Lees Ferry Discharges

These are taken as the same as Laguna Dam, except that the lowest years are taken 500,000 acre feet higher and the highest as 500,000 acre feet lower. To correct for the point of diversion of Imperial Valley, the figure for 1920 is increased 3,000,000 acre feet and progressively less to 1902, as the irrigation began then.
Laguna Dam Discharges translated to Lees Ferry

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<th>Year</th>
<th>Acre feet</th>
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</tr>
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<td>1919</td>
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<td>2,700,000</td>
</tr>
<tr>
<td>1920</td>
<td>21,100,000</td>
<td>2,850,000</td>
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Mean about 16,000,000
"Sec. 7. The right to add to, modify, or change any part of the foregoing comprehensive plan is reserved by each State, with the concurrence of the other."
A COMPACT AGREEMENT ENTERED INTO, BY
CONSENT OF THE UNITED STATES OF AMERICA, JOINTLY
AND SEVERALLY BETWEEN AND AMONG THE STATES OF
WYOMING, COLORADO, UTAH, NEW MEXICO, NEVADA, ARIZONA
AND CALIFORNIA PERTAINING TO THE APPORTION-
MENT, FOR BENEFICIAL USE, AMONG THE STATES NAMED
OF THE UNAPPROPRIATED WATER OF THE COLORADO RIVER
AND ITS TRIBUTARIES.

PREAMBLE

Pursuant to certain appropriate concurrent legislation by
the States of Wyoming, Colorado, Utah, New Mexico, Nevada,
Arizona and California, by the respective legislatures thereof
and the United States of America, by its Congress, whereby it
is provided that, with the consent of the United States of
America, the above named States may enter into a compact agreement
among themselves providing for an equitable apportionment of the
waters of the Colorado River among said States for their use and
benefit; and providing that for the purposes of drafting such a
compact agreement, the organization of a commission, consisting
of a representative from each of the said States to be appointed
by the respective governors thereof, should be organized; and
whereas said commission has been duly organized and has deliber-
ated upon the question involved, it does hereby and now agree
upon the following articles:

ARTICLE I

The beneficial uses to which the water may be applied in the
order of preferential rights is as follows:

1. Irrigation including river control.
2. Domestic and culinary.
4. Sundry purposes involving the consumption of water

Each right hereabove mentioned in this article shall be
subordinate to all rights above it named.

ARTICLE II

For the purposes of this compact, the interested States of
Wyoming, Utah, Colorado, New Mexico, Arizona, Nevada and California
shall be termed the BASIN STATES; the Colorado River drainage
area in Wyoming, Colorado, and Utah, together with the portions
of Arizona and New Mexico now naturally drained into the main Col-
orado River at or above the point herebelow described in this
article, shall be termed UPPER BASIN; and the territory of the Basin
States in the Colorado River drainage area not included in Upper
Basin, shall be termed LOWER BASIN. The Colorado River System is
divided geographically into Upper Portion and Lower Portion at a
point on the main Colorado River, near, or at Lee's Ferry in the
State of Arizona and near the south boundary of the State of Utah and more particularly described as follows:

ARTICLE III

Subject to the provisions of Article I hereof, as between and among the Basin States, rights to the use and control of water of or from the Colorado River System, shall take priority of right from the date of appropriation provided that:

1. The total and aggregate of all priorities of rights running to the Lower Basin from, at the point described in Article II hereof, shall never be in excess of 6,000,000 acre feet annually.

2. The Upper Basin shall be permitted unrestricted use within its boundaries of tributaries arising within its territory and flowing into the Lower Basin.

3. Reserve storage shall be provided in an amount of not less than 6,000,000 acre feet at a location on the Colorado River lying above the point described in Article II, to protect the Upper Basin against periodic dry years and annual waste to the gulf of California through and past the Lower Basin.

4. Beneficial use shall be the basis, the measure and the limit of all rights to the use of water in the Basin States.

5. Storage of any water of the Colorado River System shall not initiate a right to the use of water as between the Upper Basin and the Lower Basin.

ARTICLE IV.

This compact is subject to modification:

1. By unanimous request and consent of the Basin States, and

2. To meet the just requirements of any international agreement that may hereafter be made and entered into by and between the United States of America and the United States of Mexico affecting Colorado River water rights determined by this compact.
ANALYSIS

(WYOMING vs. COLORADO)

The recent decision of the Supreme Court of the United States in the case of Wyoming vs. Colorado may be tersely interpreted as follows:

(1) Where two adjoining states each recognizing and applying the general principles of prior appropriation for the intrastate distribution of waters, the same fundamental principles of justice and equity will be applied in the allocation of the waters of a stream common to both such states;

(2) Water may be diverted and carried out of the watershed of a stream for use upon lands situate in the drainage area of another stream, where such diversions are recognized and permitted, by local law, and such diversions are permissible wherever the general principles of prior appropriation are applied;

(3) The fact that one state may make a higher beneficial use of the waters of an interstate stream and may obtain a greater crop return from such use then would be
obtained from the use of the same waters in the other state, will not constitute a factor in determining the relative rights of the two states to the use of water of an interstate stream, where the general principles of prior appropriation are applied;

(4) Where storage facilities are necessary to conserve the surplus waters of a stream in order to obtain the greatest use therefrom, the lower state cannot compel the upper state to construct such works as a requisite to diversions of water within the upper state which would otherwise materially diminish the supply to the lower state which is there required to supply prior appropriations. Conservation within practical limits comports with the spirit of the doctrine of prior appropriation and that doctrine "lays on each of these states a duty to exercise her right reasonably and in a manner calculated to conserve the common supply". And in a case where the upper state may obtain water at the sources at all times the lower state may be called upon to conserve the excess supplies of the river in making allocation of the waters of the stream between the two states; and

(5) In allocating the waters of an interstate stream, in such cases, the average annual dependable flow will be ascertained after elimination of the flows
which occur in rare and extreme and high years, the allocation may be made upon the basis of the average annual flow so obtained.
MEMORANDUM

(COMPACT SUGGESTED BY CARPENTER)

* * * * *

The opening paragraph merely names the Commissioners and states the subject matter of the compact.

ARTICLE I.

Divides the Colorado River drainage and all lands irrigated by waters diverted from the stream, into the Upper Division and the Lower Division respectively, with Lee's Ferry, Arizona, as the point of demarcation between the two Divisions.

ARTICLE II.

The flow of the Colorado River as heretofore ascertained at Yuma, Arizona, is divided between the two Divisions designated in Article I. The amount of the inflow between Lee's Ferry and Yuma is considered and by deducting this amount from one-half the Yuma flow, the amount to be delivered by the States of the Upper Division to the States of the Lower Division at Lee's Ferry, is ascertained. In the second paragraph of the Article the four principal States of origin of the Upper Division guarantee to never
reduce the average annual flow at Lee's Ferry over any period of ten consecutive years below the minimum above determined, and also agree to cause to flow at Lee's Ferry an amount of water, in addition to the above specified minimum, sufficient to supply one-half of any future burden imposed upon the river in the United States by treaty for the benefit of the Republic of Mexico.

This Article fixes the minimum or outside limit to which the Upper States may go in the use and consumption of the waters of the river. No matter how the use or diversion is made and no matter what takes place within the Upper Division the Upper States must never, by all combined uses and diversions, reduce the flow below the specified minimum. This automatically takes care of questions of tunnel diversions out of drainage, uses of water, evaporation from reservoirs within the Upper Division, and all other like subjects.

**ARTICLE III.**

Provides that the burden of supplying water to the Republic of Mexico in compliance with future treaties shall fall equally upon the two Divisions of the river and that the States of the Upper Division shall furnish their one-half in addition to the minimum fixed by Article II. It will be noted that this removes the entire Mexican question from the consideration of the Commission. This international question is a matter wholly for the State
Department. Whatever burden is put upon the river will fall equally upon the whole stream.

**ARTICLE IV.**

Provides for an ex-officio commission whose sole and exclusive duty shall be that of ascertaining, determining, and publishing the amounts of the annual flows of water past Lee's Ferry. This commission will naturally make provision for the Geological Survey or some other agency to keep records at Lee's Ferry with opportunities for check-rating, and other safeguards.

**ARTICLE V.**

Deals entirely with the States of the Upper Division. Provides the States of the Lower Division shall not interfere with the present or future development within the States of the Upper Division, so long as the States of the Upper Division supply to the Lower Division by delivery at Lee's Ferry, the minimum flow fixed by Article II of the Compact, and also the flow necessary to supply one-half the Mexico burden, and that so long as the Upper States keep within the minimum no adverse assertions shall be made against the stream within the Upper Division.

Also provides that reservoirs constructed within the Upper Division for the storage of water for the
Lower Division shall not interfere with the development of the Upper Division and all waters released from such reservoirs and passing Lee's Ferry shall go to the credit of deliveries by the Upper Division for the benefit of the Lower Division.

Also provides that all controversies between two or more of the Upper States respecting any internal stream, etc., are specifically reserved for separate settlements by the States so involved.

**ARTICLE VI.**

Deals entirely with the Lower Division. Provides that the States of the Lower Division shall have free and unrestricted use of the waters of their own streams according to their own laws, and also the free and unrestricted use of all waters to pass Lee's Ferry from the Upper Division as provided by Article II. Also provides that any controversies between two or more of the Lower States are specifically reserved for separate settlements between them. It will be noted that both Articles V. and VI. leave the local administration of water supplies subject to the Constitution and laws of the States in which the waters flow, limited only by the interstate obligations assumed by the compact and subject to future interstate obligations voluntarily assumed by two or more of the States respecting contro-
confined purely to such States.

**ARTICLE VII.**

Provides that navigation shall be subordinated to other and preferred uses of the waters of the river and shall not interfere with the construction of works necessary to put into effect such preferred uses.

**ARTICLE VIII.**

Provides that while the local laws of each State shall control in all matters respecting the preference of the uses of power over other uses as regards intrastate problems, as between the States, uses of water for power shall be subservient and inferior, within each division, to uses for other purposes. It will be noted that this question of preference of power over other uses is naturally divisional and can arise only between uses within each of the divisions and not between the divisions themselves. This Article provides that as respects inter-state relations within the Division power use shall be subordinated and inferior to other uses, but that for intrastate purposes the preference of one use over another shall be controlled by local laws. The constitutions of several of the States specifically state the rules of preference as regards intrastate control and regulations. These provisions have been construed by the local courts and it is not our province or desire to disturb these local conditions, but as regards reservoirs in one
State (in a Division), hereafter to be constructed for power purposes, in its relation of future development in another State of the same Division, it is appropriate to provide that such new power development shall not interfere with future irrigation development in the other State, even though the power development would otherwise be entitled to superiority over subsequent irrigation development if both the power and irrigation development had taken place in one State.

**ARTICLE IX**

Provides that the compact is founded entirely upon the physical and other conditions peculiar to the stream, and is based wholly upon the facts with respect to that stream and shall not be taken as a precedent respecting adjustments between two or more States involving the waters of some tributary of the Colorado River. It may be remarked that the conditions on some tributary might be very different from those obtaining upon the main stream, and the main stream compact would therefore be wholly out of place if applied, in principle, to the settlement of a mere local controversy involving some tributary. Several of the contracting States have other rivers upon which questions may arise with neighboring States. None of the contracting States could afford to contract in this case if the terms of such a compact
would bind them either in fact or principle as regards the future settlement with other States upon other streams.

ARTICLE X.

Provides merely for ratifications and exchange of advices between Executives.

* * * * * *

The figures used with respect to the flow of the river and other like facts are, of course, subject to revision according to the true situation as it may develop.

All questions respecting uses of water which, as regards return to the parent stream, are wholly consumptive, (such as the tunnel diversions in Colorado and Utah and the Salton Sea in California) are automatically cared for by the divisional apportionment of the waters of the river.

In all probability the Upper Division will never be able to reduce the stream to the proposed minimum, but if an extreme condition should ever arise this development must stop when the minimum is reached.

The recent decision of the Supreme Court in the Wyoming vs. Colorado case settles all controversy respecting the rights of Utah or Colorado to take the water out of the drainage or of California to divert water in-
to the Salton Sea basin. It also lays down the rule that Lower States cannot stand by and permit waters to go to waste and thereafter call upon Upper States to make up the deficiency resulting from such waste, but the Lower States must make reasonable provision for storage of the excess waters that reach their territory.
COMPACT OR AGREEMENT FOR THE
EQUITABLE APPORTIONMENT OF THE WATER SUPPLY
OF THE COLORADO RIVER AND OF THE STREAMS
TRIBUTARY THERETO

* * * * *

DELPH E. CARPENTER,
COMMISSIONER FOR COLORADO.

Denver, Colorado,
August 19, 1922.
Compact or Agreement for the
Equitable Apportionment of the Water Supply
of the Colorado River and of the Streams
Tributary Thereto

The United States of America and the States of
Arizona, California, Colorado, Nevada, New Mexico, Utah, and
Wyoming, being desirous of providing for the equitable dis-
tribution and apportionment of the waters of the Colorado
River and its tributaries among said States and of protect-
ing the interests of the United States therein and of remov-
ing all causes of present and future controversy between them
in respect thereto, and being moved by considerations of in-
terstate comity, pursuant to the Acts of the Congress of the
United States and of the Legislatures of the said States re-
spectively, have resolved to conclude a Convention for these
purposes and have named as their Representative and Commis-
sioners:

The President of the United States of America,
Herbert Hoover, Secretary of Commerce of the
United States, Representative of the United States;
The Governor of the State of Arizona,  
W. S. Norviel, Commissioner for the State of Arizona;

The Governor of the State of California,  
W. F. McClure, Commissioner for the State of California;

The Governor of the State of Colorado,  
Delph E. Carpenter, Commissioner for the State of Colorado;

The Governor of the State of Nevada,  
J. C. Scrugham, Commissioner for the State of Nevada;

The Governor of the State of New Mexico,  
Stephen B. Davis, Jr., Commissioner for the State of New Mexico;

The Governor of the State of Utah;  
R. E. Caldwell, Commissioner for the State of Utah; and

The Governor of the State of Wyoming,  
Frank C. Emerson, Commissioner for the State of Wyoming.

Who, after having communicated to one another their respective powers, found to be in good and due form, have agreed upon the following articles:

ARTICLE I.

The territory included within the drainage area of the Colorado River and its tributaries and all lands now and hereafter watered from said stream, within the United States of America, for the purposes of the equitable apportionment and distribution of the uses and benefits of the waters of said river, shall hereafter be considered to consist of two divisions which are hereby designated as The Upper Division and The Lower Division respectively.

The long established crossing of the Colorado River above the great canyon thereof and situate about one mile below the mouth of the Paria River and at the point indicated
as "Lee Ferry" on the topographic sheet for Echo Cliffs Quadrangle (Arizona), edition of 1891, reprint of 1913, published by the United States Geological Survey, and as "Lee's Ferry" on the map of the State of Arizona published by the Department of the Interior, General Land Office, in the year 1912 and compiled and drawn by Daniel O'Hare, is hereby designated as the point of demarcation between the two divisions of said stream, and said crossing and point of demarcation shall be indicated and designated in this compact by the use of the words "Lee's Ferry".

The Upper Division shall comprise those parts of the territory of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within and from which waters naturally drain and flow into the Colorado River and its tributaries above Lee's Ferry and also of all lands within said States now or hereafter served with waters diverted from said stream and its tributaries above Lee's Ferry.

The Lower Division shall comprise those parts of the territory of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain and flow into the Colorado River and its tributaries below Lee's Ferry and also of all lands within said States now or hereafter served by waters diverted from said stream below Lee's Ferry and from all tributaries which enter said stream below said point.
ARTICLE II.

The waters of the Colorado River and of all the streams contributing thereto within the United States of America, shall be equitably divided and apportioned among the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming and between those portions of the territory of each of said States included within the Upper and Lower Divisions of said river, as defined by Article I. hereof, in the following manner:

1. The flow of the Colorado River shall be divided between the territory included within the two divisions of said river upon the basis of an equal division of the mean or average annual established natural flow of said river as heretofore ascertained and recorded at Yuma, Arizona, and for such purpose it is hereby found, determined and agreed that the mean or average annual flow of the Colorado River at Yuma, Arizona, from the year 1902 to the year 1921, both inclusive, has been seventeen million four hundred thousand (17,400,000) acre-feet and that of said mean or average annual flow eighty-six per cent (86%) or fourteen million nine hundred and sixty-four thousand (14,964,000) acre-feet thereof has flowed in said river at Lee's Ferry and that fourteen per cent (14%) or two million four hundred and thirty-six thousand (2,436,000) acre-feet thereof has entered said stream through streams contributing to the flow of said river between Lee's Ferry and Yuma, Arizona.
2. The States of Colorado, New Mexico, Utah, and Wyoming jointly and severally agree with the remainder of the High Contracting Parties that the diversions from the Colorado River and its tributaries and the uses and consumption of water within the Upper Division shall never reduce the mean or average annual flow of the Colorado River at Lee's Ferry over any period of ten (10) consecutive years, below a flow equivalent to thirty-six per cent (36%) of the agreed established average annual flow of the river at Yuma, Arizona, as defined in paragraph one (1) of this Article, to wit, below a flow of six million two hundred and sixty-four thousand (6,264,000) acre-feet, and that not less than said minimum mean or average annual flow shall hereafter pass Lee's Ferry for the use and benefit of the territory included within the Lower Division of said river; and the aforementioned States do further jointly and severally agree that they will cause to flow annually in said river past Lee's Ferry, in addition to the aforesaid minimum average annual flow, an amount of water equivalent to one-half the annual requirement for delivery to the Republic of Mexico as provided in Article III. of this compact.

ARTICLE III.

The High Contracting Parties agree that the duty and burden of supplying any waters from the flow of the Colorado River within the United States of America to the Repub-
ic of Mexico or to any part of the territory of said nation, in fulfillment of any obligation or obligations which may be determined to exist or which hereafter may be fixed, by treaty between the two nations, shall be equally apportioned between and equally borne by the Upper Division and the Lower Division of the Colorado River within the United States of America; that the annual delivery at Lee's Ferry, by the States of the Upper Division, of a quantity of water equivalent to one-half the annual amount required to satisfy any such international obligations shall be a complete fulfillment of the provisions of this Article by said States; and that the States of the Lower Division shall contribute annually a like amount of water from those waters of the river annually to pass Lee's Ferry for the Lower Division, as provided by paragraph two (2) of Article II. of this Compact, and from the flow of tributaries entering the River below Lee's Ferry, and, further, shall cause the water contributed by both Divisions to be delivered to the Republic of Mexico in conformity with any such treaty obligations.

**ARTICLE IV.**

A continuing joint commission is hereby designated which shall consist of **ex officio**, the State Water Commissioner of the State of Arizona and the State Engineers of the States of California, Colorado, Nevada, New Mexico, Utah, and Wyoming, or of the officials of said several States upon whom
may hereafter devolve the duties of ascertaining the flow of streams now performed by the named State officials, and of a person to be designated by the named State officials, and of a person to be designated by the Director of the United States Geological Survey or by the official of the United States of America upon whom may hereafter devolve the duties of ascertaining the flow of streams now performed by said named official; and it shall be the duty of said joint commission to make provision for ascertaining, determining, and publishing the annual flows of water in the Colorado River at Lee's Ferry and, if hereafter one or more reservoirs are created at or in the vicinity of Lee's Ferry by the erection of a dam or dams across the channel of the Colorado River at any point or points between the mouth of the San Juan River and a point ten (10) miles below Lee's Ferry, to make provision for ascertaining, determining, and publishing the flow of water which would have annually passed Lee's Ferry had no such dam or dams been constructed.

**ARTICLE V.**

The High Contracting Parties agree that compliance with paragraph two (2) of Article II. of this Compact by the States of Colorado, New Mexico, Utah, and Wyoming shall wholly relieve and exempt the States whose territory is in part included within the Upper Division and all users of water within said Division from causing any additional
amount or amounts of water to flow past Lee's Ferry for the benefit of the territory included within the Lower Division, and from any and every other or additional claim or assertion of right to or servitude upon the waters of the river within the Upper Division for the benefit of the Lower Division or of any users of water therein; and that no claim of prior, preferred or superior right to the use and benefit of any part of the waters of the Colorado River or of any of the tributaries thereof, within the Upper Division, other than the amounts agreed to be caused to flow past Lee's Ferry by said paragraph two (2) of Article II, shall be made, asserted or recognized on behalf or for the benefit of the territory included within the Lower Division; and further, that subject only to the fulfillment of the obligations expressed by said paragraph two (2) of Article II, and to the third paragraph of this Article, each of the States whose territory is in part included within the Upper Division shall have, possess, and enjoy the free and unrestricted uses and benefits of the waters of said river and of its tributaries as the same may flow within its territory of the Upper Division, according to the constitution and laws of each said State.

And further agree that all rights, claims, and privileges with respect to the use and administration of any reservoir or reservoirs hereafter constructed within the Upper Division for flood control or other benefit of the territory included within the Lower Division, shall be and
remain inferior, subordinated, and subservient to the superior and preferred rights of diversion, use, and consumption of the waters of the Colorado River by the States and for the benefit of the territory included within the Upper Division, expressed in paragraph one (1) of this Article; and that all waters which may be discharged from any such reservoir or reservoirs for carriage in said river to the Lower Division and all waters stored in any reservoir created by the erection of a dam across the channel of the river at any place between the mouth of the San Juan River and a point ten (10) miles below Lee's Ferry, shall constitute and be considered as a part of the waters which it is agreed shall pass Lee's Ferry from the Upper Division by paragraph two (2) of Article II. of this compact.

The States of the Upper Division, to wit, the States of Arizona, Colorado, New Mexico, Utah, and Wyoming do jointly and severally agree that any and all claims which now or hereafter may exist or arise between any of them with respect to the uses and benefits of the waters of the Colorado River and of any of its several tributaries within the Upper Division or with respect to any claimed, contemplated or desired servitude or servitudes by or for any one or more of them and upon the streams or territory of any one or more of the others thereof, are specifically reserved for separate consideration, settlement or consent by those of said States so involved,
and the signing and ratification of this compact shall not be construed or interpreted as a recognition of or consent to any claim, privilege or servitude upon the streams within any State of the Upper Division except to the extent necessary to fulfill the express provisions of this compact and not otherwise.

**ARTICLE VI.**

The High Contracting Parties agree that, subject at all times to the rights to the diversion, use, and consumption of the waters of the Colorado River and of its tributaries for the benefit of the territory included within the Upper Division but within the limitations defined by this compact, and subject to the fulfillment of the obligations expressed in Article III, and further subject to the provisions of the second paragraph of this Article, each of the States whose territory is in part included within the Lower Division shall have, possess, and enjoy under the constitution and laws of each said State, and within its territory, the free and unrestricted use and benefits of the waters of those tributaries which enter the Colorado River below Lee's Ferry and of all waters of said river which may pass said point from the Upper Division in conformity with paragraph two (2) of Article II. and with Article III. of this compact.

The States of the Lower Division, to wit, the States
of Arizona, California, Nevada, New Mexico, and Utah do jointly and severally agree that any and all claims which now or hereafter may exist or arise between any of them with respect to the uses and benefits of the waters of the Colorado River and of the several tributaries within the Lower Division, including any allocation of the burdens incident to a fulfillment of Article III, or with respect to any claimed, contemplated or desired servitude or servitudes by or for any one or more of them upon the streams or territory of any one or more of the others thereof, are specifically reserved for separate consideration, settlement or consent by those of said States so involved, and the signing and ratification of this compact shall not be construed or interpreted as a recognition of or consent to any claim, privilege or servitude by any State of the Lower Division upon the streams which enter the Colorado River below Lee's Ferry or upon said river or that part of the waters thereof by this compact agreed to be delivered from the Upper Division, except to the extent necessary to fulfill the express provisions of the compact and not otherwise.

ARTICLE VII.

The High Contracting Parties agree that the uses of the waters of the Colorado River within the United States of America for purposes of navigation shall be and remain inferior, subservient, and subordinated to the diversions,
uses, and the necessary consumption of the waters of the stream and its tributaries for domestic, municipal, agricultural, power, manufacturing, and other similar purposes and shall not prevent or interfere with the construction, maintenance, and operation of such works or means of diversion and storage as may be necessary or essential to effectuate such preferred and superior beneficial uses.

ARTICLE VIII.

The High Contracting Parties agree with respect to the States of each Division of the Colorado River inter se, that all rights to the use of any of the waters of said stream and of its tributaries within the Division for purposes of generating power or of manufacture, hereafter shall vest and be exercised in all respects as inferior, subservient, and subordinated to all present and future uses and necessary consumption of the waters within the Division for domestic, municipal, agricultural, and other similar purposes and shall not hinder, interfere with or prevent the construction, maintenance, and operation of such works or means of diversion and storage within the Division as may be necessary or essential to effectuate such preferred and superior beneficial uses, provided, however, that the provisions of this Article shall not apply to or interfere with the intrastate regulation and control of the appropriation, uses or distribution of waters within any State according to its constitution, laws and the decisions of its courts.
ARTICLE IX.

The High Contracting Parties agree that the division, apportionment, and distribution of the waters of the Colorado River provided by this compact and the methods adopted (and the principles applied), are based entirely upon the physical and other conditions peculiar to the stream and to the territory drained or to be served and that none of the High Contracting Parties in any way concede the establishment of any general principle or precedent by the concluding of this compact and particularly with respect to the equitable apportionment of or the rights of the States to the waters of other rivers or with respect to the disposition inter sese, of the Waters of streams tributary to the Colorado River and common to two or more States whose territory is included within either Division; and the concluding of this compact shall not be construed as a recognition or an acknowledgment by any of the contracting States of any principle or precedent by virtue of which any State may lay claim to or establish any servitude for its use or benefit upon the territory or the streams flowing within any other State or States.

ARTICLE X.

This compact or agreement shall become operative when ratified and approved by the legislatures of each of the signatory States and by the Congress of the United States,
and notice of the ratification and approval by the legislature of each State shall be given by the Governor of such State to the Governors of the remaining States and to the President of the United States, and notice of the approval by the Congress of the United States shall be given by the President of the United States to the Governors of all the signatory States, as soon as may be convenient after said respective ratifications, and upon such ratification and approval this Convention shall become operative and in full force and effect as of the date of the approval thereof by the Congress of the United States.

IN WITNESS WHEREOF, the respective Representative and Commissioners have signed this compact or agreement in a single original, which shall be deposited in the archives of the Government of the United States of America and of which a duly certified copy shall be forwarded to the Governor of each of the signatory States.

DONE at Santa Fe, State of New Mexico, this ___ day of October one thousand nine hundred twenty-two.

For the United States of America:
For the State of Arizona:

For the State of California:

For the State of Colorado:

For the State of Nevada:

For the State of New Mexico:

For the State of Utah:

For the State of Wyoming:

* * * * * *
FIFTY-FIFTY DIVISION
COLORADO RIVER FLOW - YUMA BASIS

The Yuma Station records all of the flow of the Colorado River. The records cover a long period of years and are considered authentic and reliable from 1902 to date.

The river naturally divides itself into upper and lower portions.

The upper part of the basin includes that part of the drainage area within Utah (except the Virgin), Wyoming, Colorado, New Mexico (except the Gila and Little Colorado), and a trivial portion of the area of Arizona which is too negligible to constitute a factor in the division of waters.

The upper basin area is the region of origin of the greater part of the waters of the stream. All the streams in this area finally unite to form the Colorado River as it enters the canyon below the mouth of the San Juan and immediately above the Utah and Arizona line.

The lower portion of the basin includes that part of the drainage area within the States of California, Nevada, Arizona, the Little Colorado and Gila portions of New Mexico, and the lands in the Republic of Mexico.
The lower portion of the basin contributes the smaller part of the water supply and contains large acreages of irrigable lands, while the upper part of the basin contains smaller acreages in proportion to the water supply.

For the purposes of future distribution of the water supply of the river, the basin may be conveniently divided at or near the Utah-Arizona line and for present convenience Lee's Ferry in Arizona may be taken as the point of division. If at a later date the Glen Canon Reservoir is constructed, rating stations may be established on the San Juan, Colorado, Fremont and Escalante at or near points where said streams enter the reservoir, where records may be obtained in substitution for records to be kept at Lee's Ferry prior to the construction of such a reservoir.

The basin of the river as so divided will hereafter be termed "upper basin" and "lower basin" respectively.

At the present about 200,000 acres are being irrigated in Mexico by waters diverted from the Colorado River. To what degree this acreage will be increased depends entirely upon international arrangements to be hereafter agreed upon between the United States and Mexico. The amount of the increased future diversions, if any, is entirely conjecturable. It is said that about
800,000 acres of land in Mexico are irrigable from the Colorado River including present irrigated acreage. If the United States should deprive her own territory of the benefit of waters necessary to serve this entire 8000,000 acres, it is estimated that an annual diversion of about 2,400,000 acre feet would be required for the service of the Mexico lands. None of the lands in Mexico were irrigated prior to the construction of the Imperial Valley canal by citizens of the United States, and all of the lands now under irrigation in Mexico are served entirely by the Imperial Valley canals. The degree to which the United States may later feel called upon to sacrifice the development of her own territory for the benefit of Mexico will depend entirely upon future international relations.

The division of the waters of the river can be made between the seven states of the Colorado River basin with provision for future distribution of any additional burden upon the stream imposed by international treaty.

The annual average flow of the Colorado River at Yuma rating station has been 17,400,000 acre feet.

The Gila, Bill Williams, Virgin, Little Colorado, and other streams contribute 1,740,000 acre feet between Lee's Ferry and Yuma.
If the total natural flow of the river at Yuma (17,400,000 acre feet) were to be divided equally between the upper and lower basins using Lee's Ferry as the point of diversion the upper basins would be called to deliver to the lower basins at Lee's Ferry one-half of the Yuma flow (8,700,000 acre feet) less the in-flow between Lee's Ferry and Yuma (1,740,000 acre feet), or an average annual flow of 6,960,000 acre feet to pass Lee's Ferry for the use of the lower basin.

And additional burden upon the river resulting from treaty obligations between the United States and Mexico should be distributed equally upon the water supply of the two basins. To illustrate:— If the United States should agree with Mexico that the United States should annually furnish three acre feet per acre for 800,000 acres of land it would thereby impose a burden of 2,400,000 acre feet upon the river in the United States. Fifty per cent (1,200,000 acre feet) of this burden would then fall upon each of the two divisions of the basin. This would require the upper states to cause 1,200,000 acre feet average additional flow to pass Lee's Ferry, or a total average annual flow of 8,160,000 acre feet to pass Lee's Ferry.

If the United States agreed with Mexico to furnish an amount less than 2,400,000 acre feet annual delivery, the burden would be correspondingly lessened on the ratio of equal relief to each of the divisions of the
Objection may be raised that the waters of the Gila should not be included within the total flow of the river. But such objections are without force. The Gila is just as capable of substantial regulation as are the other streams of the river drainage. The San Carlos, Verde, Sentienl, and other reservoirs may be constructed to control the waters of the stream and the first use of these waters along the course of the stream and the tributaries thereof will not wholly consume the water supply of the Gila, but will so control the flow that any part thereof entering the Colorado River may be delivered into Mexico. Any objections upon the ground of contemplated abandonment of the present diversion of Colorado River waters to Imperial Valley canals is likewise without force. If the present diversion system is abandoned such abandonment must be at the expense of the lower river and the burden thereof cannot justly be imposed upon the upper territory.

There is an existing operating diversion system below Yuma. This diversion system is capable of diverting the water from the stream and supplying the same to the Mexican lands. All of the upper states may in justice demand that this diversion shall continue, and that if it is abandoned such abandonment shall be at the expense of the lower river territory causing the abandonment.
DIVISION OF COLORADO RIVER—LEE'S FERRY BASIS

It is authoritatively estimated that the natural flow of the river at Lee's Ferry is equivalent to about 90% of the natural flow at Yuma, or slightly more than 95% of the flow at Laguna Dam.

Ninety per cent of the average annual flow at Yuma (17,400,000 acre feet) amounts to 15,660,000 acre feet. This leaves 10% of the Yuma flow (1,740,000 acre feet) coming into the river between Lee's Ferry and Yuma.

An equal division upon the basis of the average annual flow of the river at Lee's Ferry (15,660,000 acre feet) would result in a requirement that the upper basin should annually deliver to the lower basin at Lee's Ferry an average annual flow of 7,830,000 acre feet.

This method of division would give to the lower basin 7,830,000 acre feet plus 1,740,000 acre feet, or a total of 9,570,000 acre feet out of the total 17,400,000 acre feet flow of the river, or a delivery and allotment to the lower basin of 55% of the annual flow of the river, and 45% to the upper basin.

The additional 10% of the river going to the lower basin would be available to care for any additional burden
placed upon the river by international treaty.

The upper basin should not be called upon to contribute any additional part of the water supply, unless the international burden should exceed 1,740,000 acre feet, in which event the additional burden should be distributed equally between the two basins and the upper basin should only be called upon to deliver an amount of water in acre feet equivalent to one-half of the difference between the total annual treaty delivery and 1,740,000 acre feet.
1st Proposal.  

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<tr>
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<th>DIVISION AT YUMA</th>
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<tbody>
<tr>
<td></td>
<td>Acre-feet values.</td>
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<tr>
<td>Without Mexico Burden</td>
<td>Lees Ferry flow %</td>
<td>Yuma flow %</td>
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<tr>
<td>(a) Upper Basin allot.</td>
<td>8,700,000 a. ft.</td>
<td>8,700,000 55%</td>
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<td>Lower Basin &quot;</td>
<td>6,280,000 &quot;</td>
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<tr>
<td></td>
<td></td>
<td>1,740,000 &quot;</td>
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<tr>
<td></td>
<td>17,400,000</td>
<td>15,660,000 100%</td>
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Includes Mexico Burden (24,000,000 a. ft.)

(b) Upper Basin allot. |
|                      | 7,600,000                      | 7,500,000 48%        | 7,500,000 43%        |
|                      | Lower Basin "                  | 8,160,000           | 8,160,000 52%        | 9,900,000 57%        |
|                      |                                 | 1,740,000           |                       | 17,400,000          |
|                      | 17,400,000                     | 15,660,000 100%      | 17,400,000 100%      |

Upper and Lower Basins to divide equally Mexico burden.

2nd Proposal.  

<table>
<thead>
<tr>
<th></th>
<th>DIVISION AT LEE'S FERRY</th>
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<tbody>
<tr>
<td>(a) Upper Basin allot.</td>
<td>7,830,000</td>
<td>7,830,000 50%</td>
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<tr>
<td></td>
<td>Lower Basin &quot;</td>
<td>7,830,000</td>
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<td></td>
<td></td>
<td>1,740,000</td>
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<tr>
<td></td>
<td>17,400,000</td>
<td>15,660,000 100%</td>
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(b) Lower Basin to supply Mexico water.

Total Mexico Burden (2,400,000 a. ft.)

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<td>(a)</td>
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<td>7,500,000</td>
<td>7,500,000 48%</td>
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<td></td>
<td>(7,830,000</td>
<td>(7,830,000 52%</td>
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<tr>
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<td>(320,000)</td>
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<tr>
<td></td>
<td>(1,740,000</td>
<td>(1,740,000)</td>
</tr>
<tr>
<td></td>
<td>17,400,000</td>
<td>17,400,000</td>
</tr>
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R.I.M.
July 11
1922
During the conference of this Commission in Washington it was my privilege to speak in part on the question of the legal rights of the respective states and of the United States to the use and benefit of the waters of the Colorado River. Time and conditions compelled me to cover but a part of the subject matter.

Since that time two main factors have intervened which tend to simplify the problem: before the Commission:-(1) Several public hearings have been held throughout the southwest at which the various divergent views and extreme positions obtaining in different sections of the Colorado River Drainage area and among different individuals within each of the sections have been freely expressed. (2) The Supreme Court of the United States has entered its opinion in the long question of Colorado vs. Wyoming, thereby setting at rest two or three points of controversy which heretofore have confronted the Commission.

Present conditions, as they are, by the aforementioned factors, lead themselves to much freer of the opinion than otherwise would have been prudent and we may approach the solution of the problem before us with a degree of frankness which could not have otherwise been obtained.

Before engaging in a discussion of the immediate problems requiring a solution, it may be well to give brief notice to the decision of the Supreme Court. In the case of Kansas vs. Colorado that court laid down the rule that as between the states of Kansas and Colorado, the Supreme Court would not interfere with diversions from the Arkansas River in the State of Colorado which were in fact injuring prior diversions in Kansas, until such time as the diversions from the river in Colorado had so diminished the supply of the stream into Kansas as to do violence to an equitable
apportionment to the waters of the streams between the two states; that while it appeared that certain new enterprises in Colorado were materially injuring certain prior enterprises in Kansas, nevertheless sufficient injury had not been shown, all facts considered, to justify the court to interfere with the uses in Colorado.

The court also held adversely to the claim of the United States for Government control of all western streams and disposition of the waters thereof under the rule of priority of appropriation.

In the case of Wyoming vs. Colorado the court did not overrule the case of Kansas vs. Colorado but upheld that decision as to declaration of interstate law between those states. But as between Wyoming and Colorado, in both of which the doctrine of prior appropriation has been recognized from the earliest dates for the intra-state administration of water supplies, it was held that the same rule would apply to controversies between the states respecting the use and disposition of the waters of an interstate stream and, in effect, that earlier priorities in the lower state will be given first consideration as against more recent diversions in an upper state in the allotment of water between the states, in a proceeding brought to enjoin the diversion by the newer enterprise in the upper state.

The court also held that the place of the use of the water is immaterial and that water from one stream might be diverted and applied upon lands lying wholly within the drainage of another stream where the local laws so permit.

While the interstate effect of prior appropriations were recognized by the court in the final disposition of the case the water supply was
considered amalgamation thereof made between the states in such a manner as not to materially interfere with the supply necessary for the prior appropriations in the lower state.

The court also held that the relative degree of benefits to be obtained by the use of water upon one area of lands as compared with the benefits that could be obtained by the use of the same water upon a different area of lands, can have no bearing upon the relative rights of the states or localities to the beneficial use of the waters of the stream. The court ruled diversely to the contention of Wyoming "that she should not be required to provide storage facilities in order that Colorado may obtain a larger amount of water from the common supply than would otherwise be possible" and held that upon each state there rests "a duty to exercise her right reasonably and in a manner calculated to conserve the common supply of the water in the river.

As regards the Colorado River, let passing notice be given to the case of relative priorities of appropriation. All existing works ban at best divert but a trifling part of the water supply of the stream. There has been no encroachment up to the present day and as adequate provision is made for the storage of the common water supply of the stream no uses but the existing upper diversions can materially interfere with or encroach upon the water supply for the diversions upon the lower river.

The right of the citizens of Colorado, Utah and other upper states to divert water from the headwaters of some tributaries of the Colorado through or over mountain ranges for use upon lands in foreign drainage areas is confirmed by the decision. Such diversions have the same legal status as diversions within the water shed and are to receive the same sanction and protection. As we shall hereafter observe, ample provision may be made to properly assure the lower states from injury in this regard.
The decision of the court gives further sanction to the underlying principle of the necessity of conservation of so-called flood waters by each of the states, depending upon the use of the stream for the irrigation of its lands, before coming into a position where it may question the rights of any other state. In other words, each state must use reasonable diligence in providing storage facilities before it may call upon another state to supply water to the detriment of the territory of the latter.

Finally, the court points the way to a proper solution of the Colorado controversy by an allocation of the water between the states on some permanent basis.
COLORADO RIVER.

The Colorado River drainage area includes parts of the states of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming and a small area within the Republic of Mexico. From time immemorial the stream has derived its principle supply from the high mountain areas now included within the states of Colorado, Utah and Wyoming, with some additional supply from the Gila, Little Colorado and other streams entering the river along its lower reaches. In the course of ages the numerous tributaries of the upper portion of the drainage area combined their waters into a single stream which in due time cut its way through the table lands of Arizona and Nevada forming a great canyon or throat out of which the river emerged silt laden on its way to the Gulf of Cortez (California.). The deposition of silt had cut off the upper arm of the Gulf of California, now included within the Imperial Valley and adjoining territory, long before the advent of white men and the early explorers found the natural divide then existing between the Imperial Valley and the river, to a lesser degree but almost as certainly as they found the divide between the Colorado and the headwaters of the Platte, Arkansas, and other streams.

With the acquisition of territory by white men upon the new hemisphere all of the Colorado River Basin except that part lying within the state of Wyoming, came under the dominion of the King of Spain. In due course Spain ceded to the United States all that part of the drainage down to the present international boundaries reserving to itself, no expressed right, claim or interest in and to the flow of the streams and now asserting
a much questioned privilege of navigation upon the lower reaches of the river. There was no ancient irrigation in the Republic of Mexico at the time of the last cession of the territory by Spain to the United States, and we are not confronted with any problem of serving lands in foreign territory long since re-claimed and on behalf of which a lower nation may claim a right to the use of a stream by ancient usage. The only lands irrigated in Mexico are those served by the Imperial Valley canals constructed by American capital primarily for the irrigation of American lands.
WATER SUPPLY.

The drainage area of the river naturally divides itself into two distinct sections or basins: (1) the upper basin or that part of the river lying above and including the junction of the San Juan with the Colorado. (2) That part of the stream below the canyon, but for convenience taking as the portion of the drainage area lying below the mouth of the San Juan. All of the waters of the stream finally account for themselves at Yuma, Arizona and in any study of the water supply of the entire stream full consideration must be given to the supplies of the Gila, Williams, Little Colorado, Virgin and other streams entering within the lower part of the basin. In fact the records heretofore maintained at the Yuma station represent, in a broad way, the records of flow of the entire river.

Ninety percent of the supply of the river has its origin within the upper basin. Of the total supply Colorado furnishes 66%, Utah 1%, Wyoming 2%, and New Mexico 1%. The lands irrigable from the Colorado River within those four states are limited as compared with the water supply, and nature has so shaped her barriers and the configuration of the earth is such that, do what they will and strive as they may, the combined efforts upper of the four states can never so deplete the flow of the river at the canyon as to materially deprive the lower river area of a reasonable portion of the benefits to be derived from the use of the waters of the stream.

Within this upper basin are many feasible sites at which reservoirs may be constructed for the storage of water for irrigation, power and other beneficial purposes, and by means of which a considerable part of the flood flow of the river may be regulated and controlled. These sites include the
Flaming Gorge, Juniper, Kremling, Rangely, Little Snakey, Dovey, Dolores, Turley and others. At least fairly below the junction of the San Juan and the Colorado a dam could be constructed to form a reservoir of the greatest storage capacity of any upon the entire stream.

Within the lower basin the Gila furnishes the greater part of the water supply. This river enters the Colorado above the present intake of the canals which supply the present irrigated lands in the Republic of Mexico and the Imperial Valley. The heading of this canal is upon American soil and within the control of the American government and the states of California and Arizona. While the flow of the Gila is very irregular and variable it is nevertheless of great magnitude as compared with many other western streams, and if properly controlled will not only serve large areas of lands along the course of the Gila and its tributaries but will as well furnish a considerable and dependable supply to the river above the present Imperial Valley diversion. No just consideration of the entire water supply of the river can exclude the Gila and the duty of its regulation and control is as great, from the standpoint of water supply, as is the control of the main river. Part of the river supply comes from the state of New Mexico and some adjustment between Arizona and New Mexico may become necessary as the development of the irrigation of lands and other uses of the waters of the stream progresses.

The Williams, Little Colorado and Virgin rivers all furnish considerable supplies of water which are available for beneficial purposes along the lower reaches of the stream, and these waters likewise constitute a part of the sum total of the water supply which must ultimately be used for the benefit of mankind in the United States and possible to some degree in Mexico.
DIVERSES OUT OF IMMEDIATE DRAINAGE OF THE COLORADO RIVER.

Throughout the deliberations of this Commission, certain existing and proposed diversions of small portions of the water supply of the Colorado within the States of Utah and Colorado by means of ditches and tunnels whereby the waters diverted are and will be conveyed out of the immediate drainage of the Colorado and over into the drainage area of the Platte, Arkansas rivers and Salt Lake basin, and other areas, and also the existing and suggested increase of diversions from the Colorado River across the intervening low alluvial divide between the Colorado River and the Imperial Valley and adjoining territory, have come up for consideration and have been presented to the attention of the Commission. Some have claimed that the diversions in the headwaters of the stream are unlawful and that they are in violation of nature's provision. Others have claimed that the diversions of the Imperial Valley were of the same illegal character as those by means of tunnels and canals in the upper reaches of the stream.

With respect to the various objections it may first be observed that in nearly every instance the fault lies in the fact that such diversions are matters of first impression with the objectors. They are as unfounded as were the early objections against the construction of the Panama Canal, said to have been based upon the theory that the connecting of the two oceans would be "in opposition to the will of the Almighty who had placed this barrier in the way of navigation between the two oceans". (Artificial Water Ways of the World, Heppurn, p. 26)

The legality of such diversions has long since been recognized within the
arid states where the doctrine of prior appropriation obtains for the intra-
state regulation of the public water supplies (Coffin vs. Left hand etc. Co.
6 Col. 443) and such diversions have only been prohibited in those states
which have adopted the common law doctrine of riparian rights. (Long on Irr.
2 edition - p.96). All question of the legality of such diversions would
now seem to be set at rest but the recent decision of the Supreme Court
in the case of Wyoming vs. Colorado.

Diversions out of the water-shed whether across high rocky mountain
regions or low alluvial divides, stand upon the same position as diversions
for use within the immediate drainage of the stream except for the fact that
such diversions are wholly consumptive as compared with diversions wholly
within the drainage area of the stream, unless such intra drainage area
diversions are made for wholly consumptive uses. In other words the water
supply of the Colorado River carrying across the low intervening ridge
between that stream and the Imperial Valley area, never again returns, either
in whole or in part, to the Colorado River or to its tributaries. In fact
the water so diverted returns, after irrigation of lands, to the salton
sea where it is lost forever to all further beneficial uses for mankind.
In this respect these diversions are more objectionable than those at the
headwaters of the Colorado. In the case of the latter the waters return
after the irrigation of lands first succeeding the diversion, are picked up
and again used on other lands lower down within the water shed and the
return from this second irrigation is again picked up and used on the third
and succeeding applications in such a manner that the water is kept progress-
ively beneficial to mankind. But, as regards the Colorado River drainage
only, both the tunnel diversions in the upper reaches and the Imperial Valley
reaches on the lower river, are wholly consumptive and stand upon riparity.
It is not a question of nature's barriers or ancient conception of the will
of the Almighty. The simple question is that of total exhaustion and loss as to the supplies so diverted and for the purposes of consideration of the Colorado River problems that are to be recognized, encouraged and assured, and if any sacrifice is to be made it must fall as much upon the lower area as upon the upper for the reason that more water is thus diverted and wholly consumed along the lower river than can possibly be diverted out of the drainage at the headwaters of the stream.

But fortunately the supply of the river is so abundant and the opportunities for storage and absolute conservation of the entire water supply are so numerous that no particular heed need be given diversions of this wholly consumptive character for there is water enough for all diversions of all classes and probably much to spare.
Much has been said and written respecting the proposed construction of the several reservoirs each of which will to a greater or less degree control the flow of the Colorado River. Advocates of primary construction within the lower basin of the river not only proclaim outstanding advantages for the enormous water and silt storage works but take offense at any suggestion of other means of meeting the same objective. Those who advocate primary reservoir control at the headwaters present very persuasive arguments for maximum ultimate utility of the stream as a whole, freed from overburden of silt, and back their argument with certain conclusions to be drawn from the experience of mankind in best river development from the headwaters down.

In the final analysis both sides are right in their views, but, considering the river as a whole, it is evident that construction in either section of the stream must proceed in harmony with local needs and that the local beneficiaries must stand the burden of construction, wherever it be. It is not for this commission to deprive any section of the basin of its legitimate opportunities for development nor to impress the burden of present construction upon other sections not yet ready to assume the load. Our attention should be directly to so fixing the legal status of each section that any one section may proceed with its development without endangering future development in other portions of the drain-
age whenever their day shall arrive, be it a decade or a century hence. And once having removed all just grounds for fear, and having established a perpetual interstate comity in its fullest measure, human experience assures the fullest measure of interstate accommodation and mutual aid for all legitimate undertakings and that to a degree more potent and ultimately more effective than the most intimate international alliances may ever hope to approach.

Every legitimate instinct of self-defense and heed of the public weal, every attribute of interstate justice, and every human thought with an eye to the preservation of our Federal Union by keeping in balance the integrity, essential independence, and equality of all of the States, acting as they must in more perfect accord as component members of a national government of their own creation and with which they each have been endowed with certain limited powers of their own donation. All these and more cry out against the favored development of one state or section against other states or sections, no prudent mind would care to contemplate the natural results of leaving the future development and welfare of this great region to a scramble or contest of speed for sectional advantages, whether that contest result through application of rules of purely intrastate law to interstate conditions or through fixing of time limitations against which every section must contest or meet its unfortunate doom, controlled as it always is by influences and agencies beyond human control.
The status must be fixed now and for all time. If time should demand modified treatment of the subject matter or new or different methods of solution, that day and generation may change our handiwork through the same instrumentalities.
COMPACT FOR TERM OF YEARS

It has been frequently suggested that any compact between the Colorado River states should be eliminated to a term of years and that as to all construction occurring during that period a parity of right should exist. Several plans respecting diversions or appropriations thereafter have been suggested, the principal of which has been to the effect that all uses made during the term of years should take priority over all subsequent uses.

While at first blush such a plan would appear to be both reasonable and wise, a closer analysis of the entire river and its problems brings to the fore many outstanding objections among which a few may well be given passing notice. At the outset it is evident that any such a plan would throw the entire river area into rivalry. It would develop a contest between the various areas of the drainage. If this were confined to local effort a rivalry, at best it would be very objectionable, but the contest would immediately inject itself into national affairs. Undue advantage be given by the use and expenditure of national funds in the construction of works in one section of the drainage, would provoke immediate and well founded opposition from other portions of the drainage. The deliberations of Congress would be burdened with needless contention which would ultimately defeat any great
program for the development of the drainage area.

The threatened inundation of the Imperial Valley in California, coupled with the prior experience in controlling the flow of the river at the points of danger, naturally furnishes an outstanding problem appealing not only to the sympathies but as well to the instincts of self-preservation and justice of all the people of the country. This problem once solved the great public interest in the control of the river would probably cease. The very constructs proposed for such control are so enormous that, regardless of clauses that might be inserted in legislation authorizing their building, ultimate claims of prior and preferred appropriations, the first right to the use of the water to the extent of the availability of such structures would ultimately be asserted and various means would be adopted to give adequate basis for such assertion. The enormous cost of such projects forebids the expenditure of enormous funds out of the public treasury for the sole purpose of flood control. In a final and fair minded analysis of the factors justifying such construction, flood control becomes a mere incident and the development of power and irrigation of lands becomes the principal object in order that means may be provided for the repayment of the funds expended in the construction of the works. The utilization of the waters impounded in any such reservoirs of necessity would be forced to the utmost extreme in order to doubly assure
the repayment of the moneys expended. Vast and expensive property interests depending wholly upon the structure would be the natural outgrowth. The tendency to assure the integrity of all investments resulting from the use of the water would be uppermost in the years to come, and would occupy the foreground in any problem looking to develop the upper territory of the river upon the one end, or the drainage area of the Gila and other lower streams, upon the other.

The flood control problem having thus been completely solved the remainder of the drainage of the river would be left to shift for itself. Local conditions, transportation facilities, and limited opportunity of finance, all would tend to retard the upper development. In one sense the great dam or dams in the canyon may be said to be from one to two generations ahead of their natural place as regards the development of the entire area. If the flood menace to the Imperial Valley were eliminated and the development of the drainage area were to follow its natural course, everything considered, the first development would occur at the head-waters of the stream. There much money would be required to accomplish the building of desirable structures each of which in turn would diminish the peaks of the Colorado River floods and thereby reduce the menace to the Imperial Valley. In fact, it may be said that the same amount of money required for the building of the Boulder Canyon Dam, if distributed among several projects, would not only
complete such structures, but would remove the equal hazard to the Imperial Valley in probably one-half the time it would be required for the completion of the enormous dam in the canyon. But any program of equally distributed expenditures of public funds at once encounters defeat by Congress in these times of unusual financial depression and the disposition of the control of the river once for all at Boulder Canyon.

While the expenditure of public funds in the upper reaches of the stream would result in a great benefit in the equalization of the flow of the river to the lower reaches, nevertheless, the locality in which the funds were first spent, afford whose fortune it might be to receive the first benefit of public funds gained in the gamble of human ideals and prejudices as reflected in any congress or legislature, would naturally claim at the end of any term of years the first fruits of the benefits of the river to the exclusion of all other undivided territory, thereby leaving to the latter the remnant of the stream burden with exaggerated conceptions of the magnitude and extent of the so-called appropriations already made.

At the close of such a term one or more localities would necessarily awaken to a realization that the so-called paritive right had amounted in fact to a purchase of right against all future development in such localities and that fate or the destiny of states had been left to a constituted speed and a gamble or a grab for public funds and ever shifting factors encouraging or discouraging local development
throughout the drainage area of the stream.

If the period of time were extended to a century more justification of the hazard would be greatly reduced, but immediate objection is urged at the very uncertainty of future conditions and affords an obstacle to prudent investment either of private or public funds. These among other objections might will rise in the minds of the legislators who must be called to give sanction to any such compact and would probably lead to the ultimate defeat of the entire program and the defeat would leave the entire river as a cockpit for interstate combat, opposition, contention, and rivalry. In the meantime the waters of the river would roll unused to the sea or benefit to no one and increasing the hazard of inundation along the lower reaches of the stream.
NAVIGATION

The Colorado River is to some degree navigable along its lower reaches during high water seasons of each year. While the same may be said of the Platte and other streams recognized as non-navigable, the magnitude of the Colorado and some slight navigation during early explorations have caused the stream to be recognized as partially navigable below the Grand Canyon.

The physical conditions obtaining near the mouth of the stream, its ever changing bed, and the constant deposition of silt and mud prevents any navigation in fact. Seriously considered the navigability of the stream is based largely in imagination. While small boats have from time to time traversed portions of the river during favorable stages of water flow, commerce by navigation, even before construction of railroads, while seriously considered, and at one time attempted, never was established and has never prevailed to the present day.

Probably no more extravagant, wasteful, and uneconomical use of the water of the river could be made than that which would be obtained by navigation even if such were practicable. Diversion and use of water for municipal, domestic, agricultural, and manufacturing purposes is imperative for the preservation, general welfare, and up-building of the entire arid but fertile territory which may be served by the river, these uses to a greater or less degree must inevitably injure or destroy whatever theoretical navigable capacity it may have possessed in its natural state.
It is possible that the equalizing of the flow through irrigation or lands and storage may so stabilize the conditions, upon certain sections of the lower river that some small amount of navigation may be practicable. But navigation of the broader sense and of a character that will support commerce by navigation, always has been, and always will be, out of the question.

The high class of beneficial uses of the waters of the stream demand that navigation must at all times be subordinate and inferior to the higher type of beneficial uses necessary for the development of the area and the sustenance of the people inhabiting the same. While it is pleasant to reflect that some of the Spanish explorers are said to have sailed their boats a short way up the river, and the early Mormon pioneers conceived the idea of establishing navigation nearly to the mouth of The Virgin, from the standpoint of benefit to the nation and to the people of the region, such historical facts have no real significance and run counter to every consideration of good policy.

Congressman Phil D. Swing, of California, in an opinion presented to the Committee on Irrigation of Arid Lands of the House Representatives, 66 Cong. First Session, and incorporated in the record of the hearing before that Committee respecting the All-American canal project, not only declares the Colorado River to be a non-navigable stream, but supports that view by eminent authorities. After observing that the United States is under no treaty obligation guaranteeing the navigable capacity of Colorado River, and that both
the United States and Mexico have adopted a policy authorizing the diversions of water from the river, the effect of which has been to lessen or destroy whatever navigability the stream may have been supposed to possess in its natural state, and the United States has completely destroyed navigation of the stream by the construction of the Laguna Dam, he discusses the nonnavigable character of the stream in the following language:

"The Supreme Court has, in the case of the United States v. Rio Grande Dam & Irrigation Co. (174 U. S., 690), defined when a stream is navigable:

'It was said in Montella (20 Wall, 430, 439), that those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable rivers in fact when they are used or susceptible of being used in their ordinary condition as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade or travel on water.

'Let us apply this law as enunciated by the highest court in the land to the facts as found to exist by United States Government officials.

'In 1903, J. B. Lippincott, then supervising engineer of the United States Reclamation Service for California, rendered a report on the Colorado River in which he said:

"Prior to the construction of the railroads to the lower Colorado, the river afforded the only feasible means of entrance into the desert regions of southeast California and western Arizona, and therefore great efforts were made to navigate it. Subsequently, however, navigation on the river practically ceased. The shifting shallow character of the bed of the stream pre-"
vents the maintenance of a permanent channel particularly during periods of high water and considered on several occasions by Army engineers and has always been condemned." (Water Supply Papers, No. 93, pp. 166-169; R. Doc. No. 692, 58th Cong. 2d sess.)

In a report made in 1904, the Acting Attorney General referred to an investigation of the Colorado River made by the Department of Justice, and said:

"It was determined on by the experts who conducted his investigation that while the river may be technically characterized as navigable, it is not so for ordinary practical and business purposes, such as would come within the broader meaning of the word 'navigable,' and that to make the river navigable in this latter sense would require a gigantic and perhaps futile financial outlay." (33 Land Decisions, 391, 395.)

In 1907 C. E. Grunsky, then consulting engineer for the United States Reclamation Service, made a report on the Colorado River in which he said:

"Owing to unusual difficulties, such as lack of depth on the bars, swift shoal waters, and a tidal bore in the river's mouth, where the range of tide is reported to be upward of 30 feet, there has been practically no commerce on the river below Yuma since 1876, the time of the completion of the Southern Pacific Railroad, which crosses the river at this point." (S. doc., No. 103, 55th Cong., 1st sess., p. 10.)

In 1914 Army engineers, under a resolution of Congress, investigated the navigability of the Colorado River. In their report the following statements are found:

"There is no commerce on the river at present. Below Yuma the river flows through a delta country, which is being constantly built up by the large quantity of silt carried by the river. The channel is unstable and cannot be made stable at reasonable cost.

"The improvement by the United States of Colorado River with a view of developing and improving navigation is not deemed advisable at the present time."
'In 1916 was published E. C. LaRue's exhaustive report on the Colorado River and its utilization (Water Supply Paper No. 395). In his report, at page 198, Mr. LaRue says:

"It has been conclusively shown by engineers that it is not commercially feasible to maintain a channel on the lower Colorado suitable for navigation."

'Other authorities could be quoted to the same effect, but I think the foregoing sufficient to show that the Colorado is not navigable in fact, and so not navigable in law, and that therefore there is no inhibition against the appropriation and diversion of its waters for irrigation on the ground that that would constitute an impairment of the navigable capacity of the stream which is prohibited by Federal statute.'


While Congressman Swing sponsored H. R. 11449, A Bill "To Provide for the Protection and Development of the Lower California Basin", introduced at the Sixty-seventh Congress, Second Session, by the terms of which it is sought to be declared that the Colorado River is a "navigable stream", and may be thought to have changed front as regards the uses of the river for navigation, and change of attitude by Congressman Swing in no manner alters the condition of the usefulness of the river and in no degree impairs the value of the
precedence and authorities cited by him in his former opinion. But the navigation of the river has always been negligible and of no commercial value. A continuation of its natural state would bring no substantial benefit to any part of the territory of the United States or of any state. To attempt to improve the stream for navigable purposes would be but needless and unwarranted extravagance and would be of no permanent value. Even if it could be improved so that the river could (artificially) be made reasonably navigable, the trifling profits to be obtained by navigation would be infinitesimally smaller when compared with other benefits to accrue by the development of uses of a higher order and of a greater necessity of the wants and welfare of mankind considered.

The United States cannot preserve the navigability of the river and at the same time destroy it. One of two policies must obtain. The river must be developed primarily and exclusively for the purpose of improving navigation or navigation must be abandoned to give place to higher and more beneficial uses. Both cannot endure. The latter is the direct opposite of the former. One must be subordinate. In the contrasted benefits to be obtained every argument sustains the more beneficial uses, and any compact should forever set at rest all question in these regards and definitely provide that uses of the waters of the river for purposes of navigation must at all times be inferior and subservient to all uses of the waters of the stream for municipal and domestic, agricultural and manufacturing, and other like uses.
A comparatively small part of the aggregate water supply of the Colorado River has been diverted and applied to beneficial uses. These various diversions have ripened into appropriations recognized and protected by the laws of the respective states in which they occurred. The administration of the water supply among these several appropriations have been wholly intrastate in the exercise by each commonwealth of its inherent sovereign right to apportion the public resources within its borders among its citizens. Fortunately, the sum total of these diversions is so small, when compared with the total water supply of the entire stream, that no substantial interstate encroachments or complications have resulted. In other words, the limited effect upon the flow of the stream along its lower regions, that no substantial or harmful diminution has occurred.

Nevertheless, that spirit of self-defense and of protection of conditions already established has naturally looked forward to a time when the extent of the diversions within the upper reaches of the stream, if continued and increased, might probably to some degree work a harmful diminution of the extreme low river flow in the regions lower down. This, in turn, has led to a tendency to magnify present diversions within the regions of origin of the water supply and to an unfounded belief, in a few quarters, that the existing
upper diversions have to some limited degree affected the lower supply. Fortunately, these fears are without substantial foundation. While the entire low flow of the river is said to have been diverted and applied during the period of a few days during some three or four years of extremely low flow of the stream, this condition has been of such rare occurrence and then only of brief intervals of time, that it may be truly said that the time has not yet come when the sum total of the present diversions from the river is adequate to fully appropriate even the low flow of the stream.

The extent of the present diversions, expressed in acreages served, has been determined with an unusual degree of accuracy, all conditions considered. The 1920 census, the conscientious investigations and reports by the various state officials, coupled with the very thorough study of the area by attaches of the United States Reclamation Service, have all resulted in a compilation of facts unusually accurate. It is safe to say that even a more rigid and elaborate investigation would materially change the conclusions. The acreages thus served may be briefly summarizes as follows:

California 460,000
Colorado 850,000
Nevada 3,000
New Mexico 60,000
Utah 370,000
Wyoming 370,000
Republic of Mexico 200,000

Total - - - - 2,829,000
It should be remembered at the outset that the present diversions have all been supplied directly from the river flow without any aid from storage.

The river is yet young in development. The diversion and use of its great water supply has just begun and is in its most primitive states.

The mere fact that in rare years, and for a very short period of time, the extreme low flow in any river has been wholly diverted by existing works, in no manner signifies that the waters of the stream have been appropriated. The only significance to be attached to such a situation is that the conclusion of the very first and most primitive stage of water utilization is near at hand.

This most primitive stage covers that preliminary stage of river development where the sum total of the draft upon the stream is so small, as compared with the total available flow, that there is no encroachment by one user upon another and no regulation of distribution need occur. It marks but the smaller beginning of the development and utilization of the resource. It serves as a mere indicator of the fact that the time is approaching when some regulation may be required and more extensive and adequate facilities must be provided by which the real and substantial control of the flow of the river may brought about.
We may well draw upon our present fund of historical information to illustrate our conclusions in this regard.

In all sections of the United States where irrigation development has reached fair proportions, certain well defined epochs of development are more or less outstanding.

The first or primitive state is of the character we have just considered.

The second epoch is that brought about by the construction of a subsequent group of irrigation and diversion works, the effect of which additional works has been not only to exhaust the entire flow of the stream during low periods, but has progressed to such an extend that the later and more recent of these instrumentalities for beneficial use have progressed to the degree where in certain years but very little, if any, part of the river flow is available for their diversions. In other words, a conclusion of the second epoch has been marked by the near approach to a condition where no water is available for the more recent canals during years of unusual river flow.

Conditions of necessity have forced the third epoch of development, to which we will next refer, and had brought about the enactment of local laws for the orderly regulation and administration of the distribution of the waters of the stream molded in each instance by local conditions and necessities and conforming to certain fundamental principles of protection of senior rights, but embodying throughout the fundamental principle of the general public welfare. These local laws are exemplified by the various statues of the
several states providing for the determination of the respective rights of the various claims in an orderly manner through judicial, or quasi judicial, tribunals, whose decrees and determinations, in turn are enforced through public officials specially delegated with such powers. The more usual of these official bodies for water administration are those headed by State Engineers or other like officials.

The third epoch has been that of reservoir construction. Necessity has forced the later appropriators of the second epoch to either provide adequate means for storing winter flows and flood waters during years of high flow in order that supplies may be provided for the irrigation of the lands under such projects during years of low river flow. In providing these storage facilities these more junior appropriators of the second epoch have usually exhausted the winter flow of the stream and have reached well into the flood flows in their conservation. This epoch, in turn, has invited a development of the third and last group of appropriators depending largely, if not entirely, upon the storage of the remaining portions of the flood waters of the streams although it may be said that in few cases has the entire flow of any stream for all years been wholly conserved.

This third or storage epoch has availed itself of the existing machinery provided for intrastate administration of diversions and beneficial uses resulting from the necessities of the second epoch and has resulted in additional legislation for more intensive administration with an enlarged tendency to a recognition of the underlying principle of general wel-
fareby which wastes are largely eliminated and the advantage of the service of water has been generally recognized and increased.

Two historical illustrations may be cited.

The history of the Utah development in this regard has already been expressed by the testimony of Hon. A. F. Doremus, C. J. Allrich, Joseph Jensen, Dr. John A. Widtsoe, and others, who testified before the Commission at the Salt Lake hearing, and whose remarks need not here be reviewed. These statements sketch the history of the pioneer irrigation development of America by our own people.

Probably the second great era of irrigation development, and particularly of up-lands theretofore considered desert and sterile, was inaugurated by The Union Colony of Colorado in the construction of large canals for the irrigation of such lands from Cache la Poudre River in Colorado. I ask the privilege of a personal statement in this regard by reason of a life observation of the development of that era.

Prior to 1870, the date of the initiation of the Cache la Poudre development practically all of the low flow of the Cache la Poudre River had been appropriated by the canals serving the river valley proper. In other words, the epoch of primitive development had already occurred but not to the degree requiring administration. By 1875 the second epoch was in full swing and by the year 1880 the draft upon the stream had progressed to such a degree that the largest and most junior canal could divert its full appropriation for a period of not
to exceed a week in the years of average flow of the river with some additional amounts as the peak of the June flood rose and fell. The struggle for water supply for perishable crops became so intense that violence and bloodshed resulted. The river was said to have been many times over appropriated. The builders of the later canals were popularly spoken of as perpetrators of selfish fraud. There was no machinery for orderly distribution and administration. Laws were proposed to prevent the constructing any further or additional irrigation works, and while to about ______ per cent of the lands now irrigated in that valley were then served, it was the popular opinion that the limit had been reached. The enactment of the Colorado procedure for the settlement of the rights of the appropriators by adjudication and proceedings by the courts and providing for state officials for the administration of the court decrees was the outgrowth of the necessities of the day. Some of us can well remember when one of the greatest builders of irrigation works of that day was openly threatened with physical violence for the reason that he had constructed a canal which had seemingly over appropriated the supply of the Cache la Poudre River.

But the river flowed unused through the winter and the peak of the flood swept by to waste. The mental processes of the people had not arrived at a conception of the fact that these waters were just as available, if not more so, than those diverted by the canals.
But human invention, prudent thought and American industry, prompted by sheer necessity devised the beginning of the construction of the storage systems. The success of the cruder beginnings opened the eyes of the people to the fact that the real appropriation and use of the waters of the river had just well begun, and during the next fifteen years reservoir development proceeded to such a degree that all of the winter flow and more than all of the floods in average years had been provided with adequate storage facilities. As a result where only ______ acres were irrigated in 1880 ______ acres are adequately served, although in this year 1922, the large and most junior canal of the second epoch, before mentioned, could avail itself of only five days full canal from the natural flow of the river with a like history in 1919. Flood peaks still pass unused during many years and the people of the valley are now engaged in the construction of the last great enterprise by which this priceless water supply will be made to serve the necessities of mankind. By this system upwards of 75,000 acres of land will be added to the present irrigated area with the result that when the river is fully appropriated ______ acres will be served as compared with but ______ acres in 1880 when the ablest men of the country believed the limit of development had occurred.

The history of the Cache la Poudre Valley is but a sample of the historical development within the drainage areas of the South Platte, Arkansas, and other western streams, and it may be well observed that all the develop-
ment in Colorado, with the exception of two recent projects, all those of Utah with the exception of one intermountain tunnel project and the general development of other lesser areas has been brought about by the people themselves through the investment of private capital and without financial aid of the United States or other public or national agencies.

All these historical facts go to prove that a river is never appropriated until its entire flow is made to serve the needs of mankind. The burden of the full development of the stream should naturally fall upon the immediate communities profiting by that development, and each project is primarily one of local necessity and burden, and no section of the area of any great stream may well call upon another section to make sacrifice of water supply or financial aid in order that the former may profit at the expense of the latter; or, in any event, when the former is permitting the waters of the river to flow unused to the sea.

Further argument would seem unnecessary to justify the conclusion that the use of the waters of the Colorado River has not proceeded even to the full extent of the most primitive stages of development. There is, and can be, no real conflict between existing appropriations upon the Colorado River.

It will be found that during years of the lowest flow when all the water of the river was diverted for a few days into canals of the Imperial Valley, many canals at the source of the stream with appropriations of even earlier than the Imperi-
al Valley, were wholly shut off from water supply. In other words, during the primitive stages of river development more suffering occurs at the source than upon the lower reaches of the stream during periods and years of extreme low flows.

But the evidence before us shows without contradiction that never yet have the sum total of the diversions made by existing projects resulted in any material injury to any appropriator diverting water for the service of lands either within or without the drainage area of the stream, and that notwithstanding the fact that no water diverted from the river by the Imperial Valley canals ever returns to that stream and is, as to the stream flow, wholly consumed, nevertheless, at no time has there been a substantial injury to any appropriator.

It would therefore seem that the fears expressed by some are groundless; that we are not called upon to give consideration to existing appropriations, and that this Commission would but inject a useless and annoying feature in any compact were it to make provision for supposed protection of existing diversions.

Governmental and other powerful agencies are now able to provide adequate means by which the natural epoch of development may be merged and the time for more or less complete utilization of the river flow may be greatly hastened. The problems before this Commission are to result from future activities. But little, if any, heed may be given to present conditions of utilization of water supply and it would be useless to encumber our deliberations with discussion of factors re-
specting which no conflict exists.

It is incumbent upon each of the territories to be benefited to provide its own instrumentalities for future development. The water of the river is the natural resource by which this improvement may be accomplished. There should be no race as between localities and sections. Each territory should be allowed to proceed as time, necessity, and conditions may warrant. Each locality should be assured that when the time has arrived for its utilization of the waters of the stream adequate, with the limits fixed, will be available for its development. The fact that the great power of the Treasury of the United States may be first turned to the benefit of one section should not prejudice the rights of another section to equal benefits of the stream when its time shall arrive. The state and the nation are here involved. No one state may directly or indirectly oppress another. This federal union of ours is one of states of equal powers and equal rights, and the United States is as much the government of all as of any one thereof, and the territory of no one of the states may be laid hold of by the national government for the oppression or undue advantage of another. For the nation is and must ever remain a powerful union of powerful states, each standing upon a parity with the others, if the nation is to endure.
PRIORITIES

SECTION II.

The principle of priority of appropriation is useless fiction without administration when applied to the diversion of water streams, the development upon which has passed the primitive state when nature furnishes adequate supplies for all within existing appropriations.

In fact, as we have already observed, during the primitive states of river development, no rules or principles or law need be invoked for the self-evident reason that none are required.

It is only when the river development has entered the second and succeeding stages that the diversions by one group of appropriators encroach to a greater or less degree upon the others. This gives rise to a character of conflict between private claims requiring distinct methods of treatment: (1) Judicial or other determination of the respective rights of each claimant; (2) governmental machinery for the administration of diversions in conformity with the rights so established and enforcement of the decrees or determinations fixing the rights of the respective parties.

These problems are quite complex, even on smaller streams the varying natural conditions such as rain-fall, seasons, soil characteristics, and all other and artificial influences enter into the problem of a determination of the right in the first instance, and more particularly of the enforcement of those rights and the administration of the diversions in conformity therewith. The utmost human ingenuity is required to so administer the stream
as to protect all legitimate claims and at the same time prevent unnecessary waste by undue and unwarranted deprivation of the supplies of upper appropriators in order to cause water to pass down to lower appropriators.

It may be truly said that no adequate administration of priorities even upon the smaller streams has ever been accomplished without the construction of reservoirs by means of which various exchanges and interchanges of water may be made whereby all of the water of the stream may first be used by the upper-most appropriators, regardless of the priorities, with provision through storage facilities for repayment in source waters to the quantity and extent of the injury which would otherwise be inflicted upon the lower appropriators. Water which has once passed any particular point at which it might have been deferred, is forever gone with respect to such possible diversions. If intervening in-flows compensate the river to the extent which would have been required had the upper and junior appropriator actually encroached upon the stream, frequent supply/necessities of the lower appropriator and pass to needless waste in the event of actual administration according to the strict interpretation of the decree. Water stored in reservoir resembles commodities in warehouse, it is completely subjected to the control of man. It may be released or shut off in quantities and times to suit the convenience of those men in control of the river. The completeness of the mastery of this element to the instrumentalities of reservoirs makes possible the administration of the smaller
streams where irrigation is practiced.

Turning now to the Colorado River it is instantly self-evident that there could be no economical or just administration of its flow under the rule of priority of appropriation. No human agencies could so regulate the flow of this great river and its tributaries, covering as it does a considerable part of the western portion of the United States, in such manner as to protect lower appropriators to the extent of their supplies without deprivation to upper and junior appropriators. Some of the principal considerations in this regard have frequently been mentioned by Director Davis of the Reclamation Service and need no repetition. The most outstanding obstacles to proper administration are afforded by distance and varied natural conditions. Water released within the states of origin for the purpose of supplying diversions near the international boundary would require weeks of time for delivery and in each instance would be prescribed upon weather prognostication to the effect that no additional water would reach the stream between the points of deprivation and diversion during the time intervening for the delivery of the water turned down. So many opportunities are afforded for the receiving of supplies from the many intervening tributaries during the period that in most cases the water taken away within the states of origin for supply of the lower appropriators, would most of it pass to waste because of the change in natural conditions and the failure of the human mind to predict weather conditions for more than a few hours in advance.
Any attempted administration of the distribution of the waters of the Colorado River upon the theory of priority of appropriation would not only be a farce, but would be destructive of the very under-lying principle of utmost benefit use for which all the people of all the states and those of the nation are constantly striving.

Complete and accurate administration of diversions upon small streams can only be accomplished through the aid of reservoirs. Much more must this condition obtain upon a great river including hundreds of the small and larger streams all of which finally unite to form the main stream itself. Upon each of these small streams human beings will be locating and the water among the various users keeping the whole machinery in balance by the reserve funds of water supply in reservoir command. Of necessity, each separate area must administer its supplies according to its climatic and other natural conditions and the necessities of its immediate people. Each is a unit unto itself operating its own individual sphere, and the more completely the greatest beneficial use is brought about within each of these units the nearer is the approach to complete utilization of the natural resource. As individual subtributary streams so it is with the tributaries themselves. These two are units of administration of a larger type. Each moves within its sphere according to natural conditions and human necessities. While more or less independent each is nevertheless and largely a unit within itself, internally regulating and balancing the supplies and demands of its component parts, the
administrative machinery of the subtributaries. Then again, this human machinery of administration must be responsive to some control near at hand which can act with promptitude in order that injustice may be avoided and waste may be eliminated. This greater authority is embodied within the states. Each of these sovereignties control the machinery of administration of all the lesser and greater units within its boundaries. It operates in its sovereign capacity for the general welfare of its people and reaches out to control the tiniest brook in order that the utmost good may result from the use of the precious resource entrusted unto its keeping by Divine Providence. The state operates directly and immediately upon the subject matter vital to its very existence and self-preservation.

If unhampered by outside influences the varying, natural, and artificial conditions incident to its territory and its development mold certain individual characteristics of administration and control unlike all those obtaining in other quarters, in the general trend of human advancement and constructive progress of the growing commonwealth. Each state is a unit unto itself in the great task of harnessing the benefits to be derived from the life-giving waters of the stream and its tributaries down to the smallest thereof.

The conditions and necessities in no two of the seven states of the Colorado River are identical. Each locality has its own individual problems more or less unlike those of any other. Each must deal with its conditions as it finds them or must control them in order that the greatest good may result.
The moment outside agencies, however well meaning, whether of governmental or otherwise, reach into and disturb the maximum of local administration, the less effective and beneficial becomes the local control. The factor of human discouragement alone has a retarding influence not only upon the human initiative of the individual citizen through whose instrumentality the beneficial use must be accomplished, but correctively destroys those incentives which go to the up-building of each commonwealth as well as of the nation.

Each state is a republic unto itself, except for those powers surrendered to the national government or passed by necessary implication for the putting into effect of the powers actually surrendered, and the more national agencies trifling with the machinery of local administration the later will be the date of the greater development of the whole river.

In the administration of the various units and subunits of the streams through the machinery provided by the units of government, the states, natural conditions are necessarily altered and intestate encroachments may temporarily or permanently result. As a nation, the states are bound together in a union of equal powers and equal rights. The powers of the newest state are exactly those of any one of the original thirteen. All are bound in a common tie and all have the common obligation to prevent and correct interstate encroachments. It is to prevent such encroachments in the utilization of the water supply of this great river, that this Commission has been constituted.
As these subunits of control within any greater unit of any unit or subunit, a state, may to some extent interfere with and come into collision one with another, and require regulation by the great unit, the state, so may the units or subunits upon this young river ultimately come into some collision in their local administration. Fortunately nature has so shaped the face of the earth and regulated the water supplies and irrigable areas that a minimum interstate collision will always prevail. The utmost possible use of the waters of the many streams at the source of the river will never so diminish the common supply as to unduly endanger the powers and uses upon the lower stream, and our problem is more one of assurances than of regulation. With proper assurances, human ingenuity, industry, and necessities will cause the building of all structures necessary for the ultimate best use of the waters of the entire stream.

We may approach the subject matter along broad lines and deal with the river in general terms giving utmost freedom of development within certain well defined, broad limitations under which our American instinct for individual and collective development may proceed unfettered by unnecessary interference or control, or we may impose upon the entire territory uncalled and unjustifiable refinement of outside interference with local and individual initiative destructive of the very objective toward which all of the states and the nation is desirous of progressing.
The application of the principles of prior appropriation of the administration of the Colorado River as a whole would require the creation and perpetuation of an outside agency unresponsive out of sympathy with all that local control, ambition and initiative necessary to the final good of the entire basin. Now, machinery first for the determination and secondly for the administration of the entire river, down to the smallest subtributary must be invented, established and perpetuated. This super-body would reach out to interfere with the activities of all units in the form of state government and down through the subunits of that control to the individual citizens in their every day activities. Administration of priorities is inclusive even to the individual user. A supergovernment would be imposed over which no state or individual citizen would have the slightest control. Present state laws would become more or less nugatory and statutes adopted to regulate new conditions would be more or less ineffective according to the will, caprice, hatred or friendly feeling of the human beings in whose hands this supercontrol would necessarily be vested. To say that such human beings would always be and remain fair, just, impartial and immediately responsive to the correction of the slightest irregularities or injustices would be to run counter to the whole experience of mankind and would negative the present day experience of the western states in their dealings with outside government officials whose mistakes of policy or treatment of individual subjects are simply those resulting from ordinary
human frailties.

To declare that all present vested rights, so-called, shall remain unimpaired is to at once inject the system of supercontrol into the whole problem before us. Such so-called "rights" are all of them all that type at present recognized and enforced by local authorities, and to declare them undisturbed it would be to inject the rule of prior appropriations upon the entire stream and in turn to require a supercontrol and administration forever free from local influences.

It may be answered that such so-called "vested rights" are protected by the Constitution and the decisions of the Supreme Court of the United States. If such is the case no further declaration upon our part would increase the sanctity of such.

We must turn from this labyrinth and entanglement bristling with every probability of future interstate strife and outside interference with local government and private initiative, to a much broader method of treatment of the subject matter entrusted to our consideration. Our first effort must be to arrive at some plan by the enforcement of which the objective will be obtained with the least possible interference with local government administration by the states and which will not operate upon the private citizen except through the channel of his state government. It is not for us to burden the entire territory of the Colorado River drainage with a labyrinth and entanglement of interstate servitudes. It is rather our duty to at all times avoid any approach of such condition and to treat of the entire subject matter in its broader phases, imposing upon each of the
commonwealths only such reasonable restrictions as may be necessary for the common welfare even though, to some degree, any such conditions might amount to collective servitudes. It is the states that are here concerned and everything the citizen has or may in the future attain is and will be included within a limit by the limitations or conditions which the states as such impose upon themselves. Here again the control of the waters of the streams by reservoir construction offers itself as the natural solution. The United States is interested to a degree of its possible international obligations. It cannot be conceived that the nation will seriously inject the argument of navigation which runs directly counter to beneficial use of waters for irrigation and other like purpose, for to so assert navigability would be to destroy the very development imperative to the growth and well being of the states of the nation.

Opportunities of reservoir construction are so enormous and bounteous that a complete mastery of the river may be obtained and its future utilization provided for with a minimum interference with local control. The sole requirement is the complete control, from the source down, of all the floods of the stream. This control provided the stream will administer itself. No agency of supergovernment need be considered or imposed for the river will flow on forever and all that is required is that the flow by controlled.

The protection of so-called "prior appropriations" upon the lower reaches of the stream will be absolutely assured by control of the floods in reservoirs irrespective of the locality in which such reservoirs may be constructed. The floods which now
go rushing to the sea inundating at the levees along the lower river are just as precious, just as wet, and just as much water as are the waters of the low flow of the stream. When these floods have been controlled their flow will be merely retarded. Each year's supply will come as of nature. Each year's river will course down the slopes from the mountains toward the sea. Whether the water that finally reaches the lower canals is all this year's vintage or of the year previous is of no moment. the fact remains that the water will flow down hill, reaching its destination, will serve all purposes as completely as though it had coursed uninterrupted from the snow drifts to the sea.