

# Colorado's Water Future

If You've Been Wondering About Day-To-Day Headlines On Our Intra-State Fight Over Water, Here Are The Answers

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*Editor's Note: This article presents most of the speech made by Mr. Breitenstein at the annual meeting of the Colorado Agricultural Planning Committee in Denver on March 8.*

COLORADO'S sole remaining unused water resource is found in the basin of the Colorado River and its tributaries. It is to this that Colorado must look for the future. The use of Colorado River water is governed by the seven-state Colorado River Compact of 1922 and the five-state Upper Colorado River Basin Compact of 1948. The 1922 compact divided the beneficial consumptive use of water between the Lower Basin and the Upper Basin. The Lower Basin was given the right to consume beneficially 8,500,000 acre feet of water a year and the Upper Basin 7,500,000 acre feet. Any surplus was made subject to division after 1963 when and if either basin is consuming the share allotted to it. The states of Colorado, Utah, New Mexico and Wyoming agreed not to deplete the stream flows at Lee Ferry (Ariz.), the dividing point between the two basins, below 75,000,000 acre feet in any 10-year period. The 1922 compact made no allotment of water to any state.

## Water Rights Limited

Under the terms of the Upper Basin compact of 1948, Colorado was allotted approximately 51% of the apportionment made to the Upper Basin by the 1922 compact. In terms of water this means that Colorado has the right to make beneficial consumptive use of 3,855,000 acre feet of Colorado River water annually, plus some undefined and uncertain quantity of salvage water. However, the right to use this quantity of water is conditioned upon the delivery at Lee Ferry of the water required to be delivered there by the 1922 compact.

An analysis of Colorado River flows discloses that unless there is hold-over storage in the Upper Basin to equate the Lee Ferry flows, the beneficial consumptive use of water in that (Upper) basin cannot exceed an annual average of about 4,500,000 acre feet. To permit the consumptive use of the full 7,500,000 acre feet allotted to the Upper Basin a total reservoir capacity of somewhere between 20,000,000 acre feet and 48,000,000 acre feet must be provided to regulate the river.

Engineers estimate present uses in the natural basin in Colorado as approximately 1,000,000 acre feet. Present transmountain diversions to the East Slope take annually about 100,000 acre feet. Additional diversions to the East Slope by the Colorado-Big Thompson project and by an extension of the existing Denver transmountain diversions and of a few other such diversions will bring the figure for East Slope diversions to a total of about 500,000 acre feet.

If you assume adequate storage to permit the use of the full allotment to which Colorado is entitled and charge Colorado with its share of the evaporation losses from such reservoirs, there remains a quantity of water which has been variously estimated from about 1,000,000 acre feet to about 2,300,000 acre feet available for future appropriation and use in Colorado. The development of the use of this water is the problem now confronting Colorado.

Bills for the authorization of two major water projects affecting Colorado are now before Congress. One of these relates to the Frying Pan-Arkansas project which will divert about 70,000 acre feet annually from the headwaters of the Frying Pan River, convey that water through the Continental Divide in a tunnel and discharge it into the Arkansas River for agricultural, industrial and municipal uses in the basin of that stream. There is little, if any, controversy in Colorado as to this project. A set of operating principles designed to protect in-basin uses was devised by a Policy and Review committee after a prolonged period of study.

The other is the Colorado River Storage Project. The gigantic plan for this project calls for the construction of some 10 major dams on the Colorado River and its tribu-

taries which will store some 48,000,000 acre feet of water and generate over 9 billion kilowatt hours of electrical energy annually. The power revenues will be used not only to finance the major dams but also what are known as participating projects, that is agricultural and municipal projects which in and of themselves do not have economic feasibility because of high construction costs. The project as now planned will cost over \$1 billion which will be repayable to the United States with interest which will go into the treasury as true compensation for the advancement of the money.

In its supplemental report on the Colorado River Storage Project, the Bureau of Reclamation has recommended for first construction the Glen Canyon and Echo Park dams and a number of so-called participating projects. For example, there is the Seeds-kadee project for Wyoming which will cost \$23,000,000, and the initial phase of the Central Utah project which will cost over \$200,000,000. Conditional authorization is sought for the Shiprock project in New Mexico which will also cost over \$200,000,000. There are recommended for construction in Colorado five small participating projects, the Florida, Pine River Extension, Silt, Smith Fork, and Pao-



Mr. Breitenstein

nia, the total costs of which are about the same as that of the Seeds-kadee project in Wyoming. Thus under the recommendations of the Bureau of Reclamation, Colorado, which produces over 70% of the water flowing past Lee Ferry and which is entitled to the use of over 51% of the water allotted to the Upper Basin, is virtually forgotten. This should be of vital concern to those in Colorado who are interested in the future welfare of our state.

What are the reasons for this? They should be well known by now. The first is the most unfortunate controversy between the East Slope and the West Slope. The second is the lack of any over-all plan for West Slope development.

The East Slope-West Slope conflict has been brought to a climax by the Denver demand that its Blue River diversion project be included within the bill to authorize the Colorado River Storage project. The West Slope opposition to this request is of such a nature that the state has virtually become divided into two warring camps.

In considering this matter it should be recognized that as early as 1882 the Colorado Supreme Court upheld the legality of transmountain diversions in the famous case of Coffin vs. Left Hand Ditch Company. At least one substantial diversion of Colorado River water for East Slope use — I refer to the Grand River Ditch — antedates the turn of the century.

## West Slope Desires Growth

While such a water use is entirely legal, it must be recognized that there is a natural sympathy for in-basin uses. On the east side of the mountains the people must recognize that the ambitions of the West Slope to grow both in industry and agriculture result in an intense desire to retain and use the waters of the Colorado River system within the natural basin. No one can censure any area for making every effort to retain a natural resource for the benefit of that area.

An understandable objection to transmountain diversions is the claim that the in-basin area is entitled to a water supply which will permit it to develop its full potential at no increase in cost. The West Slope people have with ability and vigor resisted transmountain diversions for many years. Their basic idea has been that there should be no more federally financed transmountain diversion projects until a study of the West Slope needs and potentials has been completed. The difficulty is that the West Slope strenuously con-

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The Colorado River Storage Project, major dams. (Map by Colorado Water Conservation Board.)

## Water Future

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tends that no such complete study has ever been made and that until it is made they must be assured that the water needed to satisfy their potential is not taken away from them.

Let us now turn to the east side of the Continental Divide. Denver, Colorado Springs, and other cities say that they need more water for municipal purposes. Denver seeks to divert 177,000 acre feet of water annually from the headwaters of the Blue, take it through the divide in a 23-mile tunnel, and store it in the Two Forks Reservoir on the South Platte. The West Slope says that Denver has never shown the need for this much water and that it constitutes a quantity far beyond the reasonably anticipated requirements of the Denver metropolitan area. There is litigation pending over the relative priorities of the Denver-Blue River rights and the rights of the Green Mountain unit of the Colorado-Big Thompson project.

### Both Are Right

The East Slope-West Slope controversy is not capable of any precise legal or engineering solution. A basic difficulty is that the claims of both parties are based upon imponderables. For examples, no categorical answer can be given to questions such as these: To what extent shall irrigated agriculture be subsidized, if at all? What industrial development may be reasonably anticipated? What will be the growth of cities? What recreational values must be protected and preserved? The answer to each of these depends upon the individual making the answer. It must be apparent to any one who studies the problem that this East Slope-West Slope dispute involves so many imponderables that there is no clear cut solution of the enigma.

What is the situation within the natural basin? When the planning of the Colorado River Storage project by the Bureau of Reclamation was in its early stages, the Colorado Water Conservation Board held a series of meetings to ascertain as far as was possible the attitude of local people on units for inclusion within that project. There was one point on which there was near unanimity on the West Slope. It was the desirability of securing substantial storage on the upper reaches of the Gunnison River. This was reported to the Bureau which then came up with the 2,500,000 acre feet Cure-

canti Reservoir. The areas downstream from the site were enthusiastic for it. The people in the town of Gunnison and the county of Gunnison were violently opposed. They pointed out that it would back water up to the limits of the town, would flood some excellent livestock ranches, and would destroy recreational values. The dispute was referred by the Board to a Policy and Review Committee which with great sincerity of purpose deliberated thoroughly, carefully and patiently. It proposed what has become known as the small Curecanti, that is, a reservoir which would impound only about 940,000 acre feet.

### Disappointment for Some

The Bureau, perhaps with some reluctance, included the small Curecanti within the Storage Project. At the time, the economic feasibility of such a project was determined upon a joint consideration of all units. In December, 1952, the Bureau of the Budget directed that each unit of a project must be economically justifiable when standing by itself. Under these new rules, the Bureau of Reclamation found that the small Curecanti was infeasible because the cost of generating electrical energy by thermal processes in the area was cheaper than the cost of hydroelectric power generated at the small Curecanti. This was a great disappointment to the West Slope people. They engaged independent engineering assistance and are now endeavoring to work out a modified plan which will make the small Curecanti possible. If consideration is to be given to grass-roots opinion, there is no doubt that the small Curecanti is both desired and desirable.

Two other major projects within the natural basin in Colorado have been prominently, if not enthusiastically, mentioned. One of these is Cross Mountain on the Yampa River. From the standpoint of cost-benefit ratio and cost of producing hydroelectric power, Cross Mountain is second only to Glen Canyon among the units considered for the Storage Project. Yet there is a minimum of interest in Cross Mountain. The people in the area are quite apathetic. There seems to be no great West Slope demand for it. This is strange when one considers its high standing in both engineering and economic feasibility.

A third in-basin proposal deserves attention. It is the DeBeque unit on the Colorado River located a short distance upstream from the town of Palisade. It is not a brain child of the Bureau of Reclamation. Rather

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## Conservationist

Ken Chalmers, Colorado state conservationist, is one of 10 persons in the United States who recently received Nash Conservation awards for 1953 in recognition of outstanding work in conservation. The awards program was organized to recognize the work of both professional and individual workers in soil and water and wildlife conservation. The committee reviewed 729 nominations for the awards.



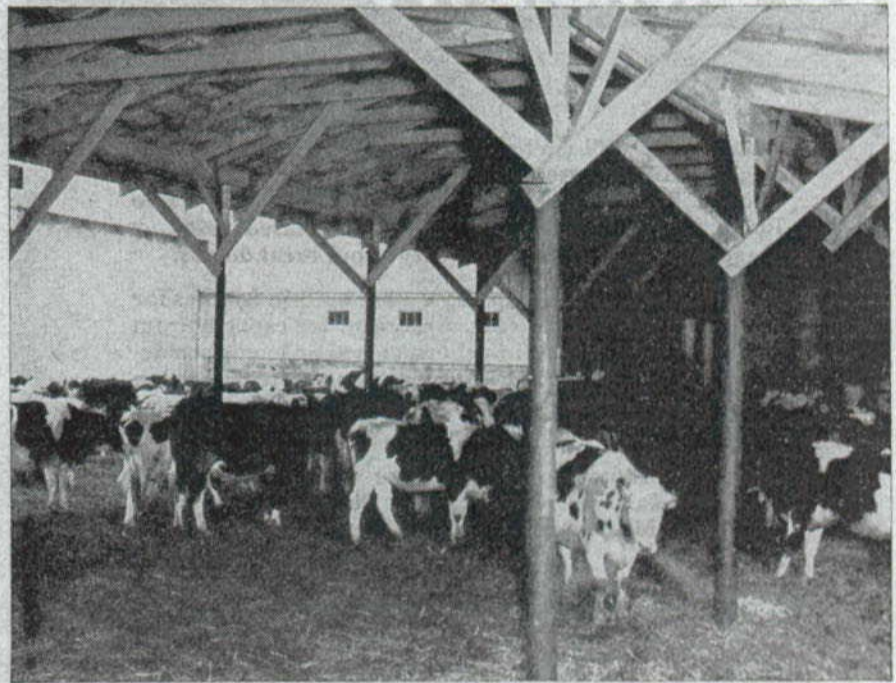
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APRIL 10, 1954

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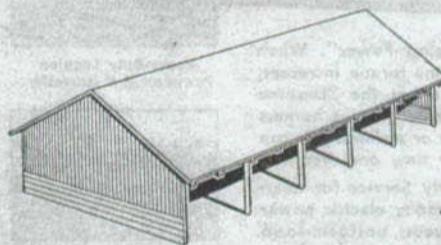


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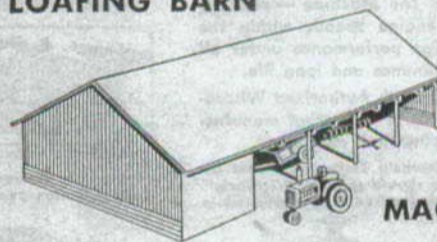
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## Water Future

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the interest in it stems from the 1953 report of the engineering firm of Leeds, Hill and Jewett on Colorado River water supplies. That report paints a very glowing and convincing picture of the industrial potential of the Colorado River Valley between Glenwood Springs and Grand Junction. Raymond Hill has said that the area may become a second Ruhr because of the development which may result from the enormous oil shale and coal deposits. To secure such industrial development, large quantities of storage water will have to be supplied. The DeBeque Reservoir will serve such a purpose. Yet there has been no great support from the West Slope for the DeBeque unit. Two objections are pointed out. One relates to the fact that some 25 to 30 miles of railroad relocation would be necessary. Another is based upon the proposition that the DeBepue reservoir would constitute a replacement reservoir for transmountain diversions.

Such is the situation at the moment, Colorado, the state which has the greatest right of any Upper Basin State, can agree on only five small projects costing about \$20,000,000 and depleting the river only about 60,000 acre feet annually and the small Curecanti, of doubtful feasibility, for inclusion within the billion dollar project to develop the water of the Upper Basin. It is a sorry situation. Some analysis of the causes may be helpful.

### No Reserve for Future

The West Slope in its demand for protection of its potentials is confronted with the principle that under the appropriation doctrine of water law the right to the use of water goes to him who first diverts it and applies it to beneficial use. Hence, if a transmountain diversion is made before an in-basin use, it has a priority which is protected by law. There is no method of procedure in Colorado whereby a block of water may be effectively and legally reserved for future use. The trouble with the appropriation system is that the race is always won by the swiftest. There are probably few who question the wisdom of the principle when it is applied to individual effort. The difficulty arises when consideration must be given to the over-all planning of vast projects requiring federal financing. It is a fair comment that Colorado's existing constitutional and statutory provisions were designed to meet the requirements of the era of private development. That has long since passed. To apply our existing laws to the vast public developments which must occur if Colorado is to utilize to the fullest extent its water resources is completely unrealistic.

The Colorado Water Conservation Board, which was created in 1937 by a statute charging the Board with the responsibility of developing and protecting the water resources of the state, has struggled long and hard with the problem. When the matter came to a head in the winter of 1953 the Board appointed what was known as the Colorado Conference Committee and gave it the specific duty of making recommendations on the Denver request for inclusion within the bill to authorize the Colorado River Storage Project. The General Assembly, appreciating the seriousness of the situation, appropriated \$100,000 to finance the work of the committee. An outstanding engineering firm was employed to make a study of the water supplies of the Colorado River System avail-

able for use in Colorado. It came up with a report which is commonly known as the Hill report. Without going into all the complexities of the engineering study, it suffices to say that the experts found that the Colorado uncommitted water supply available from the Colorado River System was more than adequate to furnish water for all new irrigation development on the West Slope which could be provided with a maximum subsidy of \$400 per acre, to provide water for industrial development of the West Slope, which may be reasonably anticipated, and to permit the transmountain diversion to the East Slope for municipal purposes of at least 200,000 acre feet of water. The West Slope declined to accept this report. The Colorado Conference Committee by a vote which split on sectional lines took action favorable to the Denver-Blue River diversion. When this matter came before the Colorado Water Conservation Board the vote was again divided on sectional lines and again the Denver request was upheld. In a last minute effort to secure unanimity the Board appointed a mediation committee but the efforts of that committee produced nothing. And so we have the state divided into warring factions.

### Agree On Program

What, if anything, can be done? The best thing, of course, is for all areas of the state to agree upon a program which is fair and reasonable. Apparently this is impossible. Tempers have flamed, personality conflicts have developed, and the lines of cleavage are so clearly drawn that at the moment it seems impossible to hope for unity.

Many suggestions have been made. One of these is that a water conservancy district or some other type of entity should be created on the West Slope so there can be one responsible spokesman for that area and so that a comprehensive plan for in-basin development can be promulgated. Ancillary to this is the idea that if a similar organization were created on the East Slope these two legal entities could by contract agree upon a division of the water. The trouble is that such an agreement would probably not be binding upon individual water users and if it isn't binding, what good is the agreement. Another objection is that such a division constitutes in reality the creation of two sub-states. Each will have the greatest zeal to promote and protect its own welfare. Discord, rather than harmony, would result. With two sub-states there would be no available legal machinery for composing their differences. When states of the Union get into controversies, they can go to the United States Supreme Court for a decision.



The trouble with too many of us is that in trying times we quit trying.

There is no such tribunal which can act to resolve the conflicts of the entities suggested for Colorado.

### Lease Water

Suggestions have often been made that the Constitution should be amended so as to relax the appropriation doctrine in its application to presently unappropriated water. At least one student of the problem has proposed that the remaining supplies of unappropriated water should be disposed of under lease arrangements in which continuing state control is assured. Another proposal has been that as to the unappropriated water existing adjudication method should be supplanted by a permit system under the control of an administrative agency. An additional idea has been that limitations should be imposed upon transmountain diversions by all corporations, both public and private, unless such diversions are approved by a state agency. At the moment there seems to be no great support for any of these proposals.

Be that as it may, something must be done. Surely the farmers, the business leaders, the industrialists, and the plain common people of our great state will not allow its future to be destroyed by suspicion, ineptness, and just plain quarrelsomeness. Somehow or other the Colorado people must create a constructive attitude as to water. Surely there is enough intelligence and good will in our state to come forward with a program that is fair and acceptable to all.

Perhaps the way has been pointed by the recent action of the General Assembly in appointing a committee consisting of three members of the Senate and five members of the House to study and investigate what, if any, statutory or constitutional changes are necessary to insure the beneficial use of Colorado's share of the water of the Colorado River. May the members of this committee be blessed with understanding and gifted with wisdom so that they may lead the state out of the morass of discord into which it has fallen.

## 4-H Alumni Awards



Colorado 4-H "alumni" were recognized for their outstanding long-time service to 4-H Club work by awards presented by the Mathieson Chemical Corporation. Left to right: Everett Green, Logan County; Governor Dan Thornton; Mrs. Melvin Leonard, Gunnison County; Mrs. Roy Rockey, Saguache County; and P. F. Schowengerdt who presented the awards for the Mathieson Chemical Corporation.