

GLEN CANYON-BRIDGE CANYON DAM PROJECT AND ARIZONA HIGH-LINE CANAL

SUMMARY OF THE ARGUMENTS

MADE BY

SENATOR FRED T. COLTER

PRESIDENT OF THE ARIZONA HIGH-LINE ASSOCIATION

ON S. 3414

A BILL PROVIDING FOR THE BUILDING OF THE GLEN-BRIDGE
DAMS AND ARIZONA HIGH-LINE CANAL; INTRODUCED IN THE
UNITED STATES SENATE MARCH 3, 1926, AS A SUBSTITUTE
FOR THE SWING-JOHNSON BOULDER-BLACK
DAM AND COMPACT BILL



PRESENTED BY MR. CAMERON

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MEMBER OF THE ARIZONA LEGISLATURE

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MAY 17, 1907. HOUSE OF REPRESENTATIVES

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SUMMARY OF THE ARGUMENTS MADE BY SENATOR FRED T. COLTER, PRESIDENT OF THE ARIZONA HIGH-LINE ASSOCIATION, PROVIDING FOR THE BUILDING OF THE GLEN-BRIDGE CANYON DAMS AND ARIZONA HIGH-LINE CANAL

Bill No. 3414, Introduced in the United States Senate March 3, 1926,
as a Substitute for the Swing-Johnson Boulder-Black Dam and Compact Bill

The Glen-Bridge dams and high-line canal bill, as substitute for the Boulder Dam compact bill, provides for the irrigation of 3,500,000 acres by gravity in Arizona and supplies California and Nevada by gravity and develops much more power than is required to pay for same.

There isn't a service claimed by the Boulder Dam bill that is not far surpassed by the Glen-Bridge high-line bill, which provides for service of larger quantity of water, more power in less time and at less price for all concerned, and gives the maximum economical development of the Colorado River, and saves Arizona from destruction.

Arizona is entirely covered by the Colorado River, being entirely within the Colorado River drainage basin, and more vitally dependent upon the water and power of the Colorado River than any of the other States, while the other basin States of the Colorado River drainage area have each only a portion of their areas within the said drainage basin, and they all have other rivers to depend upon.

Arizona has 96 per cent of the power and 42 per cent of the drainage area.

The Swing-Johnson compact bill, Colorado River compact, tri-State supplemental compact, by Arizona's committee proposal to California and Nevada, and the Diamond Creek Dam permit, upset our sacred, tested reclamation laws. They are all unconstitutional; would permit the irrigation water to go to Mexico, concede the power to the electric power trust, would breed an Asiatic war with the United States of America, and leave millions of acres of land in Arizona a desert forever.

Secretary Work's amendments for the Swing-Johnson compact bill take all water and power from Arizona and are unconstitutional, impossible, and are, figuratively speaking, a straw man, to draw the fire from any one or all the above destructive schemes and those supporting them.

Power trusts and Mexican land interests want power dams only or a compact between the States to divide water so that only power dams, not combined with irrigation, could be built. Then Mexico would get the irrigation water and the power trusts would get the power. Compacts of this nature are cave-man and ancient-day form of government.

Not since the Revolutionary War has the Nation been confronted with such an injury to her form of government. There are 24,000,000 acre-feet of water in the Colorado River system, inclusive of reflow water, out of which the compact leaves Arizona about a million acre-feet and surrenders 8,000,000 acre-feet to Mexico and guarantees her deficiency.

The power trust propaganda circulates that we raise an oversupply of food products. This is false, since we in Arizona and the people of the United States import all kinds of agricultural products. This said erroneous propaganda circulation is done to discourage and to divorce irrigation from power development. Then only power dams would be built and the power trust would control them.

Boulder Dam is mainly a power dam and is at the wrong end of the Grand Canyon and will lose greatest amount from evaporation, with least benefits. Glen-Bridge Canyon Dams are at the high and upper end of the said canyon, where they give the least loss of water from evaporation and the maximum benefits.

The upper States are protected by the Glen-Bridge high-line bill.

Imperial Valley's need for an all-American canal is somewhat similar to Arizona's need for the Arizona high-line canal, except Imperial Valley can be served better by the Bridge dam and high-line canal, and Los Angeles can be saved \$100,000,000 by Bridge-Arizona-high-line gravity canal over Boulder pump lift scheme. Then Arizona need not be destroyed on the "altar of greed."

It would be suicide for Arizona or the Nation to build either or both the Glen or Bridge Dams if the irrigation and its priority to the highest line canal were not maintained and combined with the power development.

Proper water filings have been made by Senator Fred T. Colter, by approval of the Governor of Arizona, in 1923, 1925, and 1926 and supplemental filings made by the commission of State institutions. Suits have been filed for protection of the people's interests in this State of Arizona, and many years of continual energetic diligence have been spent by Arizona's people and the State. (A more comprehensive brief which I compiled, relating to the above, is in the Congressional Record on pages 1790 to 1800, inclusive.)

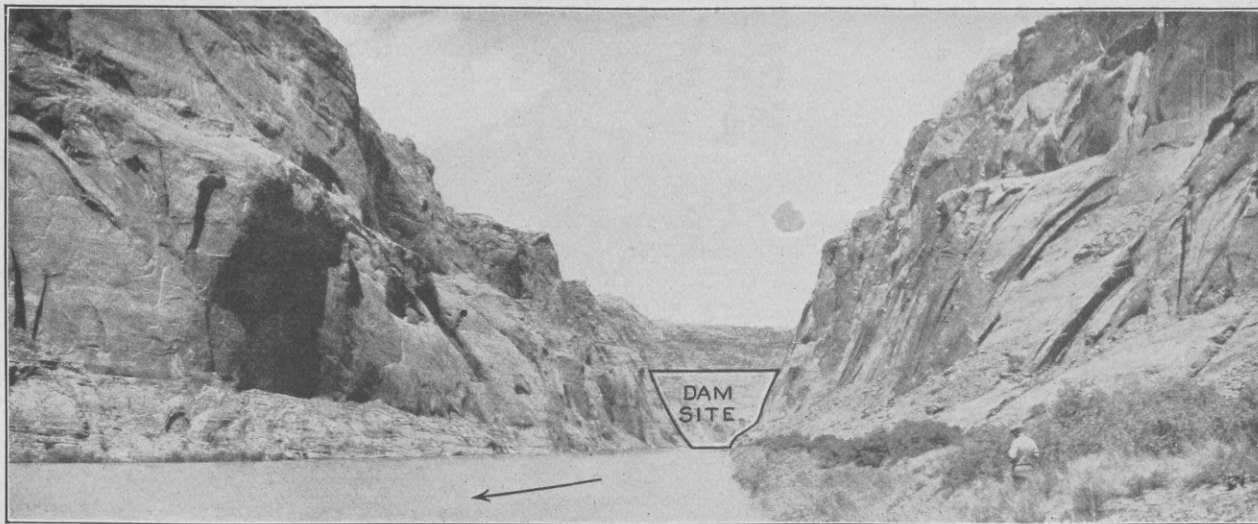
Any agreement Arizona would make with California and Nevada, regardless of how small the amount they would accept, would simply mean that with this small amount of water they would build the Boulder Dam and Arizona would be forced thereby into the compact, then the Colorado River water would go to Mexico, power to the power trusts, and Arizona would be ruined.

California and Nevada can't in compact speak for Mexico and the power trusts and protect Arizona. The courts are the only sources authorized and equipped to divide water.

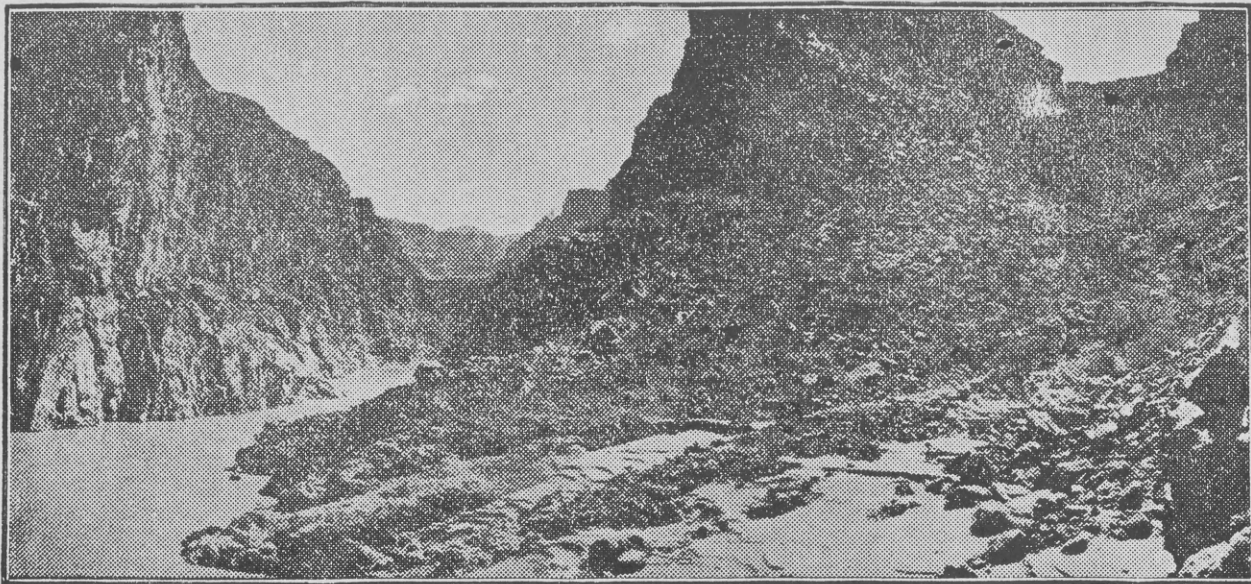
Arizona can contract for the construction of reclamation works only on the Glen-Bridge Dams and high-line canal. Then all can be served without Arizona's destruction.

We are educating with facts and the truth enough citizens in Arizona and the Nation to save the Colorado River from destruction as a benefit for the many, and to save us from a war with Asia.

Arizona will not accept water-division compacts, and upset perfect, tested laws, making endless litigation when water titles or rights now can be quickly quieted or adjudicated by equipped,



Glen Canyon Reservoir site situated at upper end of Grand Canyon of Colorado River, which will most economically irrigate the maximum amount of lands in Arizona and California to be diverted through high-line canal filed on for State by Senator Colter
98616—S. Doc. 113, 69-1. (To face page 2.)



Site of Bridge Canyon dam, approved by E. C. La Rue, of the U. S. Geological Survey. A natural spillway is at the side of the canyon. Senator Colter files for State on same. This site is 6 miles above Spencer Canyon site

98616—S. Doc, 113, 69-1. (To face page 3.)

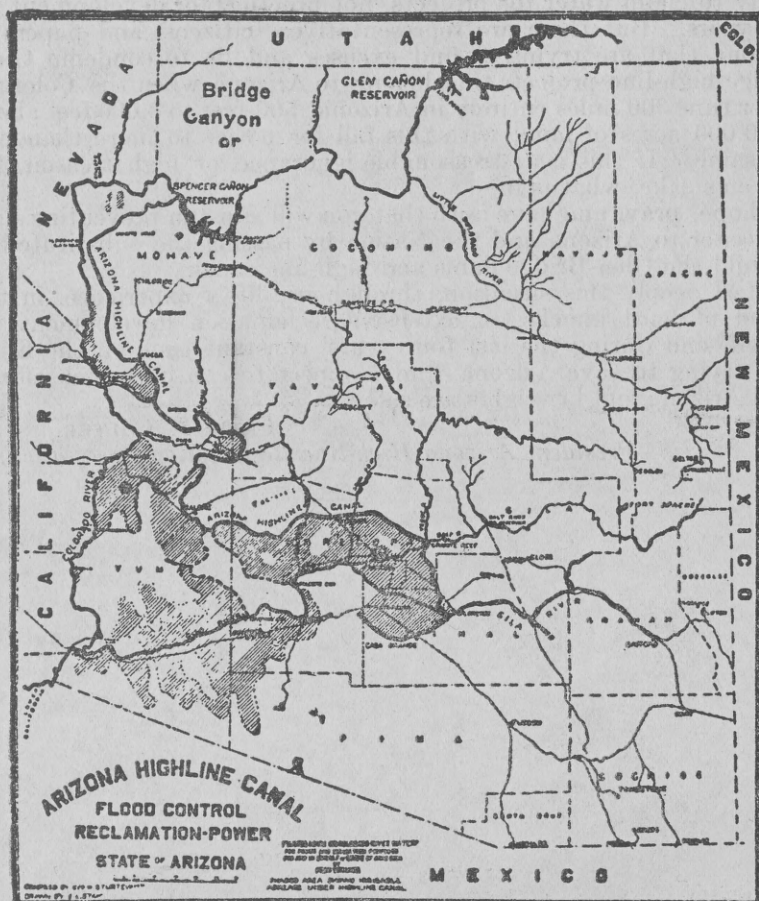
authorized courts. We will do this, or defend our rights with our lives if need be.

I can imagine a degree of self-loyalty to the Mexican land water steal and the power trust steal. I can appreciate the loyalty of citizens of all the other river States that stretch the truth admittingly to claim water for projects, not practical for development for 200 years. But there are representatives, citizens, and papers in Arizona that are trying to find excuses and lie to condemn Glen-Bridge high-line projects that belong to Arizona when the Colorado River runs 300 miles entirely in Arizona, 500 feet to 3,000 feet above 6,000,000 acres of land, with this fall for power to more than pay for same. If this isn't treasonable ignorance, or high treason, for heaven's sake, what is it?

I hope, pray, and have faith that you will assist in preventing such a disaster to Arizona and the Nation by passing the substitute bill to build the Glen-Bridge dams and high-line canal.

I feel deeply this situation, through my life's experience, in the school of hard knocks, in extensive reclamation development for myself, and during the last four years' constant time on the firing line, trying to save Arizona, and I expect to continue such efforts until Arizona and her rights are safe.

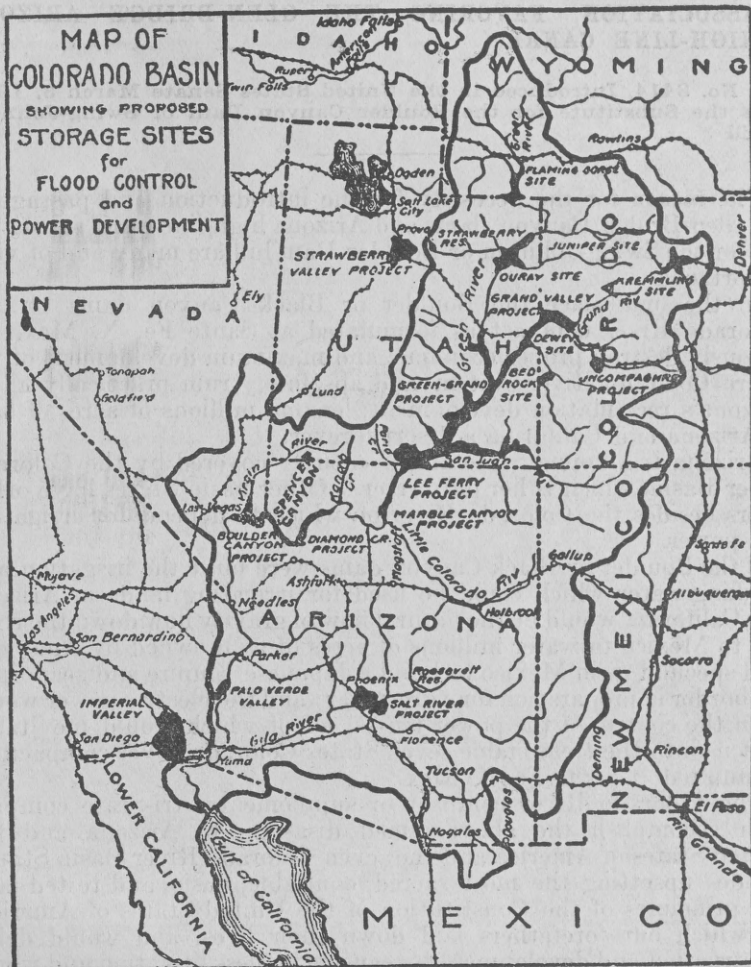
FRED T. COLTER,
President Arizona High-line Reclamation Association.



Map of Glen Canyon dam and Storage Reservoir, Bridge or Spencer Canyon Diversion dam, and Arizona high-line canal.

The waters of the Colorado River required for the reclamation of over 3,500,000 acres of land in Arizona under the Arizona high-line canal system have been appropriated and the necessary filings made for the State of Arizona, and as trustee therefor by Fred T. Colter, president of the Arizona Highline Reclamation Association.

The lands to be reclaimed under this State appropriation are indicated by the shaded areas on the above map.



Arizona contains 42 per cent of the entire area of the Colorado River Basin and 90 per cent of the Lower Colorado River Basin, while California contains only 6 per cent of the entire basin and only 10 per cent of the lower basin. The black wavering line marks the boundary of the basin.

Lees Ferry project is Glen Canyon Reservoir. Spencer Canyon dam is miles below Bridge dam site, the diversion to high-line canal.

**ARGUMENTS SUBMITTED BY SENATOR FRED T. COLTER
PRESIDENT OF THE ARIZONA HIGHLINE RECLAMATION
ASSOCIATION, FAVORING THE GLEN-BRIDGE ARIZONA
HIGH-LINE CANAL**

**Bill No. 3414, Introduced in the United States Senate March 3, 1926,
as the Substitute for the Boulder Canyon Dam or Swing-Johnson
Bill**

The reason for the necessity for the introduction and passage of the Glen-Bridge Canyon dams and Arizona high-line canal substitute bill for the Swing-Johnson or Boulder Dam bill are many and of vital importance.

In the first place the Boulder or Black Canyon dams or the Colorado River compact as formulated at Sante Fe, N. Mex., all seriously destroy proper economic and maximum development of the entire Colorado River system and absolutely ruin practically all of Arizona's reclamation development, leaving millions of acres of land in Arizona and California a desert forever.

Arizona is a young State and is entirely covered by the Colorado River Basin, which is her only river. Other basin States have other rivers besides the Colorado River on which to depend for irrigation and power.

If the Boulder or Black Canyon dams were built, the irrigation and drinking water which could be used for irrigating lands in Arizona and California would be the natural flow of gravity flow down the river bed to Mexico to water millions of acres of land owned by American land speculators in Mexico to build a Japanese Empire and seaport at our border in preparation for a great war; and the electric power would be in the control of the power trusts, all of which would inevitably drift us into the treasonable seven States Colorado River compact, as formulated at Sante Fe, N. Mex.

The Colorado River compact or supplemental tri-State compact both accomplish the above-named disasters to Arizona and the United States of America and the seven Colorado River Basin States. Besides upsetting the most sacred, equitable, basic, and tested laws and principles of the Constitution of the United States of America, for which our forefathers laid down their lives, and would delay construction and development by causing endless litigation and would cut the development of the Colorado River to the minimum.

There is not a requirement or service claimed to be rendered by the Boulder Dam bill or Colorado River compact, whether flood control, irrigation, power, or domestic water to Los Angeles, or the all-American canal, which can not be accomplished cheaper, quicker, and with greater supply of water and power through a substitute bill for the Swing-Johnson bill which would provide for the construction of the Glen-Bridge Canyon Dams and the Arizona high-line canal. Besides the building of these projects there would be obtained the quickest, maximum economical development of the Colorado River as a whole for all concerned.

Arizona and her citizens, through great sacrifices during the past six years, by diligent continuous work, have been developing this plan (myself by filing on the water of the Colorado River for and in behalf of the State of Arizona) making surveys which lay the foundation for the construction of the greatest irrigation plan ever developed.

Not since the beginning of the history of our Nation has a State been confronted with such complete obliteration as Arizona faces in regard to the Colorado River steal, and only for greed. Not since the Revolutionary War has the Nation been confronted with such danger to its Constitution, democracy, independence, and peace as is proposed in this Boulder Dam, Diamond Creek, Colorado River compact, or tri-State Colorado River compact conspiracy.

To see and understand these unquestionable facts does not require legal, engineering, or political ability. Mere common sense demands that a dam be built at the upper end of the canyon, not at the lower end, and at an elevation high enough to get the water on the land, not at a level so low that it would never be used. The Boulder Dam site is at the extreme lower end of the canyon at a very low elevation. The Glen Canyon storage dam site is at the upper end of the Colorado River Canyon and serves as a perfect storage dam, while the Bridge Canyon Dam site is at an elevation to be a perfect diversion dam site. The building of the Boulder Dam would mean the minimum development of the Colorado River for both irrigation and power. The building of the Glen Canyon and Bridge Canyon Dams would be for the maximum development of the entire river for all concerned. The Boulder Dam would be for the minimum development of irrigation and power at a maximum cost. It would be starting at the wrong end of the canyon and the evaporation, because of the low elevation, would be great and it would not give the benefit of reflow water and return seepage. The Colorado River would eventually require two large storage dams, which would nearly double the loss in evaporation if the Boulder Dam were built, where one dam at the upper end of the canyon, the Glen Canyon Dam, would be sufficient at that high elevation and proper location to give the maximum economic development for irrigation and power with the maximum reflow and return seepage for the entire system with the minimum cost and minimum water evaporation.

Simple common sense proves that with the above-stated facts and with the knowledge that the Colorado River flows 16,000,000 acre-feet of water, with the Glen Canyon storage and Bridge Canyon diversion dams storing and diverting the water from the 2,000-foot level, which is from 500 to 3,000 feet above 6,000,000 acres of land which it is practical to develop—that the power which can be developed by the great fall will more than pay for the cost of construction of all development.

Arizona will oppose the construction of any power dam which does not combine irrigation with power, even though the dam were proposed to be built by her own people, because a power dam for power alone, as the Boulder Dam, would destroy irrigation as well as the maximum development of the river, and would stabilize the flow of the water and send it by the natural flow of gravity to Mexico. We are consistent and will fight a power dam in our own State which does not combine irrigation with power. We would even oppose the

Glen-Bridge Canyon Dams if highest line irrigation were not combined with power. A dam and canal must be built at the highest possible elevation in order to combine the maximum irrigation with the power development and make secure the priority of irrigation which is always given the preference over power. Irrigation, if given preference, will not hinder power development; however, power development given preference will kill irrigation. Irrigation should be given preference to save the United States of America from Mexico's appropriating her irrigation waters in the Colorado River, and to keep the control of the power out of the hands of the power trusts.

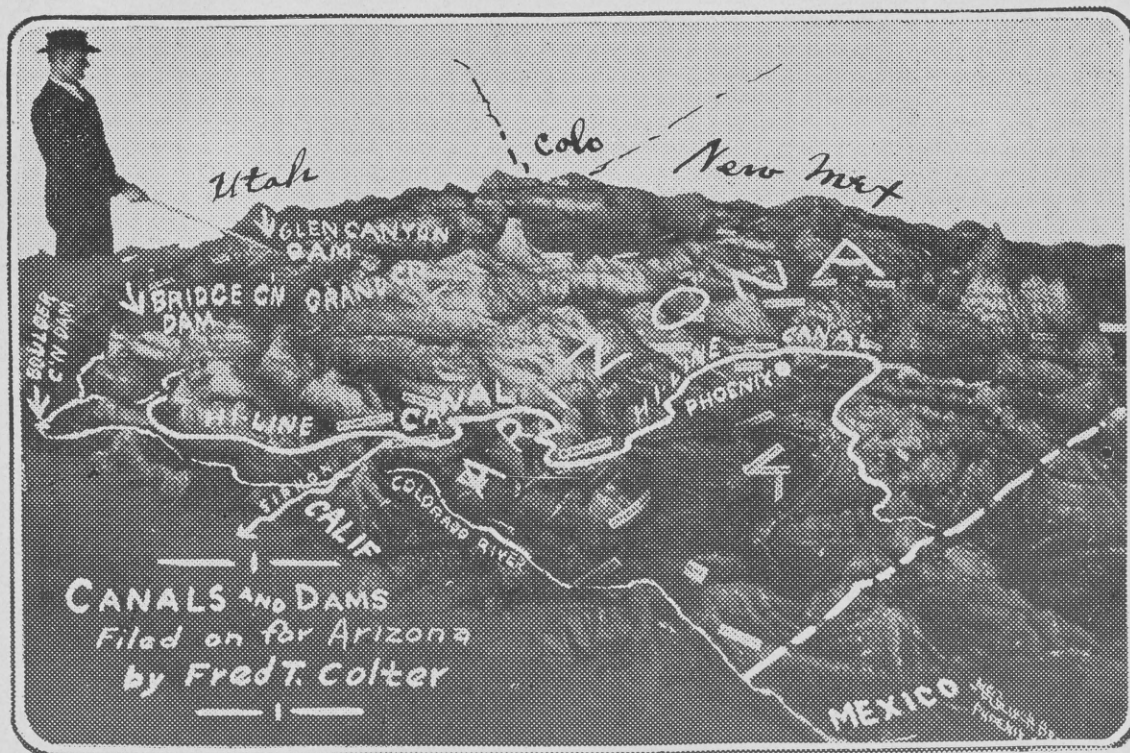
The need of the Imperial Valley of California for an all-American canal is similar to Arizona's need of the high-line canal. Our interests are in common and we can and should legally and naturally work out our problems together. The power trusts and Mexican land interests are trying to use the Imperial and Yuma Valleys and the Los Angeles water users to pull their chestnuts out of the fire.

So far as the basin States of the Colorado River above Lees Ferry are concerned, they are all well protected in the Glen-Bridge substitute bill for the Swing-Johnson bill, Boulder Canyon-Colorado River compact bill. The Glen-Bridge bill protects the future economical use of water. The upper basin States have only a small irrigable area and small water duty, and their gradual use will eventually not deplete the river much, if any, below Lees Ferry.

There are 24,000,000 acre-feet of water in the Colorado River system, counting reflow and return seepage water. Sixteen million acre-feet were apportioned by the Colorado River compact to the upper basin and lower basin in the United States of America, consisting of seven States through which the Colorado River flows. Seven and one-half million acre-feet were apportioned to the upper basin States and 8,500,000 acre-feet to the lower basin States, leaving 8,000,000 acre-feet of water for the use of the 2,000,000 acres of land in old Mexico, as guaranteed by the Colorado River compact.

The Fall-Davis Colorado River compact binds Arizona to a limited small amount of water. Arizona can not take the surplus waters which the upper basin can not use, nor can Arizona or any other lower basin State take any of the 8,000,000 acre-feet of surplus waters which are unapportioned to the United States of America, for these 8,000,000 acre-feet are conditionally contracted to Mexico, and in addition to this, Arizona is required to guarantee Mexico's deficiency of water in dry years.

The Boulder Canyon Dam or the Black Canyon Dam development combined with the six-State compact, which leaves Arizona out entirely, could not be accomplished by the National Government because of the disaster to Arizona and the Nation, and because such a development scheme is illegal and unconstitutional. The courts would hold and decide against such a scheme. There is 96 per cent of the power of the entire Colorado River Canyon, which can be developed in Arizona, which is as much power as is now being developed by water all over the United States of America. Arizona has 42 per cent of the entire drainage area of the Colorado River within her boundaries. The largest and most valuable irrigation and power project ever developed. Is it any wonder the power trusts are eager to affix unto themselves the development of this great river? All concerned could be better served through the building of the Glen



Relief Map of State of Arizona

98616—S. Doc. 113, 69-1. (To face page 8.)

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Canyon storage dam, the Bridge Canyon diversion dam, and the Arizona high-line canal, which provides for the maximum development of the entire Colorado River.

The Colorado River compact is an unheard-of instrument. Compacts are the opposite of our democratic form of government, especially in matters of such great importance as water for irrigation and power. All of our irrigation and water laws are perfect and have been tested. A compact form of government was the first step to organize society and government after man left the caves and is much worse than a bureaucratic form of government or an imperial form of government. We have compacts between nations as we have no enforceable national laws, and hence wars. The period of advanced civilization seems to have not yet arrived when we can have a democracy of nations as now exists between our States in the United States of America. Compacts bind and hinder and destroy growth. Our democratic form of government encourages unlimited growth.

Our third branch of government, the courts, are the only source equipped and authorized and able to divide the waters of the rivers. Arizona can agree with the other basin States of the Colorado River on the construction and building of the Glen Canyon storage, Bridge Canyon diversion dam, and Arizona high-line canal, irrigating three and one-half million of acres of land in Arizona, and she is protected under this development, and does not take away the rights of the other States but only that which rightfully and justly belongs to her as a sovereign State.

Arizona and her citizens have exercised constant and due diligence for the past six years in order to protect her interests in the Colorado River and to protect her filings made for and on her behalf for the waters of the river to irrigate three and one-half million acres of land and for the Glen Canyon storage dam and Bridge Canyon diversion dam, and the Arizona high-line canal.

For argument's sake, granting that a Boulder dam could be built by the Government, combined with a six-State compact, leaving Arizona out in the cold; it could be built then only subject to Arizona and her citizens' legal, inherent, and vested rights in the Colorado River waters as a sovereign State.

Secretary of the Interior Work's recommendations of the Swing-Johnson Boulder Canyon dam bill, which leaves Arizona out entirely, is ridiculous. It is used as a masked coercion, bluff, and straw man by our opponents to get Arizona people and candidates for office to strike at this straw man while designing politicians in and outside of Arizona are hiding behind and striking at this straw man for the purpose of misleading Arizona people and keeping them from seeing these politicians assist our opponents trying to get over the low or high dam at Boulder (either a low or high dam at Boulder would be equally injurious) or the Colorado River compact, tri-State compact; Arizona's committee proposals to California or Nevada and the Diamond Creek Dam schemes, any of which would accomplish the same destructive results to Arizona and the development of the Colorado River.

Just because politicians are opposing Work's amended Swing-Johnson Boulder dam bill does not necessarily mean they oppose the original Swing-Johnson Boulder dam bill, or the Colorado River compact, or any one or more of the above-mentioned destructive schemes.

Remember, the power trusts and Mexican land interests want power dams solely, not dams combined with irrigation, or at least only with minimum amount of irrigation, for with this accomplished Mexico gets the water for irrigation because it flows down the channel of the river by gravity to Mexico, and the power goes to the power trust.

Arizona and the Nation would be committing suicide if they were to build the Glen-Bridge dams without combining the irrigation and its priority to the highest canal level with maximum acreage under irrigation, together with power, because if she did not do this the priority would go to Mexico and the power to the power trusts.

Filing and priority and proper diligence has been made for high-line irrigation, and as irrigation has preference, priority and beneficial use over power it is a sure and certain protection to Arizona and the Colorado River, and is the only legal protection Arizona and the Colorado River have against monopoly by the power trusts for power, and Mexican land interests monopoly on the water. Therefore it is necessary for Arizona, as well as for California and Nevada, to guard their irrigation filings, rights, and priority, and positively and unquestionably tie them to power dam developments.

Any agreement by Arizona, California, and Nevada to divide the waters of the Colorado River, regardless of how little would be given to California and Nevada, would destroy Arizona. Then California and Nevada would take that small apportionment and build the Boulder dam, which would be principally a power dam and would force the irrigation water to Mexico and give the power to the power trusts, which would result in the Colorado River compact.

California and Nevada can not by dividing the water of the Colorado River by compact or by building the Boulder dam speak for or protect Arizona against the monopoly of her irrigation water by Mexico and her power by the power trusts. However, Arizona, California, and Nevada will be protected by building the Glen-Bridge dams and Arizona high-line canal. By this plan alone can the waters be saved from going to Mexico and be used on soil in the United States of America.

The moment Arizona steps into the water division by compact trap with any State, especially with the original Colorado River compact trap set, she has given up her all and only safeguard, namely, the law of prior appropriation and beneficial use of water.

Arizona can only agree with California and Nevada or any other States on the building of the Glen storage Bridge diversion dams and the Arizona high-line canal. By this project all basin States, as well as the United States of America, would be protected in their just and legal rights in the river from this just and maximum development of the river.

The Nation's best engineers estimate that by diverting water from Bridge dam through the Arizona high-line canal an all-gravity canal to Los Angeles with Colorado River siphon would save Los Angeles over \$100,000,000 over the Mulholland plan, which pumps the water 1,400 feet from the Fall-Davis Boulder dam into a canal 270 miles long, with 70 miles of tunnels, to Los Angeles.

I was very deeply interested by some of the patriotic and fair statements which Governor Gern, of Utah, made before the United States Senate Committee on Irrigation, and also statements made by Imperial Valley representatives, which prove that as greed and

aggrandizement encroach upon us all of us who want protection and rights have interests in common and need to rely on the sacred laws and Constitution of our Government, which the compact so ruthlessly upsets. No State can eventually profit or gain at the destruction and expense of a sister State.

Either we must build the Glen Canyon storage dam and Bridge Canyon diversion dam and the Arizona high-line canal to irrigate three and one-half million acres of land in Arizona and a large acreage in California and Nevada, and thus provide for the maximum most economical development of the river for the benefit of all concerned, or be forced into accepting the Colorado River compact, build the Boulder Canyon power dam, upset our tested laws and constitutional rights, and develop the river for the minimum good of all concerned and give the water which rightfully belongs to the United States of America to American land speculators in Mexico to help create a Japanese menace at our very door and give the power to the control of the power trusts.

Arizona does not want to have Congress or any person to think for a moment that the people of Arizona are going to be camouflaged and coerced into the acceptance of Arizona's committee of five's Colorado River proposal to California and Nevada, any more than they would accept or stand for the supplemental tri-State compact between California, Nevada, and Arizona which passed the last legislature, but was vetoed by Governor Hunt, as both of these schemes result exactly the same as the Colorado River compact with added detriments.

There are enough patriotic citizens in Arizona who will keep the Government and Arizona from being destroyed through the help of the courts and at the sacrifice of their lives if necessary.

A more detailed and comprehensive brief has been filed by Senator Fred T. Colter, president of the Arizona High-line Reclamation Association, together with a telegram to President Coolidge and has been placed in the Congressional Record of January 15, 1926, on pages 1792-1800, inclusive, by the Hon. Ralph Cameron, United States Senator from Arizona.

I hope the Members of the United States Congress will see the irreparable injury that would happen to Arizona, and the other Colorado River Basin States and to the Nation if the Swing-Johnson Boulder Canyon or Black Canyon dam bill passed.

I hope that you will all vote for the substitute bill for the Swing-Johnson bill, namely, the Glen-Bridge high-line bill, which is much more economical, and for the most profitable development of the entire river to the maximum for all concerned, and will save Arizona from devastating destruction.

If there is any information or assistance I can give to any one of you at any time, I will be very glad indeed to be of service to you, as I have continually for the past four years studied and worked on the Colorado River problem, and will continue to be on the firing line until we are saved.

Respectfully yours,

FRED T. COLTER,
President Arizona High-line Reclamation Association.

[Telegram]

PHOENIX, ARIZ., May 4, 1926.

Hon. CALVIN COOLIDGE,
President of the United States,
Washington, D. C.:

One who has experienced life's hard knocks in extensive reclamation development and political economy sincerely prays and beseeches your immediate personal and devout religious study of the world's most stupendous reclamation development, which requires no water-division compacts, and requires no change in our Constitution and established water laws to obtain immediate development and the exact ascertainment and division of water rights between States and individuals. It requires no technical engineering or legal professional ability, but only proper attention, a just patriotic heart, and simple common sense to ascertain the above and following facts.

It is unbelievable and unheard of in any civilized nation that such stupendous, unpatriotic measures as the Work-Mead-Hoover Colorado River six-State compact Boulder-Black Dam bill, which is even worse than the original Fall-Davis-Hoover compact, tri-State supplemental compact Boulder-Diamond Dams which delay development and cause endless litigation, could be entertained or approved by Cabinet, National, and State officials. If these measures are not National and State treason, what are they? They destroy the sacred fundamentals of our national Constitution, democracy, tested water laws, State sovereignty, justice, future growth, and the development of the world's greatest Grand Canyon Colorado River and destroy the irrigation of 6,000,000 acres in Arizona and California and obliterate Arizona's sovereignty and irrigation and power future, all just for greed to build up an American land speculators' Japanese Empire in Mexico. These destructive measures separate irrigation water from the United States and entirely from the Grand Canyon, leaving the power to be monopolized by the power trusts, and to be exhausted and despoiled by high-lift water pumping to exhaust limited underground water and that can be more economically developed by high canal gravity.

This is especially deplorable when under our Constitution, present and tested water laws of prior appropriation, beneficial, economical, maximum use placing irrigation and power together as would be provided for by properly situated dams, as the Glen storage dam at the upper end of the canyon, the bridge diversion dam, and the Arizona-California all-gravity high-line canal which would provide for more water and speedier flood control, and for a speedier, more economical development of every need required and asked for by our opponents and California. The Glen-Bridge high-line plan establishes the greatest agricultural and civilization base that civilization has ever known, which would be lost if the Boulder-Black Dam were built at the lower end of the canyon, or the compact, or tri-State supplemental compact were accomplished, thereby resulting in the world's greatest catastrophe and the building of a great Japanese airplane and naval base in Mexico.

Senator FRED T. COLTER,
President Arizona Highline Reclamation Association.

[Telegram]

PHOENIX, ARIZ., May —, 1926.

United States Senator RALPH H. CAMERON,
United States Senator HENRY F. ASHURST,
Representative CARL HAYDEN,
Washington, D. C.:

Water is over three-fourths of the human and world's body, and human life could not exist without it. Under our constitution and water laws, both State and National, no one can bind or own water; they merely own the beneficial economical maximum continued prior use of water. Any kind of water-division compact with any States would upset future growth, constitution, and water laws.

The Colorado River compact does not only upset the above fundamental principles and perfectly tested laws but deeds away seven-eighths of Arizona's water and 8,000,000 acre-feet of Arizona's and the Nation's water to Mexico, in addition guaranteeing Mexico any water deficiency forever and create the greatest naval and airplane base in the world bordering us in Mexico. In addition to the above great water loss, there would be another water loss of 8,000,000 acre-feet by compacting to build the Boulder-Black Canyon dam at lower and wrong end of the Grand Canyon, which destroys the economical, beneficial development of the river.

There is still another great loss which is unmeasurably great because of a compact to divide future water, and water in perpetuity would restrict every economical use of water in the future. We can get together with other States in construction works by building the Glen Canyon storage reservoir, the Bridge Canyon diversion dam, and the High-line Canal, which gives the quickest development of the river and prosperity for all States and saves Arizona from destruction which would happen if the Boulder-Black Canyon compact Swing-Johnson bill were passed. You can rely on our fighting to the last ditch.

FRED T. COLTER,
President Arizona High-line Reclamation Association.

PHOENIX, ARIZ., March 17, 1926.

Col. FRANK P. TROTT,

State Water Commissioner, Phoenix, Ariz.

DEAR COLONEL TROTT: I am inclosing you supplemental water filings I have made to-day, for and in behalf of the people and the State of Arizona, with the approval of the governor, on the Glen Canyon storage, flood control, irrigation, and power reservoir; elevation, 3,132 feet; Bridge Canyon flood control, irrigation, and power diversion dam, elevation, 1,207 feet; and the Arizona high-line irrigation and power canal to irrigate, inclusive of reflow, 4,160,000 acres in Arizona and develop 2,000,000 electric horsepower that will be more than enough to pay for same.

These filings are supplemental to the filings I made for and in behalf of the State on September 20, 1923, and May 11, 1925. The acreage in each county to be irrigated by the Glen-Bridge High-line Canal is as follows: Mohave County, 130,000 acres; Yavapai, 40,000 acres; Maricopa, 1,840,000 acres; Yuma, 1,604,000 acres; Pinal, 320,000 acres; and Pima, 226,000 acres. Total, 4,160,000 acres.

I am also inclosing you original water, irrigation, and power filings I have made for and in behalf of the State of Arizona on 11 more wonderful dam sites, all in Arizona, in the canyon section of the Colorado River, which are as follows: Red Wall Canyon dam, elevation, 2,885 feet; Mineral Canyon dam, elevation 2,530 feet; Ruby Canyon dam, elevation, 2,253 feet; Specter Chasm dam, elevation, 2,000 feet; Havasu dam, elevation, 1,782 feet; Devils Slide dam, elevation, 1,035 feet; Flour Sacks dam, elevation, 957 feet; Pierces Ferry dam, elevation, 910 feet; and Grand Wash dam, elevation, 865 feet. Grand Wash dam site, just within Arizona from the Nevada line, is an excellent dam site and will back the water up to the foot of the next dam, Pierces Ferry site. With a 143-foot dam Grand Wash dam will back the water to the foot of Flour Sacks dam.

The Boulder or Black Canyon dam, if built, would ruin and bury under water six of those good dam sites in Arizona, namely, Grand Wash dam, Pierces Ferry dam, Flour Sacks dam, Devils Slide dam, Specter Chasm dam, and bridge Canyon dam, and destroy Arizona High-line Canal and maximum development of the river.

Each of the 11 dam sites I have filed on will back the water to the foot of each of the next dam sites farther up from the Arizona-Nevada line, to Glen Canyon dam site, at the head of Grand Canyon near the Utah line, and will develop over 5,000,000 horsepower. The Glen Canyon reservoir when built first, not only gives priority, flood control, but stores the water to be diverted through Bridge Canyon dam site to 4,160,000 acres of land through the Arizona High-line Canal, but, alas, it more than doubles the electric power production and supply of each and all of the 11 dam sites below in Arizona, reduces materially the cost of construction of all the dams below them, and gives the maximum beneficial and economical development of the Colorado River. Can it be possible that anyone could advocate Boulder dam or the pact?

I have made provisions in the water filings, which I inclose, of each and all of the proposed dam sites, that it is distinctly understood, regardless of the date of commencing and finishing construction, that the priority for the water is to be recognized for the Glen-Bridge High-line Canal and water for the land therefor.

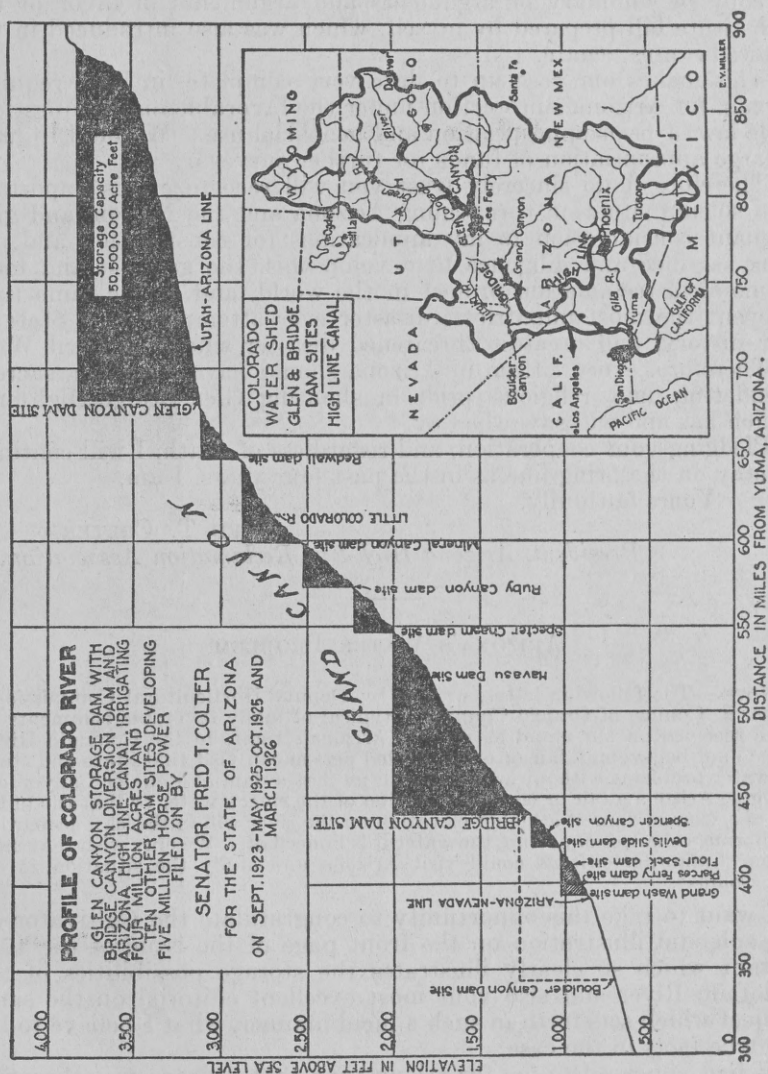
This is imperative to save Arizona, and develop the river as a unit or whole, thereby getting the economical, beneficial, and maximum development. Even California can be served better and quicker by this plan. Glen-Bridge dams and High-line Canal must be built first.

Any water division contract with California and Nevada or compact, supplemental compact, Arizona committee's proposal to California and Nevada, Diamond Creek permit, Boulder or Black Canyon dams, or power dams, not combined with maximum highest canal diversion irrigation, even inclusive of Glen-Bridge dams, would result in ruining Arizona and maximum development of the river. Otherwise water would irrigate Mexico and the power would go to the trusts—which California and Nevada can not and have no authority to protect Arizona against.

To build the Glen-Bridge dams by Arizona without definite priority recognized for the High-line Canal in order to develop as a whole unit would be suicide by Arizona. However, Arizona can agree

with California and Nevada on building Glen-Bridge High-line and serve California more than she proposes for herself.

• Power trust propaganda states that it proposes to build power dams and pump the water. This is disastrous. Besides power dams not combined to highest line gravity irrigation would develop the water for Mexico and power trusts, as the underground flow is



small in Arizona and would soon be pumped out, where highest line gravity water would keep an everlasting underground supply to be used over and over again.

This is supplemental and additional information and diligence to and since my water filings of September 20, 1923, and May 11, 1925, and my brief of six years past diligence filed a few months ago with

yourself, Federal Power Commission and United States Senate Committee on Irrigation, and was introduced into and printed in the Congressional Record.

I am inclosing you a copy of the Glen-Bridge High-line substitute bill F No. 3414, for the Boulder dam, which I prepared, and it was introduced into the Senate by Senator Cameron March 3, and also a copy of summary of arguments and arguments in favor of the substitute bill prepared by myself, which was also introduced in the United States Senate.

This makes our case up to date very complete, in legal requirements, for Arizona's protection under the favorable and unquestionable law of prior appropriation and beneficial use. We need to have a large appropriation of funds for further surveys.

Therefore, I do sincerely trust you will recognize this important and solemn situation threatening Arizona and the Nation, and give vigilant consideration to my applications for construction and our long sacrifice and diligence to develop this, the greatest and most economical reclamation project in the world, and at the same time prevent the most unpatriotic disaster ever attempted in a State in our history, and greatest threatened disaster since the Civil War.

Therefore, every citizen in Arizona should have a solemn, sacred, wonderful, and religious pride in shouting Glen-Bridge High-line, which has and will save the day.

Pledging your cooperation, and regardless of death, I will continue to stay on the firing line as in the past four years, I am,

Yours faithfully,

FRED T. COLTER,
President, Arizona High-line Reclamation Association.

ARIZONA'S WATER PROBLEM

NOTE.—The following letter, written by Deputy Horticultural Commissioner Chas. F. Collins, of Orange County, is typical of many favorable comments we have received on our stand as regards Arizona's rights in the Colorado River. We do not believe any fair or open-minded person can visit that State and study its water problems without agreeing with us that a dam at Boulder Canyon can not give Arizona a fair or equitable portion of the river's water or that the building of a storage dam at a higher elevation on the river will in the least jeopardize California's chances of getting the water it is in need of. We only wish that more of our California citizens could visit Arizona and study the situation as did Mr. Collins:

I want to take this opportunity to congratulate the Cultivator on the splendid illustration on the front page of the issue of the 17th instant which so clearly illustrates the storage possibilities of the Colorado River and also your most excellent editorial on the same subject which sets forth in such a lucid manner, what I believe to be, the true facts in the case.

It had appeared to me for a long time that Arizona was throwing a monkey wrench in the water-conservation machinery and I could not understand the reason why, from anything that I could gain from the newspaper reports. During my recent trip through that State, I made it a point to learn what I could regarding this matter from the people of Arizona, themselves, and I am pleased to note that I came to exactly the same conclusion as you so plainly set forth

in your article in the *Cultivator*. While it is plainly evident to any thinking person that water conservation is the biggest problem facing the people of the Southwest to-day, it seems to be a very difficult matter to get our politicians lined up and interested enough to accomplish anything.

As I ferried across the river at Blythe on my return trip from Arizona it appeared to me to be little short of a crime to allow that magnificent stream of water to run to waste when there are hundreds of thousands of acres of fertile but arid land, both in Arizona and in our own State, which could be made very valuable and productive with the aid of this same water. It seems to me that it would be as good business to run a conveyor from the San Francisco Mint into the bay and send all coins by that route as fast as they were coined. Our streams in this arid country, when they are flowing, which as you know with most of them is seldom, are nothing less than liquid gold and should be conserved just as carefully as we would look after the money in our purses.

I think that one of the best things that could happen in the politics of this State would be to discard some of our petty politicians who would wrangle over a 1-cent gasoline tax during the whole session of the legislature and entirely ignore the matter of water conservation. It is a self-evident fact, whether we realize it or not, that we have practically reached the limit of our agricultural development in this State until we can develop or conserve more water. As the agricultural possibilities are almost unlimited provided we had the water to proceed in our development, let us bend all our energy toward that end, even if the public does consider us cranks. You know, it takes a crank to turn things and possibly after the expenditure of sufficient energy we may succeed in turning something.

I, at least, greatly appreciate and thank you for your stand on this question and trust that you will endeavor through the columns of your valuable journal to keep this question before the public until we secure some action. (Chas. F. Collins, in the *California Cultivator*.)

WHAT ARIZONA WANTS

We have endeavored to show on our front cover, this week, something of the extent of the storage possibilities on the Colorado River as it passes through the State of Arizona and the reason why the people of that State are opposed to a storage dam at or in the vicinity of Boulder Canyon.

The upper picture is intended to show at a glance the location of the Glen Canyon dam site and the Bridge Canyon diversion dam, a combination that the Arizona people feel would be of real service to that State and at the same time not only adequately supply the water needs of California but do it better and more cheaply than will be possible with a dam at Boulder Canyon.

The elevation and location with respect to distance from Yuma are shown in the lower picture and give further proof of the uselessness of the Boulder Canyon project as far as supplying water to Arizona's millions of acres of fertile but at present arid lands are concerned, practically all of which are at an elevation too high to be irrigated by even a high dam at Boulder Canyon without pumping the water several hundred feet.

While it may be practical to pump water 1,400 feet to furnish a city like Los Angeles with its domestic water supply, it can not be done for agricultural crops; therefore Arizona agriculture has little hope of deriving any benefit from the storage of water at Boulder Canyon.

It is estimated that the average annual run-off from the Colorado River, when stored, will be sufficient to irrigate several million acres of land in addition to that possible of irrigation in the Imperial Valley and that now being irrigated in Mexico. With a dam at Boulder Canyon only, this surplus must flow into Mexico, where it will immediately be appropriated, thus precluding the possibility of later building dams at higher elevations to care for Arizona's needs, for once this water has been appropriated and put to valuable use by the land interests in Mexico, we doubt if it could be taken away from them even though they contributed nothing toward building the dams that make possible an equalized flow of the river.

While we have no desire to take away any of the waters now being used by these Mexican interests, we do not feel that we should spend millions to store water to irrigate more Mexican lands, especially when we have millions of acres of equally fertile land in our own United States that need this surplus water.

Were it impossible to secure the additional water needed in the Imperial Valley, or even by the city of Los Angeles, in any other way we should of course feel that the building of the Boulder dam was justified, but since there are other, and we are told equally feasible, projects capable of development on the river that will not only better supply all of these needs but will conserve the use of this surplus water for use within the boundaries of the United States, we can not help but feel that they should be given due consideration.

To us it is not so much a question of whether the land to be benefited by conserving the waters of the Colorado River is in California or Arizona as it is that we think the farmers of the United States should receive these benefits rather than the people of a foreign country. (Editorial in California Cultivator.)

THE BOULDER DAM

On Monday of this week Secretary of Interior Dr. Hubert Work was in Los Angeles and spoke at a luncheon tendered him by the City Club and the Los Angeles Chamber of Commerce. The subject of his speech was "The development of the lower Colorado River," and from what he said no one would ever suspect that there was any way of developing the water and power resources of the Colorado River other than by building the Boulder Canyon dam. He stressed the importance of an equitable division of the waters of the river as between Mexico and the United States, also the apportionment of its waters between the upper and lower basin States, the need of flood control to protect the Imperial Valley, and of an adequate water supply for Los Angeles city and for the further agricultural development of southern California, but never once did he mention the need for water of the several million acres of fertile land in our sister State of Arizona that can not possibly be irrigated from the Boulder dam and which by the construction of this project must

forever remain arid and valueless while the surplus waters of the Colorado go to increase the areas of productive lands in Mexico.

The Secretary did, however, lead his hearers to believe that Arizona by its objections was depriving itself of much benefit, when he said: "The Colorado River compact is being resisted by a State that could profit by this comprehensive development," but he failed to explain how very small such profit would be compared with that which the State is justly entitled to or would receive if a dam was built higher up the river.

More than once he referred to the proposed Boulder dam as being the largest engineering structure of its kind ever attempted and the fact that its magnitude will challenge the talent of the country's ablest engineers.

Granting that such is the case, we see no need of sacrificing the agricultural interests of an entire State just to gratify the desires of these engineers, especially when the same or even more favorable results, as far as California is concerned, can be accomplished by building the dam at a point on the river that would provide water for 3,000,000 or more acres of land in our sister State that must otherwise remain forever dry.

If, as we have stated before, there was no other way of supplying the Imperial Valley with the additional water it needs or of removing the flood menace that constantly confronts it, we would be the last ones to raise any objection to the building of the Boulder dam, but we believe that all of this can be accomplished in an equally effective and permanent way by acceding to Arizona's plan of building dams on the Colorado at points from which that State can derive some benefit. To our minds a comprehensive development of the Colorado River means its development in such a way as will irrigate the most land in the United States rather than in Mexico. The development of power is a necessary but nevertheless secondary consideration. The Boulder Canyon dam site is at the wrong end of the river to provide either comprehensive water development or maximum power production. (Editorial in California Cultivator.)



