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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF NEVADA

THE UNITED STATES OF AMERICA, Civil No. D-183 BRT

Plaintiff,

vs.

ALPINE LAND & RESERVOIR COMPANY, a corporation, et al.,

Defendants.

_____/

O P I N I O N

This is a quiet title suit to adjudicate the rights to the use of the water of Carson River in Nevada and California. The case was tried before the Court and John V. Mueller, a Special Master, the Master having heretofore submitted proposed findings of fact, conclusions of law and decree. Objections to the Master's report have been filed by the parties and further trial proceedings to resolve those objections have been held before the Court as provided by the proposed preliminary pretrial order heretofore filed and approved by the Court on October 20, 1977.

This Court has jurisdiction over this matter under 28 U.S.C. §1345 and the Act of September 19, 1922, 42 Stat. 849. The question of the jurisdiction of the Court over successors in interest to the original defendants, including

those in California, was briefed. On February 15, 1974, the Court concluded in open court:

> that the Court does continue to have jurisdiction over the successors in interest of all parties who were originally parties to this litigation.

As provided in the proposed preliminary pre-trial order, the proposed Mueller findings of fact, conclusions of law and decree, submitted in June 1951 and later amended, shall, except where modified and supplemented in resolving the issues hereinafter set out, constitute the final findings of fact, conclusions of law and decree in this case.

The following is the Court's opinion regarding various issues of law and fact and mixed law and fact covered by the evidence received and the extensive briefs of the parties. If certain contentions made or issues stated in the pre-trial orders are not discussed, they are considered irrelevant.

THE WATER RIGHTS FROM THE UNITED STATES' APPROPRIATION FOR THE NEWLANDS PROJECT.

The water rights on the Newlands Project covered by approved water right applications and contracts are appurtenant to the land irrigated and are owned by the individual land owners in the Project. These rights have a priority of July 2, 1902. The United States may have title to the irrigation works, but as to the appurtenant water rights it maintains only a lien-holder's interest to secure repayment of the project construction costs.

Section 8 of the Reclamation Act of 1902, 43 U.S.C. §372, states:

> "The right to the use of water acquired under the provisions of this Act [5§485, §§372, 373, 381, 383, 391, 392, 411, 416, 419, 421, 431, 432, 439, 461, 491, 498 of this title] shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right."

43 U.S.C. §542 states:

> "Every patent and water-right certificate issued under this Act [§§541-546 of this title] shall expressly reserve to the United States a prior lien on the land patented or for which water right is certified, together with all water rights appurtenant or belonging thereto ..." (Emphasis added.)

Furthermore, 43 U.S.C. §498 empowers the Secretary of the Interior to transfer the operation and management of irrigation works to project landowners once payments for a major portion of the project lands are made. Section 498 specifically states that despite any transfer of operation and management responsibilities, title to the reservoirs and works remains in the government. The lack of mention of water right title in this section implies that title to the water right had already passed to the farmers with their land patents. The Supreme Court discussed the Reclamation Act in conjunction with the western doctrine of appropriative water rights in Ickes v. Fox, 300 U.S. 82 (1937). The court emphatically stated that although the government diverted, stored and distributed the water, the ownership of the water or water rights did not vest in the United States. "Appropriation was made not for the use of the government, but, under the Reclamation Act, for the use of the land owners ... ." Id. at 95. Thus any property right of the government in the irrigation works is separate and distinct from the property right of the land owners in the water right itself. In California v. United States, 438 U.S. 645 (1978), the court concluded, after an extensive survey of the older cases and the legislative history of the Reclamation Act, that state law was supposed to control the Act in two major ways:

> "First ... the Secretary would have to appropriate, purchase or condemn necessary water rights in strict conformity with state law.
>
> * * * * *

> "Second, once the waters were released from the dam, their distribution to individual landowners would again be controlled by state law."

Id. at 665-7. In all the arid states, including Nevada, it is settled state law that the right to use water is acquired by an appropriation to some beneficial use. In Fox the court held that this type of right is a property right, which, "when acquired for irrigation, becomes, by state law and here by express provision of the Reclamation Act as well, part and parcel of the land upon which it is applied." 300 U.S. at 95-6.

In Nebraska v. Wyoming, 325 U.S. 587 (1945), the court reiterated the Fox analysis, once more defeating the government's claim to project water rights. More recently, in the California case, the court pointed out that an important unifying factor in the long working relationship between the United States and the several arid western states in the area of reclamation projects is the "purposeful and continued deference to state water law by Congress." California v. United States, id. at 653. The only area where state law may not control is where it conflicts with explicit congressional directives in the Reclamation Act, a concern not relevant to this case. It cannot be disputed that under Nevada's appropriative water right statutes the water appropriated and beneficially used on the land is appurtenant to that land and those water rights are owned by the land owner.

The United States relies upon Ide v. United States, 263 U.S. 497 (1924), and United States v. Humboldt Lovelock Irrigation Light & Power Co., 97 F.2d 38 (9th Cir. 1938), as supporting its claim to title to the project water rights. These cases reveal little, if any, support for the government's position. The plaintiff land owners in Ide had acquired parcels of a former school site owned by the state of Wyoming but located in the midst of a federal reclamation

project. These land owners got patents from Wyoming with no water rights; the surrounding lands were sold to farmers by the federal government with a project water right. The plaintiff land owners, all of whom got patents from Wyoming, attempted to assert appropriation of seepage water from the irrigation of the surrounding project lands.

In discussing the general nature of the entire project, the court clearly stated that a water right vests in the holder of a project land patent from the federal government. "The lands are disposed of in small tracts ... each disposal carrying with it a perpetual right to water from project canals." Ide v. United States at 499. The court held that there could be no appropriation of the seepage water because, although the federal government passed water rights with the project land patents, it did not give up all incidents of control, and so could collect and redistribute seepage water as against the land owners with Wyoming patents and no original project water rights. This holding is merely a slightly different way of stating what was said in Fox, that the government diverts, stores and distributes water but the project farmers with government patents, not the government itself, have title to the water right.

In United States v. Humboldt Lovelock Irrigation Light & Power Co., the question was whether a motion to dismiss for failure to state facts sufficient to constitute a cause of suit was proper where the United States sought an injunction against a private reservoir company to prevent diversions of water allegedly in violation of earlier priorities owned by the government. The government owned no land; the defendant maintained that the government could own no water rights without owning land, and thus that the government did not state facts establishing a property right. The water rights in question had originally been appurtenant to private

irrigated lands and had been conveyed to the United States by the private owners. The appellate court held that the relevant Nevada statute "authorizes conveyance to, and ownership by, appellant (United States) of the water rights in question, regardless of whether it does or does not own land to be irrigated." United States v. Humboldt Lovelock Irrigation Light & Power Co., at 45. The appellate court also quoted with approval from Prosole v. Steamboat Canal Co., 37 Nev. 154, 140 P. 720, 144 P. 744 to the effect: "a water right for agricultural purposes, to be available and effective, must be attached to the land and become in a sense appurtenant thereto by actual application." (at p. 43). The essence of the decision in the case is that the United States had sufficient interest in the water rights to have standing to maintain the suit.

This case is thus of little relevance to the present problem since it is not disputed here that water rights can be conveyed to the United States or that the United States can own water rights. Rather, the issue here is what happened to the water rights after they were properly acquired by the United States. The United States passed title to the water rights to the project farmers and the rights are appurtenant to the land irrigated.

IS THE CARSON RIVER THE PRIMARY SOURCE OF WATER FOR THE CARSON DIVISION OF THE NEWLANDS PROJECT?

The parties have in the pre-trial order stated the foregoing as an issue. It is not easily understood why an answer is needed. Lake Lahontan is serviced by the Carson River and by diversions from the Truckee River through the Truckee Canal. Obviously, all Carson River water which reaches the Lahontan Reservoir is captured and stored there. Under section 8 of the Reclamation Act of 1902 (43 U.S.C. §372), the Nevada statute (N.R.S. 533.035), and all applicable judi-

cial precedent, beneficial use is the basis, the measure and the limit of a water right. Hence, additional water diverted through the Truckee Canal is limited to the amount required for beneficial use. While Claim No. 3 on page 10 of the Truckee River Final Decree grants to the United States the right to divert 1,500 cubic feet per second of water flowing in the Truckee River for use on the Newlands Project, the Truckee River Decree itself, on page 87, expresses the beneficial use limitation as follows: "Except as herein specially provided no diversion of water into any ditch or canal in this decree mentioned shall be permitted except in such amount as shall be actually, reasonably necessary for the economical and beneficial use for which the right of diversion is determined and established by this decree."

THE VESTED RIGHTS ACQUIRED BY PURCHASE BY THE UNITED STATES.

In the early stages of the Newlands Project the United States acquired by contract the vested water rights to 29,884 acres of land with priority dates ranging from 1865 to 1902. These rights were conveyed to the United States by private land owners in exchange for the government's promise to deliver Project water to these farms.

The defendant upstream users make three separate arguments in regard to these rights. First, the defendants contend that it is physically impossible to bring water down the river during low flow periods to satisfy these earlier priorities in derogation of later priorities upstream from the Project; water decrees must be practical and there is no point in adjudicating a right which cannot physically be satisfied. Second, the defendants argue that since the United States has never actually asserted or used these rights

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with an identity separate from the rest of the Project water,[1/] the separate title to these rights has been abandoned or forfeited. Third, the defendants assert that, since the United States failed to make applications to change the place of diversion and place of use pursuant to state law, the claimed rights have been forfeited.

A. Impossibility.

The upstream defendants assert that these rights should not be adjudicated since it is physically impossible to assert the claimed earlier priorities in derogation of junior priorities located upstream. Regardless of the validity of this argument, the defendants ignore the possibility that the United States may assert these rights against others in the Newlands Project. For example, if the TCID wanted to drain the reservoir entirely in order to satisfy the farmers' 1902 irrigation priority, the United States could prevent that drainage to the extent of its assigned priorities dated before 1902. Thus the rights in question are not merely illusory or paper rights; the adjudication of these rights can have an impact on the parties and the course of events on the river.

B. Failure to Assert the Rights Separately.

The defendants' argument that the United States has failed to assert the vested rights with a separate identity is equivalent to the argument that the United States has failed to beneficially use the water. United States v. Humboldt Lovelock Irrigation Light & Power Co. holds that the United States may own a water right regardless of whether or not it owns irrigable land. In Humboldt, however, the ques-

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1/ All the waters of the Carson are diverted at the same place by the Lahontan Dam and thus are comingled for storage and distribution.

tion was not whether the United States had failed to beneficially apply water under a water right; rather, the question was whether the United States had stated a property right sufficient to sustain a cause of action where private parties had transferred water rights to the United States and the United States owned no irrigable land. This distinction is crucial to the present problem. It is not disputed that the United States may validly acquire a water right. The questions here are: assuming the rights to be properly acquired, has the United States used these rights beneficially, and, if not, then what are the consequences?

The United States owns lands within the Newlands Project. Referred to in this case generally as the Carson Pasture area and the Stillwater area, these lands comprise some 17,000 to 20,000 acres. Testimony indicated that these areas receive water largely from drainage or seepage from Project farms and very occasionally from direct flows. The amount of land actually irrigated varies greatly from year to year depending on the available water. The United States specifically denies that it claims or holds any direct water right for the federally owned land in the Project.

An issue is stated on page 6 of the approved pretrial order as follows:

> "9. Do the Carson Pasture and other custodial lands have a water right and, if so, what is their priority?
>
> "The parties agree that the Carson Pasture and other pasture lands within the project have an irrigation water right with a priority of July 2, 1902."

The foregoing is not a stipulation that the pasture lands are entitled to direct diversion from the Carson River of water for the irrigation of the pasture lands with a specific acre foot per acre duty. It is a recognition of an historic condition, that is, that the pasture lands are en-

titled to the use of whatever waters flow from the lower portion of the Project vested right lands to the exclusion of anyone who might seek to appropriate the waters for other uses.

The United States asserts that the federally owned lands are entitled only to receive whatever quantity of drainage water flows off the bottom of the Project. Additionally, the United States points to the contract executed in 1926 between the Truckee-Carson Irrigation District and the United States wherein the United States turned over operation and management of the Project to the District. Paragraph 35 of this contract prohibits the delivery of water "to lands other than vested right land ... ." The United States, then, not only does not claim a water right for these lands but strongly argues against any entitlement to direct flows. Under these circumstances, the United States has never used its purchased and appropriated rights beneficially on the federally owned land in the Project and has represented to this Court that it does not claim any vested right as to that land.

The failure to beneficially use the water for irrigation purposes does not end the problem, however. There are other beneficial uses to which water can be applied; among these other uses are fishing and public recreation. State ex rel. State Game Commission v. Red River Valley Co., 51 N.M. 207, 182 P.2d 421 (1945); Surface Creek Ditch & Reservoir Co. v. Grand Mesa Resort Co., 168 P.2d 906 (Colo.S.Ct. en banc, 1946); State, Department of Parks v. Idaho Department of Water Administration, 96 Idaho 440, 530 P.2d 924 (1974); Brasher v. Gibson, 2 Ariz. App. 91, 406 P.2d 441, vacated on other grds, 101 Ariz. 326, 419 P.2d 505 (1966); Clark "Waters and Water Rights" 1967 Ed. Vol. 1, p. 375. The Nevada legislature has expressly declared "any recreational purpose" to

be a beneficial use of water. N.R.S. 533.030, 1969 St. 141. A similar statute was interpreted by the Arizona Court of Appeals in McClellan v. Jantzen, 26 Ariz. App. 223, 547 P.2d 494 (1976), which commented as follows:

> "Originally, the concept of 'appropriation of waters' consisted of the diversion of that water with the intent to appropriate it and put it to a beneficial use. Arizona v. California, 283 U.S. 423, 51 S.Ct. 522, 75 L.Ed. 1154 (1931). Being the first to have properly performed these functions, the appropriator acquired a vested right to the use of these waters as against the world which could not be taken from him except by his consent. Gila Water Co. v. Green, 27 Ariz. 318, 232 P. 1016 (1925), modified in 29 Ariz. 304, 241 P. 307 (1925); Adams v. Salt River Valley Water Users Ass'n., 53 Ariz. 374, 89 P.2d 1060 (1939). The concept of diversion to effect the beneficial use was consistent with the stated purposes for which an appropriation could be made prior to 1941, that is, domestic, municipal, irrigation, stock watering, water power and mining. However in 1941 when 'wildlife, including fish' and in 1962 when 'recreation' were added to the purposes for appropriation, the concept of in situ appropriation of water was introduced - it appearing to us that these purposes could be enjoyed without a diversion. We find nothing, however, which would indicate that the legislature intended that such an in situ appropriation would not carry with it the exclusive vested rights to use the waters for these purposes. We therefore find that by these amendments the legislature intended to grant a vested right to the State of Arizona to subject unappropriated waters exclusively to the use of recreation and fishing. Conceivably then, and assuming a first in right appropriation, the Game & Fish Department could prohibit the draining of a lake for irrigation purposes for example, if that draining interfered with the fish therein. This obtaining of a vested right to use the water for fish is to be contrasted with the statutory authority vested in the Department by A.R.S. § 17-231 (B)(6) allowing it to stock fish in public and private waters."

Inasmuch as the concept of in situ appropriation of water to a beneficial use had been recognized by the Nevada Supreme Court long prior to the 1969 statutory amendment (Steptoe Live Stock Co. v. Gulley, 53 Nev. 163, 295 P. 772 (1931)) we have no difficulty in recognizing recreation and fishing as beneficial uses of water.

The Court takes judicial notice of the fact that

fishing and public recreation have taken place on Lahontan Reservoir virtually since the construction of the dam. Thus the water has been beneficially used and the United States has not abandoned or forfeited these rights.

C. Failure to Make Change Applications.

In general, the United States is required to conform to applicable state water law in carrying out the Reclamation Act. Section 8 of the Reclamation Act of 1902, 43 U.S.C. §383 provides in pertinent part:

> "Nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder and the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws ... ."

As previously discussed, in construing the Reclamation Act the Supreme Court has held that state law was meant to control the Act unless in conflict with explicit congressional directives in the Act. California v. United States, supra. See also, United States v. Gerlach Live Stock Co., 339 U.S. 725 (1950); Nebraska v. Wyoming, supra; California Oregon Power Co. v. Beaver Portland Cement Co., 295 U.S. 142, 164 n.2 (1935); United States v. District Court of Fourth Judicial District in and for Utah County, 238 P.2d 1132 (Utah 1951).

A careful examination of the Reclamation Act reveals no explicit congressional directives relating to the transfer of vested water rights to the United States. In fact, the conspicuous absence of transfer procedures, taken in conjunction with the clear general deference to state water law, impels the conclusion that Congress intended transfers to be subject to state water law. Thus, the United States was and is required to conform to applicable Nevada law with respect to changing the place of diversion or place

of use.

The defendants assert that in failing to make change applications the United States has forfeited the claimed rights. An examination of the contracts reveals widely varying dates of agreement. Of the eighty contracts totaling 29,884 acres of water rights, there are eleven contracts covering a total of 9,045 acres that are dated after 1913 and sixty-nine contracts covering a total of 20,839 acres of water rights dated before 1913. It was in 1913 that Nevada's appropriative surface water right scheme (now Chapter 533 N.R.S.) was enacted.

As far as the pre-1913 contracts are concerned, they are governed by the Nevada case law existing before the enactment of the statutory scheme. See N.R.S. 533.085 [84:191:1913; 1919 R.L p. 3247; N.C.L. §7970]; Humboldt Land & Cattle Co. v. Allen, 14 F.2d 650, 653 (9th Cir. 1926). This Court can find no requirement in the pre-1913 common law for notices of, or applications for, changes in the place of diversion or place of use for water rights vested and transferred prior to 1913. Indeed, Union Mill & Mining Co. v. Dangberg, 81 Fed. 73 (C.C.D. Nev. 1897), directly holds that the place of diversion or place of use may be changed at any time as long as other rights are not injured. Therefore there could be no penalty as to those rights for failure to make the change applications.

As to the post-1913 contracts, even were the Court to agree with the requirement that the government make change applications, a failure to do so would only incur a loss of priority date, not a complete forfeiture of the right. See N.R.S. 533.040 [4:140:1913; 1919 RL p. 3225; N.C.L. §7893] and 533.325 [59:140:1913; A 1919,71; 1951, 132]. However, the Court does not agree that the government was even required to make change applications. The entire plan for the

Project was formulated around 1902 and many of the contract rights were acquired in 1906 and 1907. The United States is entitled to carry out and complete the Project under the Nevada law as it existed when the Project plan was formulated and activity commenced. Thus the intervening enactment of Nevada's statutory water code should not be used to destroy the priorities of rights acquired by the United States pursuant to completion of the original plan.

The comments in the Congressional Record during the passage of the Reclamation Act, cited in California v. United States, supra, pp. 665, 666 and 668, indicate that a major factor in the Secretary's decision on the feasibility of a reclamation project was to be the status of relevant state water law. It would be unfair to allow the government to make decisions based on the applicable state law at the time the project was authorized and commence action on an enormously expensive project and then allow the state to change the rules for the government in midstream. For the Newlands Project the applicable Nevada law was the state water law as it existed in 1902. Of course now that the Project has been completed for many years, the government is subject to all the strictures of the state law as discussed in California v. United States, supra. The defendants' argument that the failure to make change applications has an effect on the government's water rights is meritless.

THE WATER DUTIES FOR THE WATER RIGHTS ON THE NEWLANDS PROJECT AND BELOW LAHONTAN.

This section deals with the duty for the privately owned Project farm lands, and the duty for the United States's right for fishing and recreation on the Lahontan Reservoir.

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A. Water Duties for the Project Farmlands.

The arguments as to these duties can be separated into legal contentions and evidentiary or factual contentions. The legal contentions concern alleged limitations on the farmland duties resulting from contractual agreements and from Nevada's State Cooperative Act of 1903. The factual contentions concern what is the proper amount of water reasonably necessary to grow alfalfa on the Project farms.

(1) Legal Arguments. Section 2 of the State Cooperative Act of 1903 limited:

> "the quantity of water which may be appropriated or used for irrigation purposes in the State of Nevada [to] ... three acre feet per year for each acre of land supplied." (1903 Nev. Stats. Chap. IV, §2)

This very section of the Act was singled out for repeal two years later in 1905. See 1905 Nev. Stats. Chap. XLVI, §1. Nonetheless, the United States argues that this section limits all rights obtained on the Newlands Project to three acre feet per acre.

The United States, as well as the other parties, stipulated before trial that the priority date for the Newlands irrigation rights is July 2, 1902. It is difficult to see how the 1903 Cooperative Act could constitutionally limit or impair rights in existence prior to 1903. The United States, however, argues that the July 2, 1902 priority date is arrived at by the doctrine of relation back and the Secretary did not actually claim the water right until May 26, 1903; the rights are therefore said not to have been in existence before the enactment of the 1903 Act.

This theory fails because the United States seriously misapprehends the doctrine of relation back. This doctrine does not pick the date of priority out of thin air; the date of priority is the date that work commenced on an appropriation. The nature of a water right is such that it takes

time to perfect the right. It may, in fact, take years of diligent work to build dams, ditches and canals, clear and prepare fields and finally use the water to grow crops on those fields.

The doctrine of relation back tells an appropriator that if the work of appropriation is pursued diligently, the date of priority will be the date work was commenced, not the date of application or the date of perfection. The Nevada Supreme Court has stated:

> "[w]hen any work is necessary to be done to complete the appropriation, the law gives the claimant a reasonable time within which to do it, and although the appropriation is not deemed complete until the actual diversion or use of water, still if such work be prosecuted with reasonable diligence, the right relates to the time when the first step was taken to secure it."

Ophir Mining Co. v. Carpenter, 4 Nev. 534 at 543,44 (1869). See also Farmers' High Line Canal & Reservoir Co. v. Southworth, 13 Colo. 111, 21 P. 1028 at 1029 (1889); Nevada Ditch Co. v. Bennett, 30 Or. 59, 45 P. 472 at 480 (1896).

In stipulating to the 1902 priority, the parties have agreed that the first steps were taken to secure these rights in 1902. The date that the Secretary formally claimed the rights is irrelevant. Upon the diligent perfection of these rights, the law recognizes that the rights have been in existence since 1902 and the 1903 Cooperative Act cannot limit the rights to three acre feet per acre.

Furthermore, the repeal of the limiting section of the Act is significant. In the absence of legislative history, it would at least be arguable that the repeal of Section 2 of the 1903 Act and the subsequent enactment of what is now N.R.S. 533.035 (beneficial use shall be the basis, the measure and the limit of the right to the use of water) represents a legislative judgment that a specific limitation was ill-advised under the varying conditions of climate and

soil in Nevada.

The United States makes the additional legal argument that certain of the Project farmlands are limited by contract to a water right of three acre-feet per acre. A number of representative contracts were put into evidence as Exhibit 38. These are all contracts between the United States and private landholders for the delivery of water from the Reclamation Project. Some of the contracts contain no specific acre foot limitation, but rather refer to "an amount necessary for the proper irrigation" of X acres, or the "quantity of water which shall be beneficially used for the irrigation" of the lands in question. These contracts are not at issue.

Those at issue are the contracts covering some 42,447 acres in which a specific acre foot limitation is expressed. Representative of these contracts are the contract between Oswald J. Leet and the United States, and that between Julius M. Christensen and the United States. Mr. Leet's contract states:

> "II. That the party of the second part hereby agrees to deliver without charge except as hereinafter provided and free of all cost or charge for building the irrigation works, water not exceeding three (3) acre-feet per acre for the proper irrigation of seventy-six (76) acres of land ... ."

Mr. Christensen's contract states:

> "2. The quantitive measure of the water right hereby applied for is that quantity of water which shall be beneficially used for the irrigation of said irrigable lands up to, but not exceeding three acre-feet per acre per annum, measured at the land; and in no case exceeding the share, proportionate to irrigable acreage, of the water supply actually available as determined by the Project Engineer or other proper officers of the United States, or of its successors in the control of the project, during the irrigation season for the irrigation of lands under said unit."

The United States maintains that these types of contracts limit those 42,447 acres to a maximum duty of three acre-feet per acre. The defendants argue that reasonable beneficial use is the measure and limit of their rights regardless of the contract language.

A similar problem arose in the state of Washington in connection with the Sunnyside Division of the Yakima Project. There, the farmers had various contracts with the government, some of which expressed a three acre-foot limitation. The contract language provided:

> "The quantity of water to be furnished hereunder shall be 3 acre feet per acre of water per annum per acre of irrigable land, ... measured at the land; or so much thereof as shall constitute the proportionate share per acre from the water supply actually available for the lands under said project; Provided, That the supply furnished shall be limited to the amount of water beneficially used on said irrigable land ... "

Lawrence v. Southard, 192 W. 287, 73 P.2d 722, 723 (1937). The Secretary of the Interior attempted to limit the Sunnyside farmers to 3 acre-feet under all the contracts except that the farmers could rent more water for an additional charge beyond the original payment for the Project's construction costs. The conflict over the Secretary's attempted action resulted in years of lawsuits. The cases of Lawrence v. Southard, Ickes v. Fox, 300 U.S. 82 (1937), and Fox v. Ickes, 137 F.2d 30 (1943) all deal with the question of whether the Secretary could limit the water supplied under the contracts to 3 acre-feet per acre and charge an additional fee for water above that amount.

In Ickes v. Fox, the Supreme Court engaged in a lengthy explication of the Reclamation Act in holding that the United States was not an indispensable party to an action against the Secretary of the Interior to set aside his orders limiting farmers' contract water rights to 3 acre-feet per

acre. There followed a trial on the merits of the claims which was appealed in Fox v. Ickes. The District of Columbia Court of Appeals held that: "[r]eading the Reclamation Act in the light of the decision in Ickes v. Fox, we find the situation in this case to be as follows: The water rights of appellants are not determined by contract but by beneficial use." Fox v. Ickes, 137 F.2d at 33; and that "the water rights here are not based upon the construction or enforcement of contracts with the government." Id. at 35.

Similarly, the Supreme Court of Washington held that beneficial use determined the water right and that the "order of the Secretary of the Interior under date of October 17, 1930 limiting the water right to 3 acre-feet is a nullity. That order was not authorized by Congress." Lawrence Southard, 192 W. 287, 73 P.2d 722 at 728. Although these cases also involved issues as to prescriptive rights and the validity of appropriations, the holdings as to the contractual limitations stand on their own.

The United States argues that the contract language in our case is so different that the above authorities do not apply. This argument is meritless. Although the exact wording of the contracts in our case is not the same as in the Yakima Project contracts, the attempt to limit the water right to 3 acre-feet is exactly the same. The discussion in Fox v. Ickes is not so much a close examination of the contract language as it is a broad statement that the limit of water rights is beneficial use, not specific contractual limitations.

This Court finds the reasoning in Fox and Lawrence persuasive. Even more explicitly, it appears that the Secretary not only acted without authority from Congress in inserting a specific acre-foot limitation in the contracts, but acted in clear contravention of Congressional intent. Section

8 of the Reclamation Act, 43 U.S.C. §372, states that as to water rights acquired under the Act, "beneficial use shall be the basis, the measure, and the limit of the right." Congress's intent could neither be more clear nor more specific. The contractual limitation to 3 acre-feet per acre could only be authorized if that amount were the amount required for beneficial use. Since this Court finds that the amount required for beneficial use exceeds 3 acre-feet, the contractual limitation thwarts the Congressional intent of the Reclamation Act and is without any legal effect on the defendants' water rights. Cf. United States v. Joyce, 240 Fed. 610 (8th Cir. 1917); United States v. Washington, 233 F.2d 811 (9th Cir. 1956) (the requirements of acts of Congress must be read into and are automatically part of conveyances of land by patents which have ignored such requirements.)

2. Evidentiary Contentions.

(a) Water Duty. One of the central tasks in this case is to establish a clear and specific water duty for both the Newlands Project farmlands and the upper Carson farmlands. Because of the mechanism adopted by the court with regard to changes in place or manner of use of the water rights, specific findings must also be made as to the consumptive use.

Alfalfa is by far the dominant crop grown on the lands in question in this case. Because of the relatively short growing season and other weather conditions in this part of the state, alfalfa is one of the few cash crops the Carson River farmlands can support.

Relying on Farmer's Highline Canal & Reservoir Co. v. Golden, 272 P.2d 629 (Colo. 1954), the United States argues that a water duty should be based on historical production. This Court's interpretation of that decision, however, is that the Colorado court based the water duty on the kind or type

of crops historically grown on the lands - not the amount of crops historically grown. In other words, if the farmers have been growing sugar beets, the water duty will be the amount of water reasonably necessary to grow sugar beets, not the water needed for onions or avocados. In this case, alfalfa is the crop historically grown on the lands in question and under Nevada law and the Reclamation Act, the water duty for these lands is that amount of water reasonably necessary to grow alfalfa.

The United States presented lengthy expert testimony to the effect that a water duty of 3 acre-feet per acre applied to the land should be reasonably sufficient to grow alfalfa on all the Project farmlands. The defendants presented equally lengthy expert testimony to the effect that a water duty of at least 3.5 acre-feet per acre applied to the land should be reasonably sufficient to grow alfalfa on the bottom lands in the Project and at least 4.5 acre-feet per acre applied to the land should be reasonably sufficient to grow alfalfa on the bench lands in the Project.

After examination and comparison of the expert evidence, particularly with regard to conveyance efficiency, on-farm efficiency, soil slope and character, weather and consumptive use, the Court finds the defendants' expert evidence more credible. As a result, the Court finds that the water duty for farm lands on the Newlands Project is 3.5 acre-feet per acre applied to the land on the bottom lands and 4.5 acre-feet per acre applied to the land on the bench lands subject always to the limitation of beneficial use.

(b) Consumptive Use. The water duty is the amount of water required to properly irrigate the farm lands. This duty differs depending on physical conditions. For example, in parts of the upper valley, the ground is so steep and the soil character is such that a relatively high

duty is requried for proper irrigation. Differing water duties do not imply that the alfalfa uses different amounts of water, however. In an area such as Western Nevada a certain amount of water is needed to irrigate the land, but some lesser quantity is actually consumed by the crop growth. This section addresses the issue of how much water is actually consumed in growing a ton of alfalfa on an acre of land in the Newlands Project area.

Both plaintiff and defendants presented considerable expert testimony as to lysimeter test results, actual commercial yields, lysimeter yields, and effective rainfall. There was a great deal of conflict over the proper interpretation of the lysimeter data. The most credible evidence indicates that the lysimeter yields have to be adjusted to reflect actual field conditions when estimating actual consumptive use. Because of the factors described by the defendants' experts, the actual commercial yields tend to average some 30% below lysimeter yields. The average production on the Newlands Project farms over the ten-year period from 1969-1978 is about 5 tons per acre. The lysimeter evidence showed that 6 inches of water is required per ton; the total actual consumption figure is therefore 3.25 acre-feet per acre after the lysimeter data is adjusted for production under actual field conditions. Since this case concerns the consumption of surface water from the Carson River, effective rainfall must be deducted from the total consumption figure. The evidence showed that the effective rainfall is 0.26 acre-feet. Therefore, the consumptive use of irrigation water is 2.99 acre-feet per acre for the Newlands Project.

B. Water Duty for the Fishing and Recreation Rights.

The water stored in the Lahontan Reservoir for irrigation rights also functions coincidentally to provide water for fishing and recreation. The question here is: to

how much water is the United States entitled for supplying the uses of fishing and recreation?

In the irrigation of crops there is an absolute upper limit to how much water can be applied; productivity drops or the crops may even drown if over-watered. Unlike irrigation, there is no apparent practical limit to the water that can be used for fishing and recreation; the more water there is, the more room there is for fish, boats and swimmers. The only physical limitation at the reservoir would be the capacity of the site. Since, however, water is such a scarce resource in this state and there are so many competing demands on the limited supply of water, each use can be assigned only the minimum reasonably required for that use. The evidence in this case indicates that the minimum amount of water that must be retained in the reservoir to support the fish habitat and provide swimming and boating areas is some 20,000 to 30,000 acre-feet. Therefore this Court finds that the duty for the United States's fishing and recreation right is 30,000 acre-feet.

THE WATER DUTIES AND IRRIGATION SEASON FOR LANDS ABOVE THE LAHONTAN REGION.

The lands upriver from the Newlands Project consist largely of the Carson Valley and Alpine County farmlands with some smaller acreages between Carson City and the Lahontan Reservoir.

A. Irrigation Season.

All parties agree that the Federal Water Master should determine the irrigation season.

B. Water Duties.

The United States asserts that in the Carson Valley portion of the river the Court should not only find water duties and consumptive use figures, but also should adopt the so-called historical depletion approach. The es-

sence of this idea is that measurements are available from gauges on each fork of the Carson as it enters the valley and from the river gauge as it exits the valley. The government urges the Court to use the historical data and subtract outflows from inflows to obtain an average historical depletion or disappearance of water in the Carson Valley. The government suggests that the Carson Valley users not be allowed to exceed this average historical depletion level and that the Federal Water Master enforce the restriction. The United States cites United States v. Gila Valley Irrigation District, Globe Equity No. 59 (D.Ariz., June 29, 1935) as authority for the use of the historical depletion approach.

In Gila Valley, the court set a permissible irrigation season consumptive use of 120,000 acre-feet for the upper valleys and held that the consumptive use would be determined by adding the recorded inflows from gauging stations located on the San Francisco River and on the Gila River at Red Rock Box Canyon and subtracting the outflow from a gauging station on the Gila River near Calva, Arizona. This method of measurement was adopted "as sufficiently accurate for practical purposes and as better suited for administering (the) decree than any more refined method of determining actual consumptive use." Id. at 107.

For the very reasons the Arizona court adopted the depletion approach, this Court rejects it. The conditions in the Carson Valley indicate that the use of only two inflow measuring points would be inaccurate. Unlike the semi-arid surroundings of the Gila River Valley, the Carson Valley is bounded on the west by the Sierra Nevada mountains and on the east by the Pinenut Range. The evidence showed that both mountain ranges can contribute substantial water flows from springs, creeks and snow melt; all of this water flows directly into the valley downstream from the inflow measuring gauges

and is thus unmeasured. Furthermore, this Court has the benefit of considerable expert evidence on actual consumptive use and the benefit of evidence showing how the entire system has actually operated amicably and efficiently for well over 50 years. The Court does not consider the depletion approach practical or accurate in this case.

Exclusive of pressing the depletion approach, the United States has agreed with all other parties that this Court should recognize the historical customs, practices and agreements by which water has been distributed in the upper river areas. The United States stated many times, both in its briefs and through the testimony of its expert witnesses, that the government had no interest in the daily irrigation practices of the upstream users but rather desires a reasonable quantification of the upstream rights so as to clarify the protection of its downstream rights. The United States presented no evidence as to water duties for the upstream area but urged in the post-trial briefs that the Special Master's recommendation of 5 acre-feet per acre delivered to the farm be adopted for three segments of the upper river and 4.7 acre-feet per acre should be allowed for the remaining segment. The Master's recommendation of 5 acre-feet per acre was a limitation to be imposed only when the river is on regulation; this is not a meaningful restraint in the Court's view.

The defendants presented extensive expert evidence on the water duties for the upstream area. The evidence showed that, as in the lower river area, the water duties must be varied to take into account soil character and slope. However, even where a relatively high water duty is assigned, other water users are not injured because the water not consumed all flows either back into the river or onto the water rights lands of another appropriator. In other words, some

lands need large amounts of water just to achieve adequate irrigation coverage but the extra water is not wasted. Water duties not accounting for these variable factors would force the abandonment of many presently productive acres, especially in the Alpine County and Southern Carson Valley areas.

The lands on the upper Carson River must be classified into three broad categories according to soil character and slope:

(1) Benchland or river terrace - course textured, highly permeable, excessively drained and law water holding capacity soils; deep ground water depth (4 to 20 feet); moderately sloping topography; cobbles or boulders on the surface.

(2) Alluvial fan - medium textured, moderately permeable, moderately drained and moderate water holding capacity soils; moderate ground water depth (4 to 7 feet); gently sloping topography.

(3) Bottomland or meadowland - medium to fine textured, low permeability, poorly drained and medium water holding capacity soils; shallow ground water depth (0.3 to 3 feet); level topography.

One of the difficulties presented by the evidence is that the expert who testified for the Carson Valley defendants recommended duties in terms of canal diversion requirements, whereas the expert for the Alpine County defendants recommended duties in terms of water delivered to the farm. However, this is only a superficial inconsistency since most of the users in Alpine County are very close to the river so that the farm delivery requirement and the canal diversion requirement are essentially the same. The most credible expert evidence showed, and the Court finds, that the water duties, stated in terms of the canal diversion requirement, are 4.5 acre-feet per acre for the bottomland, 6.0 acre-feet

per acre for the alluvial fan, and 9.0 acre-feet per acre for the benchlands.

No map delineating the areas of these three land types has been introduced in evidence but one expert made a planimeter study of the Upper Carson and the amounts of the three different types of land in each segment of the river. The Court finds that:

Segment 1 is almost entirely riparian and is ignored for these purposes;

Segment 2 contains a 25,916 acre irrigated area with 2,595 acres of benchland, 10,366 acres of alluvial fan, and 12,958 acres of bottomland;

Segment 3 is almost entirely riparian and is ignored for these purposes;

Segments 4 and 5 contain a 12,058 acre irrigated area from the Fredericksburg ditch to the confluence of the two forks with 4,335 acres of benchlands and 5,568 acres of bottomland (comparable data is not available for the area above (south) of Fredericksburg ditch);

Segment 6 contains a 5,007 acre irrigated area with the areas on the right bank having the 6.0 acre foot duty because of the deep ground water table and the left bank areas having the 4.5 acre foot duty because of the higher ground water table;

Segment 7 contains a 6,450 acre irrigated area with 2,244 acres of benchland, 2,065 acres of alluvial fan and 2,142 acres of bottomland.

The evidence is inadequate specifically to identify the acreages falling within each of the three land types and the column in the Special Master's Report assigning an acre foot per acre duty to each claim will be eliminated from the final decree. The Water Master will exercise discretion in distributing the water to meet the demands of the various

land types hereinabove noted, insofar as it is practical to do so.

C. Consumptive Use.

The most credible expert evidence showed that the net consumptive use of surface water on the upper river irrigated lands is 2.5 acre-feet per acre. The upper river consumptive use is somewhat lower than the Lahontan region consumptive use because the upper river climate is cooler and the growing season shorter. One region slowly shades into the other in the area between the reservoir and Carson City but for practical reasons the decree treats Lahontan as the dividing line.

HISTORIC PRACTICES, CUSTOMS, AGREEMENTS AND DECREES FOLLOWED IN THE UPSTREAM AREAS.

The upstream users presented detailed testimony as to historic water distribution practices followed by the water users and by the Federal Water Master not only before but since the entry of the temporary restraining order in 1950. We have the advantage of almost thirty years of experience under that order. An example of these customs is the practice of rotating an entire head of water in a ditch among users during low flow periods rather than giving each user a small portion of the available supply.[2/]

The position of the United States on the historic practices issue is succinctly stated at page 49 of the United States's Post Trial Memorandum:

> "the United States has only one concern: that the upstream users do not deplete from the stream any more water than reasonably needed to satisfy the historical requirements for the irrigated acreage in accordance with the priorities determined in this case."

2/ For a detailed listing of the historic customs, practices, agreements and decrees see the Decree.

The United States appears to be mainly, if not solely, concerned with quantification of the rights and a consumptive use finding. The expert witnesses for the United States stated several times that the defendants could continue their historic practices as long as net depletion was not increased.[3/]

The Court finds that the continuation of the historic practices would not increase net depletion. In fact, the evidence presented by the defendants showed that through years of practical experience and cooperation, the farmers have developed a reasonable and workable system of water distribution. The evidence showed that the historic practices are highly efficient, practical and enhance the maximum beneficial use of the water. This Court approves and adopts the customs, practices, agreements and decrees set forth in the Decree; the Water Master is directed to include these practices in his administration of the river.

THE IMPACT OF IRRIGATION OF WATER RIGHT LAND BY "RETURN FLOW" OR "TAIL WATER" FROM OTHER LANDS.

The evidence showed that large portions of the Alpine County and Carson Valley lands are irrigated by so-called return flows. This practice occurs because water is diverted into large ditches or canals and the water is run over the second appropriator's lands and so on until eventually the water returns to the river or to another diversion canal. The evidence specifically showed that all appropriators could irrigate their lands by direct diversions but that it is much more efficient to use a large canal and the return

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3/ In the Stipulated Pre-trial Order filed January 11, 1979, the United States specifically agreed that the administration of the river in autonomous segments was an historic practice and thus the United States has implied approval of this practice as well. Nowhere did the United States attack the segmentation practice.

flow method. The vested water rights recognized by the Decree are rights to direct diversions from the stream system, which may be exploited by use of return flows from other lands.

This Decree therefore does not differentiate between water right land irrigated by direct diversions and water right land irrigated by return flows. The return flow method should be encouraged as it appears to be a more economical, practical method of water distribution than hundreds of small direct diversion ditches.

SEGMENTATION OF THE RIVER IN ENFORCING PRIORITY RIGHTS.

The evidence shows that the physical characteristics of the Carson River do not nicely conform to strictly traditional legal concepts of enforcing priorities. Under a pure or theoretical view, a senior priority appropriator on a river should never go without water when a junior priority appropriator has water. The Carson River system presents several obstacles to the application of this theoretical concept.

First, the upper reaches of the river are separated into two forks: the East Fork and the West Fork. These different branches of the river are, until close to their confluence, separated by a considerable distance and varied topography, including steep foothills. An example, then, of the difficulties presented is a situation where there is a senior appropriator on the West Fork and a junior appropriator on the East Fork and the senior user is low on water yet the junior user has a full supply. There is no physical way to deprive the junior user to satisfy the senior user.

A second example of the peculiarities of the river system is the late season appearance and disappearance of water from the river bed. The testimony indicated that in the late summer when the river is quite low, the river bed

will be entirely dry for some stretches but that water reappears further downstream. The reappearance of water is the result of underground drainage from upstream irrigation or surface return flows from irrigation. This water is then available for use further downstream. This state of affairs makes it virtually impossible to "bring" water from an upstream junior appropriator down to a senior appropriator.

The Court is presented with a conflict between the pure theory of priority rights and the practical realities of the river system. In effect, this conflict is between the priority concept and the well-established principle of western water law that water must be economically, practically and beneficially used, so far as is possible. In this Court's view, the waste of water must be avoided, for wasted water benefits no one. Thus, the pure priority concept, which would waste large amounts of water and other resources were it to be strictly applied, must be modified. For these reasons, the Court finds that the river must be divided into 8 segments. 4/

Each of these 8 segments shall be treated autonomously once the river is on regulation. For example, the Water Master shall distribute water in Segment 3 in accordance with the priorities in the limits of Segment 3. The Water Master shall not enforce a senior priority in one segment of the river against a junior priority in another segment of the river. The Court finds that this arrangement provides for by far the most economical and beneficial use of the available water and the most practical rule for administration by the Federal Water Master.

PROVISIONS REGARDING CHANGES IN THE PLACE OF DIVERSION, PLACE OF USE AND MANNER OF USE.

4/ See the Decree for a specific description of the segments and subsegments.

It appearing to the Court that the state law procedures for change applications are markedly different in California and Nevada, the Court adopts a different approach as to each state.

A. Nevada - Nevada's comprehensive scheme of water rights regulation is found in Titles 532-544 of the Nevada Revised Statutes. N.R.S. 533.325 requires any appropriator who wishes to change the place of diversion, manner of use or place of use of water already appropriated to make an application to the State Engineer for a permit for such a change. N.R.S. 533.345-533.365 discuss application contents, notice procedures, protest procedures and other administrative details. N.R.S. 533.370 sets forth the State Engineer's duties in approving or rejecting applications. N.R.S. 533.370(4) states:

> "Where there is no unappropriated water in the proposed source of supply, or where its proposed use or change conflicts with existing rights or threatens to prove detrimental to the public interest, the state engineer shall reject the application and refuse to issue the permit asked for."

The testimony presented by the State of Nevada at trial further indicated that the State Engineer considers it his duty to reject change applications which would adversely affect the rights of other appropriators.

Clearly under this statutory scheme the State Engineer has the authority and expertise to address change applications on an individual basis. This Court, of course, has the power to review decisions by the State Engineer. See N.R.S. 533.450. Since the State Engineer's decisions are governed by the correct legal principle that change applications are not permitted where other, and even junior, priority users would be adversely affected, Clark on Waters and Water Rights, Vol. 5, page 158; Trelease, Changes and Transfers of Water Rights, 13 Rocky M.M.L. Inst. 507 (1967), and in view

of the existing comprehensive regulatory scheme, all Nevada change applications will be directed to the State Engineer and will be governed by Nevada law.

This Court has drawn a distinction in this opinion and decree between the water duty allowed for proper irrigation and the net consumptive use of the surface water. The State Engineer is directed that change of manner of use applications should only be permitted for the consumptive use amounts determined in this decree (2.99 acre-feet per acre for the areas below Lahontan Reservoir and 2.5 acre-feet per acre for the areas above Lahontan Reservoir) when use is changed from irrigation to any other purpose. Water that has been allowed in the duties for purposes of irrigation coverage could not then be changed to a consumptive use and disappear from the return flows to other water right lands or the river.

B. California - California law for change procedures does not provide adequate advance protection of all interests in all circumstances. Therefore all petitions for changes in place of diversion, manner of use or place of use must be submitted to this Court. As noted above, a change from irrigation use to any other use will only be permitted for the consumptive use amount. Riparian rights as recognized by California law shall be fully enforced and protected.

A special hearing was held on October 15, 1980 concerning claims of the United States to reserved rights for water on the Toiyabe National Forest. At the conclusion of the hearing three classes of rights were recognized and have been included in the tabulations in the final Decree. In addition, the United States asserted a reserved claim to certain instream flow rights in the streams and tributaries above the Nevada-California state line. The claim asserted is that the rate of flow in the stream system should not be

permitted to fall below the mesne monthly rate of flow at nine gauging stations based on data compiled by the United States Geological Survey. The compilation of such data was received in evidence as Exhibit E. The evidence to support the assertion that maintenance of such minimum flows is necessary for watershed protection and timber production (the purposes of national forest reservations) was insignificant. We interpret United States v. New Mexico, 438 U.S. 696 (1978) as not recognizing a reserved right to instream flows in these circumstances.

Nevertheless, it will be appropriate in the future for the Nevada State Engineer and this Court to take into consideration the effect of any proposed change of place or manner of use or point of diversion upon the average mesne monthly flows at the several gauging stations as established by the evidence referred to.

DATED 25 Jul 1980

UNITED STATES DISTRICT JUDGE

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