

Final Administrative Determination of Appropriate and Equitable Shares of the Yuma Mesa
Division's
Colorado River Water Entitlement for
the North Gila Valley Unit, the South Gila Valley Unit, and the Mesa Unit
of the Gila Project in Arizona

Background.

The Gila Project was established to reclaim and irrigate lands near Yuma, Arizona. The Gila Project Act of July 30, 1947 (61 Stat. 628), referred to hereinafter as the "1947 Act", changed the Gila Project's boundaries, fixed the maximum acreage of the project, and created the Yuma Mesa Division (Division) and the Wellton-Mohawk Division. The Division is further divided into three units: the North Gila Valley Unit, the South Gila Valley Unit, and the Mesa Unit. Each unit is represented by a water contracting entity (District), specifically the North Gila Valley Irrigation District (NGVID), the Yuma Irrigation District (YID), and the Yuma Mesa Irrigation and Drainage District (YMIDD).

The 1947 Act limited the Division's irrigated acreage to approximately 40,000 acres, or the number of acres as can be adequately irrigated by the beneficial consumptive use of no more than 300,000 acre-feet of Colorado River water annually. The Yuma Mesa was authorized to irrigate 25,000 acres and the North and South Gila Valleys were authorized to irrigate a combined total of 15,000 acres.

The 1947 Act authorizes the Secretary of the Interior (Secretary) to perform such acts, to make such rules and regulations, and to include in contracts made under the authority of the Gila Project Act such provisions as the Secretary deems proper for carrying out the provisions of the act. Functions, powers, or duties conferred upon the Secretary may be performed, exercised, or discharged by the Secretary's duly authorized representatives. The Regional Director of the Lower Colorado Region of the Bureau of Reclamation has been delegated the authority and responsibility to administer the Division contracts in the Secretary's behalf.

The Ak-Chin Indian Community Water Rights Settlement Act of October 19, 1984 (Settlement Act), reduced the Division's annual consumptive-use water entitlement from 300,000 acre-feet to no more than 250,000 acre-feet. Further, the maximum amount of irrigated lands was limited to 20,000 acres within YMIDD; 10,600 acres within YID; and 6,587 acres within NGVID for a Division annual total of 37,187 acres. The Yuma Mesa irrigation service area was reduced by 5,000 irrigable acres and the North and South Gila Valley irrigation service areas were increased by a combined total of 2,187 acres. The Settlement Act also provides that additional land within YMIDD may be irrigated if there is a corresponding reduction in the irrigated acreage in NGVID and YID so that at no time are more than 37,187 acres being irrigated in the Division. This proviso is referred to hereafter as the "additional acreage provision." The Settlement Act states that water available to the Gila Project is subject to the Boulder Canyon Project Act and the Colorado River Compact.

The Colorado River water delivery contract for each District within the Division contains the following language: "Provided, however, That the quantities of water which the District shall be entitled to receive under this contract shall not, in any event, exceed *an appropriate and equitable share* of the quantities of water available for the Division, *all as determined by the Secretary*." (Emphasis added.) They also contain an article which requires the United States to pursue return flow credit determinations with respect to the Division.

Since passage of the Settlement Act and execution of the implementing agreements, difficulties have been encountered regarding administration of the jointly held Division water entitlement. Disagreements have occurred or concerns have been raised regarding water application rates on the Yuma Mesa and resultant drainage problems; inclusions of land in one of the Districts and the sale/use of water for domestic purposes; and the precise nature of YMIDD's right to irrigate additional acres and the amount of water which might be available therefor in any given year. The situation has received Congressional and Departmental attention.

NGVID and YID have requested a separation of the jointly held water entitlement. This document accommodates that request by establishing the “appropriate and equitable” quantities of water which each District shall be entitled to receive, including the quantity of water to be made available to YMIDD in conjunction with a reduction of irrigated acreage in NGVID and YID. It also addresses other problems and issues associated with administration of the Division’s Colorado River water consumptive-use entitlement.

Final Determination of Entitlement Shares.

After extensive consultation with representatives from NGVID, YID, YMIDD, and the Arizona Department of Water Resources, and pursuant to the authority contained in the Gila Project Act, as amended by the Settlement Act and consistent with the terms and conditions of the Colorado River water delivery contracts with NGVID, YID, and YMIDD, I hereby determine the appropriate and equitable shares for each District of the quantities of water available for the Division under the Division’s 250,000 acre-foot consumptive use Colorado River water entitlement, as shown below.

Each District’s share of the Division’s 250,000 acre-foot entitlement will consist of three parts: (1) a domestic-use water apportionment; (2) an irrigation-use water apportionment based on crop consumptive-use requirements; and (3) a supplemental-use water apportionment.

Domestic-Use Water Apportionment. The contract provisions of NGVID, YID, and YMIDD notwithstanding, for purposes of administering domestic water apportionments and accounting for their use, the meaning of the term “domestic use” shall be as agreed in the September 5, 1984, Agreement in Principle Between the Department of the Interior and the Yuma Mesa Irrigation and Drainage District, the Yuma Irrigation District and the North Gila Valley Irrigation District, which is as defined in the Colorado River Compact dated November 24, 1922; i.e., “domestic use” includes the use of water for household, stock, municipal, mining, milling, industrial, and

other like purposes, but excludes the generation of (hydro)electrical power. Water delivered to lands from municipal delivery or potable water systems shall be accounted for as domestic use.

NGVID, YID, and YMIDD each have separate, distinct, and quantified rights under their respective contracts to annually use Colorado River water for domestic purposes within their respective water service areas. The contracts stipulate that the Districts shall not obligate themselves to “supply or deliver” more than 2,500 acre-feet, 5,000 acre-feet, and 10,000 acre-feet, respectively, during any calendar year. In order to establish each District’s appropriate and equitable share of the Division consumptive-use entitlement, it is necessary to convert the “supply and deliver” right to a consumptive-use right. Given the impossibility of forecasting the future specific types of domestic uses of water which may occur within each District and of predicting the amount of associated return flows (determining what the future domestic consumptive use associated with the “supply and delivery” entitlements would be) and in recognition of the fact that essentially all of the “supply and delivery” entitlement of each District could be consumptively used in the future, I hereby determine the “supply and delivery” quantities stipulated in each District’s contract to be that District’s appropriate and equitable domestic-use share of the Division’s annual 250,000 acre-foot consumptive-use entitlement. The domestic-use water shares are as follows:

- NGVID, not more than 2,500 acre-feet per year;
- YID, not more than 5,000 acre-feet per year;
- YMIDD, not more than 10,000 acre-feet per year.

Irrigation-Use Water Apportionment. The contract provisions of NGVID, YID, and YMIDD notwithstanding, for purposes of administering irrigation-use water apportionments and accounting for their use, the term “irrigation use” is defined as application of irrigation water to irrigable lands within the NGVID, YID, and YMIDD service areas from the Division’s water distribution system. As indicated above, water delivered to lands from municipal delivery or

potable water systems shall be accounted for as domestic use. NGVID, YID, and YMIDD will each have separate and distinct rights to annually consumptively use Colorado River water for irrigation use within their respective water service areas. I hereby determine the following quantities to be each District's appropriate and equitable irrigation-use water share of the Division's annual 250,000 acre-foot consumptive-use entitlement:

NGVID, not more than 29,650 acre-feet per year;

YID, not more than 47,700 acre-feet per year;

YMIDD, not more than 104,000 acre-feet per year.

These irrigation use apportionments were determined in the following manner:

For NGVID and YID, the annual per acre consumptive-use component for irrigation purposes is 4.5 acre-feet. This per acre consumptive-use component is based on those Districts' average crop evapotranspiration for 1995 and 1996, plus 1 acre-foot to provide flexibility for changes to crops with more intensive irrigation water needs. For NGVID, multiplying the 4.5 acre-foot component by the number of acres for service (6,587) equals 29,650 acre-feet per year. For YID, multiplying the 4.5 acre-foot component by the number of acres for service (10,600) equals 47,700 acre-feet per year.

For YMIDD, the annual per acre consumptive-use component for irrigation purposes is 5.2 acre-feet per acre. This per acre consumptive-use component is based on the District's average crop evapotranspiration for 1995 and 1996, plus 1 acre-foot to provide flexibility for changes to crops with more intensive irrigation water needs. Multiplying the 5.2 acre-foot component by the District's acres for service (20,000) equals 104,000 acre-feet per year.

Additional Acreage Provision. In accordance with the Settlement Act, YMIDD has a right to irrigate additional land (more than 20,000 acres) if either NGVID or YID irrigate less than their

full entitlement acreage. For each year that YMIDD requests water to irrigate additional land, the Secretary shall determine the amount of Division entitlement available therefor. The acreage to be served irrigation-use entitlement water in NGVID and YID during that year will be evaluated. If the total irrigated acreage in either of those Districts is less than their full entitlement acreage, the difference between the full entitlement acreage and the number of acres actually being irrigated will be multiplied by 4.5. The product will represent the number of acre-feet of irrigation-use entitlement water which will be available that year to YMIDD for irrigation of additional irrigable land within its service area.

Supplemental-Use Water Apportionment. Division irrigable lands located on the Yuma Mesa are composed of sandy soils with high permeability and low water holding capacity. For that reason, these lands have high irrigation water application requirements. Ordinarily, if Colorado River water is diverted for irrigation purposes and subsequently returns to the river, the diverting entity receives return flow credit and the entity's consumptive use would approximate the evapotranspiration requirements of the crop and evaporative losses associated with delivery. Each District's irrigation-use water apportionment has been established in quantities sufficient to satisfy such evapotranspiration and delivery loss water requirements. However, because of the close proximity of the Yuma Mesa lands to Mexico, much of the Colorado River water applied to those lands flows underground to Mexico with no return flow credit given or is captured in the large ground water mound that has built up over the years beneath the Yuma Mesa lands. All such annual contributions to the ground water flow to Mexico and increases in ground water storage are referred to as "Division losses/accruals to storage" and, unless pumped and returned to the Colorado River, are accounted for each year as a consumptive use of Colorado River water. Reclamation estimates that with the irrigation water application necessary to support the irrigation-use water allocations established in this determination, 51,150 acre-feet per year will typically be added to Division losses/accruals to storage.

The Division consumptive-use water entitlement is sufficient to provide for the Districts'

domestic- and irrigation-use apportionments even with the consumptive use of 51,150 acre-feet of water through Division losses/accruals to storage. However, all of the 51,150 acre-feet need not be accounted for as consumptively used during periods when Division losses/accruals to storage are determined to be less than 51,150 acre-feet per year. Such a determination could be made as a result of reductions in amounts of water applied to Yuma Mesa lands or as a result of recovery of ground water for return flow credits (see the accounting section of this document).

If the Division losses/accruals to storage are determined to be less than 51,150 acre-feet for any given period, the Districts within the Division may annually consumptively use for any beneficial purpose within their service areas, as supplemental-water use apportionment, an amount of Colorado River water equal to the difference between 51,150 acre-feet and the amount of Division losses/accruals to storage during that period. If sufficient reductions in applications of water and/or groundwater recovery for return flow credits were to occur, the entire 51,150 acre-feet would be available for use by the Districts as supplemental-use water apportionment.

To allow for equitable sharing of the benefits associated with reductions of Division losses/accruals to storage, Reclamation shall make supplemental-use water apportionment available to NGVID, YID, and YMIDD for consumptive use for any beneficial purpose within their respective service areas in the same percentage each District's Settlement Act irrigation entitlement acreage bears to the total Settlement Act irrigation entitlement acreage, i.e. for NGVID 17.7 percent, YID 28.5 percent, and YMIDD 53.8 percent. Based on those percentages, I hereby determine the following quantities to be each District's appropriate and equitable supplemental-use share of the Division's annual 250,000 acre-foot consumptive-use entitlement:

- NGVID, not more than 9,053 acre-feet per year;
- YID, not more than 14,578 acre-feet per year;
- YMIDD, not more than 27,519 acre-feet per year.

Each year the Secretary shall distribute the estimated amount of Division losses/accruals to storage for that year among the Districts in the Division on the same percentage basis established above. The amount of Division losses/accruals to storage distributed to each District shall then be reduced by the amount of water to be recovered for return flow credit by or for the District pursuant to any approved water recovery plans in place for the year. The resulting amount shall be subtracted from that District's supplemental-use water apportionment to determine the amount of supplemental-use water available to the District for that year. If the water made available to a District pursuant to its supplemental-use water apportionment is used for domestic or irrigation purposes, such use shall not be construed as to increase its domestic-use or irrigation-use water apportionments.

Summary of Each District's Water Entitlement. Each District is entitled to a domestic-use water apportionment, an irrigation-use water apportionment, and a supplemental-use water apportionment for use within its respective service area in the amounts show in Table I.

Table I

Summary of the Yuma Mesa Division Districts' Shares of the Division Water Entitlement

Entity	Domestic (acre-feet)	Irrigation (acre-feet)	Supp. (acre-feet)	Total (acre-feet)
NGVID	2,500	29,650	9,053	41,203
YID	5,000	47,700	14,578	67,278
YMIDD	10,000	104,000	27,519	141,519
Combined Division Districts	17,500	181,350	51,150	250,000

Change of Domestic-Use Water Apportionments. Approval by the Secretary of any request for an increase in the amount of a District's domestic-use water apportionment shall be in conformance with the provisions of the Settlement Act and will be contingent upon, among other

things, elimination of, or full compensation for, any impacts on the other Districts within the Division.

Use of Water Apportionments by Another District Within the Division. Subject to section 2(g)(2) of the Settlement Act, during any year in which a District does not order its full share of the Division water entitlement, the unused portion may be utilized without compensation by other Districts within the Division. Use of another District's unused share will neither establish a continuing right to the water nor modify any water apportionment.

Use of Water in Excess of a District's Share of the Division Entitlement. Any use of Colorado River water by a District in excess of its share of the Division entitlement which results in an overrun of the Division entitlement must be "repaid" in accordance with Secretarial policy or regulations applicable to Colorado River water entitlement holders at the time the overrun occurs.

Colorado River Water Recovery Plans. Before initiating recovery of Colorado River water for return flow credit to offset Division losses/accruals to storage, the recovering entities must obtain Secretarial approval of their water recovery plans. Water recovery plans must include: (1) the location(s) where recovery will occur; (2) detailed information regarding the method(s) of water recovery and delivery to the Colorado River system for return flow credit; (3) design capacity of the facilities and a satisfactory water measurement plan; and (4) sufficient data to support a determination that the water to be pumped will be water that would otherwise be Division losses/accruals to storage. Additional information may be requested to facilitate the review and approval process. The amount of recovery water which may be returned to the Colorado River system for delivery at the southerly international boundary with Mexico may be limited due to treaty obligations and/or available capacity of facilities.

Accounting. For accounting purposes, the Secretary shall determine the annual consumptive use

of Colorado River allocable to each District within the Division by subtracting from annual diversions of Colorado River water for use within the service areas of the Districts within the Division annual returns to the river allocable to each District. Division losses/accruals to storage of 51,150 acre-feet or less per year shall be accounted for as consumptive use of the Districts' supplemental-use water apportionments as described above. Division losses/accruals to storage in excess of 51,150 acre-feet per year will be accounted for as consumptive use of YMIDD's irrigation-use apportionment.

Reclamation will calculate Colorado River return flow credits in the following manner, subject to other agreements with respect to return flow credits, in order to determine and account for the Division's and each District's annual consumptive use. The Secretary may use remotely sensed data and computer models of the aquifer in the Yuma area to assist in the determination of return flows, return flow credits, and annual consumptive use.

Reclamation will calculate return flow credits for water diverted under the Division's 250,000 acre-foot per year consumptive-use entitlement by determining two components of return flow. The first component is natural drainage back to the Colorado River system through surface drains or through wells installed for drainage purposes. The second component is percolating ground water which does not naturally return to the Colorado River system (Division losses /accruals to storage) but which, if pumped and returned to the river, will support the development of return flow credits.

For natural drainage back to the river, Reclamation will credit each District with the amount of natural return flow attributable to each District's use of its share of the Division's entitlement. For percolating ground water, Reclamation will first estimate the amount of acre-feet per year of Colorado River water diverted by the Division and applied to irrigation uses which will become Division losses/accruals to storage. Reclamation will account for this water by prorating it among the Districts, based on the percentages shown above, as a consumptive use of

supplemental-use water apportionment, unless it is pumped and returned to the Colorado River system.

Reclamation presently estimates the annual quantity of Division losses/accruals to storage to be 51,150 acre-feet per year. Reclamation will review and adjust the quantity estimated as the Division annual losses/accruals to storage, as necessary, at 5-year intervals unless an earlier review is requested by any District within the Division or by the Arizona Department of Water Resources.

For any period in which there are annual losses/accruals to storage, such water, to the extent pumped and returned to the Colorado River system, shall be available to the Districts as return flow credits to be used in the annual consumptive use determinations for NGVID, YID, and YMIDD. Each District will receive return flow credits to the extent water is pumped, as provided below, by or for each District for that purpose.

Subject to Reclamation's approval of a Colorado River water recovery plan, NGVID, YID, and YMIDD shall each be entitled to pump and return to the Colorado River system for return flow credits, their proportionate share of the 51,150 acre-feet, or lesser amount if it is determined that Division losses/accruals to storage during a specified period are less than 51,150 acre-feet per year. Each District may pump water for return flow credits in an amount based on the percentages specified above multiplied by the amount of Division losses/accruals to storage determined for each specified period. Water made available to each District through return flow credits may be used as supplemental-use water apportionment within that District for any beneficial purpose. In addition, during years when Division losses/accruals to storage exceed 51,150 acre-feet, YMIDD may also, pursuant to an approved water recovery plan, pump up to the amount of water by which the Division losses/accruals exceed 51,150 acre-feet for irrigation-use water apportionment return flow credits.

Subject to approval of an individual Colorado River water recovery plan and a written agreement with Reclamation, a District within the Division may either construct, or arrange for others to construct, facilities to pump ground water for return flow credit purposes up to that District's proportionate share of Division losses/accruals to storage or make arrangements to use Reclamation facilities for such recovery. The use of Reclamation facilities will be subject to the availability of capacity in (1) drainage wells and other facilities owned by Reclamation, (2) Reclamation facilities known as the Minute 242 well field north of the United States border with Mexico, or (3) any future Reclamation facilities that are similar to (1) or (2). The use of such Federal facilities shall also be subject to any limitations or restrictions considered necessary by the Secretary in order for the United States to comply with its treaty obligations to Mexico. The costs associated with the use of those facilities for such purposes shall be paid in advance to Reclamation by the District.

I hereby determine that assigning the Districts' return flow credits for pumped water which would have otherwise been Division losses/accruals to storage in amounts not to exceed that period's estimated quantity of Division losses/accrual to storage is appropriate and equitable in light of the shared nature of the Division's entitlement to 250,000 acre-foot of consumptive use.

In summary, Reclamation will account for Colorado River water applied to Division lands in the following manner. Reclamation will note each District's annual diversion of Colorado River water. Reclamation will provide annual return flow credits for each District which reflect (1) the quantity of water returned to the Colorado River system from that District through natural drainage, (2) the quantity of ground water pumped and returned to the Colorado River system by or on behalf of that District, in amounts not to exceed that District's proportionate share of the Division losses/accruals to storage up to 51,150 acre-feet, and (3) for YMIDD, the additional quantity of ground water pumped and returned to the Colorado River system during years when Division losses/accruals to storage exceed 51,150 acre-feet.


Conditions Precedent. The quantification and delivery of water is subject and/or subordinate to the following:

1. All existing rights to the use of the Colorado River waters, including, without limitation, present perfected rights and perfected rights described in Article II (D) of the Supreme Court Decree of March 9, 1964, in *Arizona v. California et al.*, 376 U.S. 340.
2. The existing water delivery contracts entered into by the Secretary of the Interior pursuant to the provisions of the Boulder Canyon Project Act or other applicable Federal statutes.
3. The Colorado River Compact, signed at Santa Fe, New Mexico, November 24, 1922, and the Boulder Canyon Project Act.
4. The Mexican Water Treaty, signed at Washington, D.C. on February 3, 1944.
5. The Supreme Court Opinion of June 3, 1963, 373 U.S. 546, and the Supreme Court Decree of March 9, 1964, in *Arizona v. California et al.*, 376 U.S. 340, as supplemented or amended.
6. The Contract for Delivery of Water between the United States and the State of Arizona, dated February 9, 1944.

Effect of this Determination. This determination of each District's appropriate and equitable share of the Division's 250,000 acre-foot consumptive-use Colorado River water entitlement establishes each District's separate and distinct right to an annual consumptive use of Colorado River water and shall become effective on January 1, 2002.

Each District is encouraged to conform its Colorado River water delivery contract to the terms of this document. However, because this determination of each District's appropriate and equitable share of the Division's 250,000 acre-foot consumptive-use Colorado River entitlement is consistent with the authorities reserved to the Secretary in each District's Colorado River water delivery contract, no contract change is necessary to implement this action.

Dated DEC 27 2001


Robert W. Johnson
Regional Director **ACTING FOR**

This decision is in compliance with Categorical Exclusion Checklist No. YAO-CE No. 200-12 approved on May 21, 2001, and the findings indicate that there should be no adverse impacts to vegetation, fish and wildlife, endangered species, or cultural/archeological resources.