau obtained permission to expend $50,000 of this sum for preliminary engineering work and surveys, part of which was devoted to surveying courses for distribution canals.

The Colorado State Supreme Court on Monday, May 2, 1938, by unanimous decision, upheld the constitutionality of the Conservancy District Act and the right of the District Directors to hold office and discharge their duties. This court test of the act had been provided for in the act itself.

Directors of the Northern Colorado Water Conservancy District met at the district offices in Greeley, Monday, May 23, and approved the terms of the contract as it had been negotiated in Washington and in Denver.

Date for the election at which residents of the district who had paid taxes the year before, were to vote on the proposal whether or not to accept the contract, was set for Tuesday, June 28, 1938.

By this time officers of the conservancy district reported that more than 200,000 acre-feet of the 310,000 acre-feet to be diverted had been sold.

Hundreds of people have given unstintingly of their time and energy in overcoming what at times appeared to be insurmountable obstacles in the path of making this dream come true —the dream of more water to be turned into the rivers of the Eastern Slope to bring added prosperity to the fertile empire that stretches eastward from the foothills of the Rockies in Northern and Northeastern Colorado.

RALPH JOHNSTON.

AN HONOR ROLL—NOT COMPLETE.

In addition to the men mentioned in the above story who

gave of their time and ability to the launching of the Grand Lake enterprise there were many others whose names are not available to this History; it is therefore hoped that all ommissions may be charged to lack of information, not to intent. Of those known the following should have especial mention for effective work done.

Dr. Charles A. Lory was active from the very beginning. It was he who assisted Special Investigator Burlew who was sent to Colorado by Secretary Ickes of the Interior Department, to investigate all angles of the Project and report on its practical, engineering and legal aspects. It was he who first suggested a one mill levy and a reasonable charge for the use of water by which means the district's share in the enterprise might be financed, estimating that the mill levy would raise $150,000 and the charge for water $465,000 at the rate of $1.50 per acre of ground watered; and all these suggestions became a part of the definite plan worked out by Attorney Nixon and passed by the legislature.

Porter J. Preston, himself a product of Northern Colorado, was made senior engineer of the Project by the Bureau of Reclamation. He may not have been the traditional "barefoot boy with cheek o'tan" of song and story, but he certainly was typical of that character. He was raised on a farm near Longmont and had every opportunity for bare feet and cheek o'tan in boyhood days that could have been the envy of the ultra fashionables of today. Through actual contact with farming conditions he came to know the needs of farmers in Northern Colorado, and when the time came to use that knowledge in his capacity of engineer it was easy to design and work out the irrigation and electrical features that would meet those needs.

The highest official of the state, Governor Ammons, has thrown his influence on the side of the enterprise and given valuable assistance.

In Washington the Project has had the skillful management and constant support of Senators Johnson and Adams, Congressmen Cummings, Lewis and Martin and, after adjustments of

interests between the eastern and western slopes, of Congressman Taylor also.

The first preliminary report, prepared by R. J. Tipton, was published by Mr. C. Hinderlider, head of the engineering department in 1933.

Postmaster General Farley examined the Project in 1937 and pronounced it worthy of approval.

A CURIOUS FACT ABOUT IRRIGATING WATER

Thomas Nixon is authority for the statement that after application to the land 80 per cent of all irrigating water for the North Platte basin returns to its starting place and again goes out to the land. To the average layman this process is not apparent, since, as it would seem, much of it would have to run up hill to get back to its source; but to the scientist there are no difficulties; it does not have to run up hill; through a system of seepage water passes through different strata of earth and finds its way into veins that eventually lead back to original sources. It is upon this theory, which Mr. Nixon says passes to the status of proven fact, that it is estimated the 310,000 acre feet of the Grand Lake Project will return to the streams about 200,000 acre feet, thus raising the amount actually available to over 500,000 acre feet.

The new storage plan will enable farmers to make crop calculations at least a year ahead; and, as a result of agricultural stability based on the certainty of the water supply other industries are expected to develop as time goes on. The assessed value of all property in the District at the present time is approximately $140,000,000, which valuation will undoubtedly rise steadily after the Project is in full operation. Dr. Lory predicts that cities the size of Greeley and Ft. Collins will reach a population status of 30,000 within a few years time.