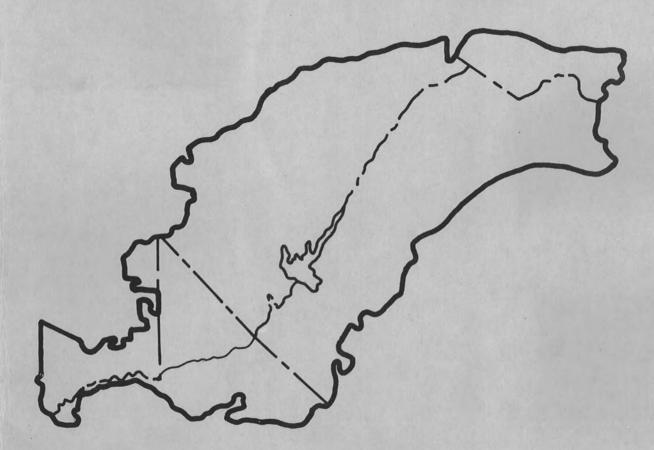
Stanislaus River Basin

New Melones Unit-Central Valley Project



Proposed reservation area and projected water requirements

DEPARTMENT OF THE INTERIOR Bureau of Reclamation

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STANISLAUS RIVER BASIN PROPOSED RESERVATION AREA AND PROJECTED WATER REQUIREMENTS

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United States Department of the Interior Bureau of Reclamation

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MP Region B. E. Martin, Regional Director Sacramento, California

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STANISLAUS RIVER BASIN PROPOSED RESERVATION AREA AND PROJECTED WATER REQUIREMENTS

Introduction and Purpose

Public Law 87-874 of October 1962, which modifies the New Melones Project (as previously authorized by the 1944 Flood Control Act) states in part:

"That upon completion of construction of the dam and powerplant by the Corps of Engineers, the project shall become an integral part of the Central Valley Project and be operated and maintained by the Secretary of Interior pursuant to the Federal reclamation laws, . . . and . . . That before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within the basin and the diversions shall at all times be subordinate to the quantities so determined . . ."

Thus, the Secretary of the Interior must determine area needs prior to diverting water from "Stanislaus River Basin" as part of Central Valley Project operations. These area needs are, in addition to the other water services authorized, to be provided by New Melones Reservoir which include water rights, fishery and water quality releases to Stanislaus River. The authorizing legislation (1962) provides for full integration of New Melones Project with the Central Valley Project with diversions of Stanislaus River water to other Central Valley Project areas contemplated after determining and reserving water for existing and anticipated future needs of the Stanislaus River Basin.

This report proposes the reservation area for Stanislaus River water which should be adopted in conformity with the aforequoted portion of Public Law 87-874. The associated water requirements are derived for this proposed "Stanislaus River Basin" for years 1980, 2000, and 2020. In addition, agricultural requirements are estimated under full development -- referred to as ultimate conditions which might occur at some unspecified time in the future after year 2020.

The year 2020 is 45 years in the future and represents a sufficiently extended and logical period for projecting water requirements for municipal and industrial uses based on population estimates along with agricultural conditions which may need to be served from Stanislaus River. It also approximately corresponds with the repayment period for New Melones Project which is the period for which the reservoir yield needs to be estimated. It is the expressed contention of this report that the requirements projected for the Stanislaus River Basin within that time period are those which should be considered to represent the intent of Public Law 87-874 in which the Secretary of the Interior is required to determine "all existing and anticipated future needs within the Basin."

For those requirements for areas which would be supplied water from Stanislaus River diverted upstream from New Melones Reservoir, the estimates projected herein represent the diversions which it is expected reasonably may develop and are used as streamflow

depletions in deriving the estimated yield of New Melones Reservoir. These projected estimates are not intended to, nor do they represent, any limit or restriction on what may be diverted for those upstream areas under the water rights which either have been or may be obtained. If diversions, larger than those projected herein, are actually made in the future, such increase would tend to reduce the estimated yield of New Melones Reservoir. On the other hand, if the actual upstream diversions proved to be less, then the yield of New Melones Reservoir would be increased.

For the Basin areas which would be supplied Central Valley Project water from New Melones Reservoir, the requirements projected herein again represent what may reasonably be expected to develop. New Melones Reservoir yield would need to be reserved for these estimated requirements. Until they develop, however, the required water could be used elsewhere on an interim basis.

Local water supply sources available for use within the Basin, both surface and underground, are discussed and considered as serving a portion of the estimated requirements. The remaining water needs within the Basin are projected as relying on water from Stanislaus River either from existing downstream water rights, from New Melones Reservoir, or from upstream developments, including those now existing and possible future reservoirs which may be either federal or non-federal.

On the basis of these projected future uses, the estimated yield of New Melones Reservoir is derived. The quantity of this supply

required to meet projected needs by time periods, is presented with the remaining water estimated as being available for other uses, either on an interim or permanent basis, outside the "Stanislaus River Basin." Other areas which are closely adjacent to the Basin and their estimated water needs also are discussed briefly.

Basin Description¹/

The authorization provides, as stated, for reservation of water needs within the "Stanislaus River Basin." This wording by itself does not clearly define what areas are intended to be included within the Basin and used for the related water need determination. The words "Stanislaus River Basin" could be interpreted to mean a topographic boundary. Under such an interpretation, the areas included would comprise only the Stanislaus River watershed upstream from New Melones Reservoir and the area on either side of the river downstream from New Melones from which surface flows would contribute to Stanislaus River. This would constitute a relatively limited area and adoption of this strict topographic definition of "Stanislaus River Basin" is not considered to be the intent of the authorization. Currently, and for many years past, there have been substantial diversions of Stanislaus River water to areas outside of the topographic basin. Water rights for these and additional diversions are established. The areas under

<u>1</u>/ Specific reasons for proposing this Reservation area are presented in Appendix A to this report. Includes transmittal letter of 9/12/74 from Regional Director to Commissioner with its attached Paper on the Reservation Area, and subsequent letter of 10/22/74 from Acting Regional Director to Commissioner. Brief report of the three separate meetings held with the 4 counties also attached.

these rights, as a minimum, need to be included. Additionally, there are other local areas with substantial claims for inclusion, based on their contemplated plans or needs. As an important aid in determining which areas should be included, or were intended to be included, the advice of local agencies was sought through meetings held with the four counties.

On the basis of all information developed, the reservation area, as referred to in the Authorizing Act, is interpreted to include on a general basis, those areas between the headwaters of the Stanislaus River and its mouth, which are adjacent to that river and now rely or in the future may need to rely, on the Stanislaus River for a water supply.

Specifically, this would include the following:

1. Calaveras County lying south of Calaveras River below New Hogan Dam and south of New Hogan Reservoir. Upstream therefrom all of that portion of the County lying south of Calaveras River and North Fork Calaveras River to the westerly boundary of Range 13 East M.D.M. Easterly of that Range line, all of the County lying south of North Fork Mokelumne River. This area is all within the Calaveras County Water District.

2. Tuolumne County, lying north of Tuolumne River below New Don Pedro Dam and north of New Don Pedro Reservoir. Upstream, therefore, all of that portion of the County lying north of Tuolumne River to the northern boundary of Township 2 North M.D.M. and along Dodge Ridge to

the southern boundary of the Stanislaus River Basin. All of this area lies within Tuolumne County Water District No. 2.

3. Stanislaus County north of Stanislaus River.

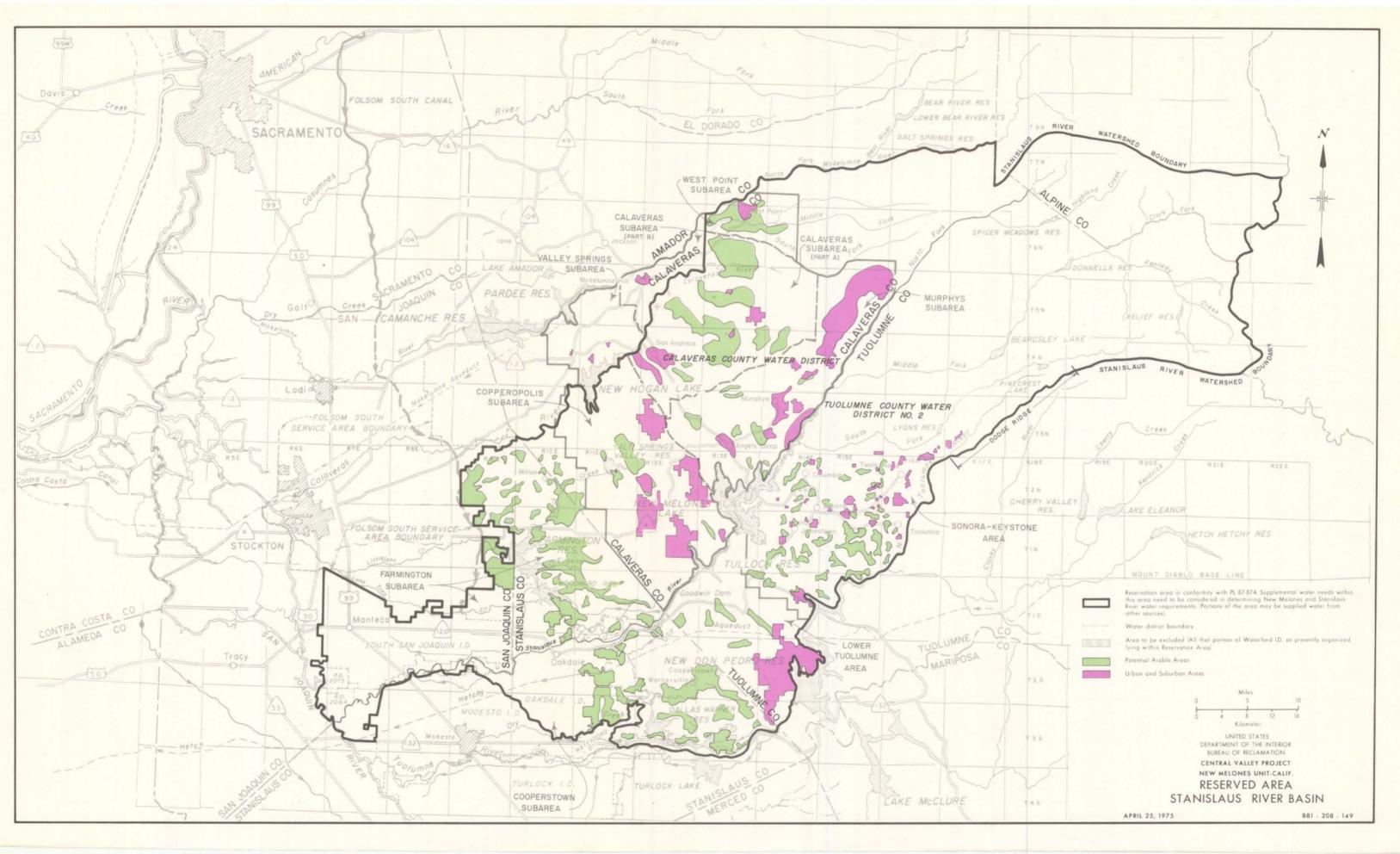
4. Stanislaus County south of Stanislaus River and north of Tuolumne River including Oakdale Irrigation District, but excluding Modesto Irrigation District and Waterford Irrigation District, as the latter two Districts were organized when the Basin recommendation was submitted to the Commissioner in September 1974.^{2/} The unorganized areas west of the westerly boundary of the Modesto Irrigation District and south of State Highway 132 also are excluded.

5. That portion of San Joaquin County lying easterly of San Joaquin River and southerly of Folsom South service area and Calaveras River and including Reclamation Districts 2064 and 2075, Oakdale Irrigation District, South San Joaquin Irrigation District and unorganized areas.

6. Alpine County (Stanislaus National Forest) within the watershed boundary of Stanislaus River.

The foregoing listed areas are shown on the attached drawing. Designation of the reservation area does not mean and is not intended to imply that the entire area included will need to obtain water from Stanislaus River. Rather, it does mean that some portion of these areas now rely on or in the future may need to rely on that source of supply either from New Melones Project or some other existing or future

<u>2</u>/ Regional Director's recommendation on proposed reservation area submitted to Commissioner on September 12, 1974 (Appendix A).



project on Stanislaus River. Within the area of reservation, present and projected future water requirements for both agricultural and municipal and industrial purposes will need to be estimated and other sources of supply available to meet these needs will require analysis. These estimates of water requirements and other water supplies are presented subsequently in this report.

Basin Requirements for Stanislaus River Water

<u>Summary</u>.--Agricultural water requirements were estimated for the "Stanislaus River Basin," previously described, by subareas within the four counties included as shown on the map included in the report.^{3/} No supplemental water requirements were considered for the Alpine County portion of the Basin since that area is within the Stanislaus National Forest and both presently and in the future would obtain water supplies needed from precipitation. These estimates were made on the basis of projecting crops for the lands determined as productive from field land classification surveys and applying estimated unit water requirements to those projections. These estimates were made for the following time periods, 1980, 2000, 2020, and ultimate (undefined time in the future after 2020).

Similarly, estimates were made for municipal and industrial water requirements for each of the Basin subareas for 1980, 2000, and 2020.

^{3/} Except for that portion of the Basin included within Oakdale and South San Joaquin Irrigation Districts. An Agreement, dated October 1972, was made with these Districts which provides for water deliveries from Stanislaus River and New Melones Reservoir in recognition of the Districts' water rights. Also excepted are those areas along the Stanislaus River downstream from Goodwin Dam which can obtain water supplies from the river under riparian rights.

These were made by application of estimated Unit water requirements to the projected population.

The estimated municipal and industrial and agricultural water requirements are given, by counties, in table 1.

Local surface water supplies, available for development and use within the Basin and also available underground supplies from sources other than Stanislaus River, were estimated and considered applied to meet the projected requirements. The requirements remaining then were estimated in this report as the future requirements which would need to rely on water supplies from Stanislaus River.

The portion of these Stanislaus River supplies needed to meet Basin requirements upstream from New Melones Reservoir was estimated to be: 59,000 acre-feet for the year 2000; and 108,000 acre-feet for 2020. Similarly, the Basin requirements estimated to be served from New Melones Reservoir were: 126,000 acre-feet (round to 130,000 acre-feet) for the year 2000; and 168,000 acre-feet (round to 170,000 acre-feet) for 2020.

Using the foregoing projected requirements for Stanislaus River water upstream from New Melones Reservoir, the annual yield of that reservoir was computed to be about 220,000 acre-feet under year 2000 conditions and 185,000* acre-feet for year 2020.

These New Melones Reservoir yields would meet the projected year 2020 Stanislaus River Basin requirements estimated as being served from that reservoir and in addition approximately 15,000 acre-feet would remain for use elsewhere. For year 2000, interim conditions approximately 90,000 acre-feet of reservoir yield would be available above the *Previous Bureau of Reclamation documents state other New Melones yield --based on different estimated year 2020 upstream depletions.

			1980		2000		2020	Ultimate agricultural (M&I not pro-
	County	<u>M&I</u>	<u>Agricultural</u>	M&I	<u>Agricultural</u>	<u>M&T</u>	<u>Agricultural</u>	jected)
	Calaveras	13.9	20.8	18.2	55.5	26.4	77.4	96.4
	Tuolumne	6.9	8.1	11.3	21.7	16.0	37.9	50.6
	Stanislaus: North of Stanislaus River	20.0 ^{<u>2</u>/}	26.6	20.0 ^{<u>2</u>/}	39.7	20.0 ^{<u>2</u>/}	53.0	71.0
	South of Stanislaus River		23.9	12.0	43.8	12.0	58.4	78.0
,	San Joa q uin		16.0		27.0		32.6	43.4

Table 1. Estimated Municipal and Industrial and Agricultural Water Requirements $(1,000 \text{ A.F.})^{1/2}$

1/ Service area demands at place of use. Agricultural requirements include estimates for rural estates

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2/ Estimated quantity for maintaining Woodward Reservoir at desirable level for recreational purposes.

projected Basin requirements. For both 2000 and 2020 conditions, it is possible that requirements, in addition to those projected, could develop. Additional estimated agricultural demand requirements projected as developing beyond 2020 within the Basin below New Melones Reservoir approximate 50,000 acre-feet. If one-third of those demands developed by 2020, the estimated yield of the reservoir would be required. The municipal and industrial requirements also might develop more rapidly and to a greater extent than projected.

The report also discusses projected needs for additional water supplies in areas adjacent to the "Stanislaus River Basin." The Montpelier area between the Tuolumne and Merced Rivers comprises 80,000 acres of productive lands in a contiguous block now partly under irrigation from a deficient ground-water supply. The projected needs for the area are 80,000 acre-feet by the year 2000 and 120,000 acre-feet by 2020. Additional conveyance facilities would be required to serve the area from New Melones Reservoir.

The Folsom South Canal service area lies immediately north of the Basin. The two most southerly districts within that area are Central San Joaquin Water Conservation District and Stockton East Water District with estimated projected annual needs of approximately 90,000 acre-feet and 145,000 acre-feet respectively. Most of these additional supplies would be needed by the year 2000. Although these two districts are within the Folsom South area and are being considered for service from that canal when it is constructed, they could be supplied water

from New Melones Reservoir -- if it were available -- by construction of additional conveyance facilities.

On the westerly side of the Basin, principally downstream from the mouth of the Stanislaus River is the South Delta Water Agency, created by the State Legislature in 1973 to negotiate and administer agreements for protection of the available water supply against intrusion of ocean salinity and to assure a dependable water supply of suitable quality for the needs of the area. The agency comprises approximately 140,000 acres of which about 90 percent is now in irrigated agricultural use. The quantities of supplemental water that would be needed by the agency have not yet been determined, but it appears that there would be a need at least in some years for supplemental supplies. If New Melones water were available for future use by South Delta Water Agency, it could be conveyed through the Stanislaus and San Joaquin Rivers to that area.

During Hearings held by the Water Resources Control Board on Bureau applications for water to be diverted and stored in New Melones Reservoir, the Bureau proposed a ten-year period of experimental study after New Melones Reservoir began operating. During that period, additional information would be obtained regarding anadromous fishery in the Stanislaus River and other nearby major streams. All possible methods would be explored during that period to provide the fishery accomplishments determined to be desirable and justified as a result of the studies.

Agricultural Water Requirements 4/- Agricultural water requirements were estimated for those portions of the Stanislaus River Basin lying easterly of Oakdale and South San Joaquin Irrigation Districts. The needs of those two districts are being met from ground-water sources and from Stanislaus River supplies which they have developed relying on their water rights. The Bureau of Reclamation and those districts have agreed on the quantity of water which could be diverted from Stanislaus River for their requirements after New, Melones Reservoir goes into operation. These agreed quantities were considered deducted in the report prior to estimating New Melones Reservoir yield. Similarly, downstream riparian and appropriative rights were considered to have been supplied to those lands to which they are associated prior to deriving the reservoir yield.

Land classification data covering the subareas, shown on the map included in the report and in more detail in Appendix B, attached to this report, were derived from studies made by the Bureau of Reclamation within the past few years. These surveys identified the basic components of land classes 1 through 4. The arable lands so determined for each subarea were reduced by six percent to obtain the estimated irrigable acreage and further reduced by four percent to obtain the estimated acreage of productive lands which are given in the table subsequently included in this section. Water requirements for each subarea, by time frame, also are given in a subsequently included table. $\overline{4'}$ More detailed discussion presented in attached Appendix B.

The crops projected to develop within the "Stanislaus River Basin" are based on a consideration of their adaptability to the land and climatic characteristics of the area, the type of irrigation service which may become available, and the market outlooks for these crops. It is anticipated that sprinkler irrigation would be prevalent and that the construction of irrigation facilities and development of the lands would occur at a rate commensurate with the market demand for the projected crops. Sprinklers would also be used for frost protection purposes which would be required at the higher elevations. Calaveras and Tuolumne County service areas range in elevation from about 500 to over 3,000 feet above sea level. Service areas within San Joaquin and Stanislaus Counties are considered part of the main valley floor and are all at elevations of 500 feet above sea level or less. In Tuolumne and Calaveras County service areas, it is anticipated that there would be extensive acreages of fruit, such as apples, pears, and grapes. Other projected crops include irrigated pasture, alfalfa and miscellaneous field crops. In 1975, about 1200 acres were under irrigation at the higher elevations.

Service areas within Stanislaus and San Joaquin Counties receiving irrigation water in 1975 from all sources totaled about 17,000 acres with most of the water being used for pasture and row crops. Under future conditions, the pattern would be expected to change appreciably from the present pattern of about 9% permanent and 91% field crops. Grapes are the main permanent crop projected followed by lesser acreages

of peaches, citrus, walnuts, almonds and olives. Main field and row crops projected for the valley portion of the basin include irrigated pasture, alfalfa, sugar beets, rice, and corn.

Unit water requirements were estimated for the various crops by elevations for those portions of the subareas ranging from 1000 to slightly over 3000 feet. Unit requirements for elevations of 1000 feet or less were estimated to be essentially the same as for the valley floor and the quantities derived from previous Bureau studies were used. As discussed in Appendix B, the unit water requirements decreased for most crops with elevation.

The estimated unit water requirements varying by elevation, were applied to the projected acreage of each crop by elevations within the subareas to obtain the total water requirements for the subareas.

<u>Rural Estates</u>.--Generally speaking, rural lands are defined as being an integral part of the homesites of the urban-suburban population that would require water for non-commercial type agriculture. They are composed of arable, nonirrigable and Class 6 lands. The lands would be composed of small parcels owned by "part-time farmers" for the production of forage to feed specialized animals such as horses, for pleasure riding, beef, sheep, and swine for 4-H and similar-type participants, and beef for home use. There would also be retirement homes with small acreages of fruit, nuts, and grapes. Second homes will also be a recognized category. The irrigation water for the rural lands are in addition to the water quantities required for the previously discussed commercial agriculture. The domestic use for the residences on the rural

lands are considered to be included in the aforementioned municipal and industrial requirements.

Tables 2 and 3, giving projected acreages and water requirements by time periods, were prepared on the basis that all of the productive area would not be developed by the year This conclusion was reached after evaluating each sub-2020. area with specific consideration given to the relative position of the lands classified as being suitable for production of crops with respect to possible future water service which logically may be supplied to those lands. In general, it was estimated that the more scattered and smaller parcels of productive lands would not be supplied water by the year 2020. However, it was estimated that these areas would be fully developed under ultimate conditions, which is at some undefined time in the future after year 2020. The percentage of productive land within the Basin estimated for each county as not being irrigated by year 2020 on the basis indicated would be: Calaveras County -- 18 percent; and Tuolumne, Stanislaus, and San Joaquin Counties -- 25 percent.

<u>Municipal and Industrial Water Requirements</u>. $\frac{5}{-}$ -These requirements were estimated for the "Stanislaus River Basin" by subareas

^{5/} These estimates do not include potential use of water from Stanislaus River for cooling prospective Thermal Powerplants (probably nuclear). Such plants require approximately 50,000 acre-feet for two units which have been indicated to be the minimum desirable installation. Two possible general locations have been given preliminary consideration within the Basin. One of these, Cooperstown site, is being actively investigated. Another source of water supply is currently being considered for that site.

	1980	·	2000		2020		Ultimat	and the second
County &	Agricultural	Rural	Agricultural	Rural	Agricultural	Rural	Agricultural	Rura1
Subarea	(Productive)	<u>Estates</u>	(Productive)	<u>Estates</u>	<u>(Productive)</u>	Estates	<u>(Productive)</u>	<u>Estates</u>
Calaveras Co.								
West Point	0.6	0.5	1.7	1.5	2.7	2.0	2.8	3.7
Copperopolis	1.5	0.2	2.0	0.4	2.3	0.6	2.8	0.8
Calaveras (Part A)	3.0	0.3	11.0	1.0	15.4	1.6	19.0	2.3
Murphys	$\frac{0.7}{5.8}$	$\frac{0.1}{1.1}$	$\frac{1.4}{16.1}$					
Subtotal	5.8	$\overline{1.1}$	16.1	$\frac{0.2}{3.1}$	$\frac{2.1}{22.5}$	$\frac{0.3}{4.5}$	$\frac{2.6}{27.2}$	$\frac{0.4}{7.2}$
Tuolumne Co.								
Sonora	0.6	0.5	2.7	1.5	5.1	2.8	6.8	3.8
Tuolumne Ditch	0.6	0.4	1.1	1.0	1.8	1.9	2.3	2.6
Mi-Wuk	0	0.2	0	0.3	0	0.3	0	0.5
Lower Tuolumne	0.5				-		-	
Subtota1	$\frac{0.5}{1.7}$	$\frac{0.2}{1.3}$	$\frac{1.3}{5.1}$	$\frac{0.4}{3.2}$	$\frac{2.0}{8.9}$	$\frac{0.6}{5.6}$	$\frac{2.6}{11.7}$	$\frac{0.8}{7.7}$
Stanislaus Co.								
Farmington	7.1	0.4	10.6	0.5	14.2	0.7	19.0	0.9
Cooperstown								
Subtotal	$\frac{7.0}{14.1}$	$\frac{0.4}{0.8}$	$\frac{13.0}{23.6}$	$\frac{0.7}{1.2}$	$\frac{17.5}{31.7}$	$\frac{0.8}{1.5}$	$\frac{23.1}{42.1}$	$\frac{1.2}{2.1}$
Con Internity Or								
San Joaquin Co. Farmington	<i>k</i> 0	0.2	7 0	0.4	0.0	o /	11 (A C
Subtotal	$\frac{4.0}{4.0}$	$\frac{0.2}{0.2}$	$\frac{7.2}{7.2}$	$\frac{0.4}{0.4}$	<u>8.8</u> 8.8	$\frac{0.4}{0.4}$	$\frac{11.6}{11.6}$	$\frac{0.6}{0.6}$
Bubcocal	4.0	0.2	1.2	0.4	٥.8	0.4	11.6	0.6
Basin Total	25.6	3.4	52.0	7.9	71.9	12.0	92.6	17.6

Table 2. Acreages Requiring Water, Stanislaus River Basin (Acreage 1,000 Acres)

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Table 3. Agricultural Water Requirements Stanislaus River Basin (Requirements (F.D.D. 1,000 Acre-Feet)

	1980		2000		2020		Ultimat	e
County &		Rural		Rural		Rura1		Rural
Subarea	Agricultural	Estates	Agricultural	Estates	<u>Agricultural</u>	<u>Estates</u>	<u>Agricultural</u>	<u>Estates</u>
<u>Babazea</u>								
Calaveras Co.							0 1	75
West Point	1.8	1.0	5.1	3.0	8.1	4.0	8.3	7.5 1.5
Copperopolis	5.0	0.4	6.9	0.8	8.1	1.2	10.0	4.5
Calaveras (Part A)	9.5	0.5	32.6	2.0	45.4	3.2	55.6	
Murphys	$\frac{2.4}{18.7}$	$\frac{0.2}{2.1}$	$\frac{4.7}{49.3}$	$\frac{0.4}{6.2}$	6.8	$\frac{0.6}{9.0}$	$\frac{8.2}{82.1}$	$\frac{0.8}{14.3}$
Subtota1	18.7	2.1	49.3	6.2	68.4	9.0	82.1	14.3
Tuolumne Co.	0 0	1 0	7.9	3.0	14.9	5.6	19.9	7.5
Sonora	2.0	1.0	3.3	2.0	5.3	3.8	7.1	5.1
Tuolumne Ditch	2.0	0.8	5.5	0.5	J•J	0.7	-	0.9
Mi-Wuk	-	0.3	-		-			
Lower Tuolumne	$\frac{1.6}{5.6}$	$\frac{0.4}{2.5}$	$\frac{4.2}{15.4}$	$\frac{0.8}{6.3}$	$\frac{6.5}{26.7}$	$\frac{1.1}{11.2}$	<u>8.6</u> 35.6	$\frac{1.5}{15.0}$
Subtotal	5.6	2.5	15.4	0.5	20.7	11.2	0.00	13.0
Stanislaus Co.								
Farmington	25.9	0.7	38.6	1.1	51.6	1.4	69.1	1.9
Recreation $\frac{1}{2}$	20.0		20.0		20.0		20.0	
Cooperstown	23.2	0.7	42.5	1.3	56.7	1.7	75.7	2.3
Recreation ² /			-	· · ·	-			
Subtotal	69.1	1.4	101.1	2.4	128.3	3.1	164.8	4.2
		-						
San Joa q uin Co.		•					(0.0	1 0
Farmington	$\frac{15.6}{15.6}$	$\frac{0.4}{0.4}$	$\frac{26.3}{26.3}$	$\frac{0.7}{0.7}$	$\frac{31.7}{31.7}$	$\frac{0.9}{0.9}$	$\frac{42.2}{42.2}$	$\frac{1.2}{1.2}$
Subtotal	15.6	0.4	26.3	0.7	31.7			
Basin Total	109.0	6.4	192.1	15.6	255.1	24.2	324.7	34.7

1/ Estimated quantity of recreation water needed annually on the average to maintain a more suitable level in Woodward Reservoir during the recreational season. This projection should be analyzed in detail by Stanislaus County.

2/ Possibly a relatively small quantity of recreation flow water might be required for Dry Creek. Due to its indefinite status, it was not included in these projections. through application of estimated unit water requirements to the population projected. The resulting estimated water requirements are discussed in the following paragraphs by counties. More detailed description of the estimates made is given in the attached Appendix B.

1. <u>Calaveras County</u>. This county is bounded on the north by Amador County, the south by Tuolumne County, the west by San Joaquin and Stanislaus Counties, and on the east by Alpine County. The county has a population estimated in 1974 at about 16,000 people. The county seat is San Andreas with a population of 1800 people. Present industrial water users are few, with the largest single industrial complex being the Calaveras Cement Company with a present annual water requirement of 700 acrefeet. It is estimated that in 1980 total industrial water requirements would amount to about 3,500 acre-feet with the 2020 projections estimated to approximate 16,000 acre-feet. Population projections, by decades for Calaveras County, made by Department of Finance, State of California, are shown in the following tabulation:

Year	Permanent <u>Population</u>
1980 1990 2000 2010 2020	18,900 24,200 27,800 32,100 37,000

In addition to the year-around residency, there is a continuing trend toward more summer homes and general recreation use which creates a water demand that must be included for

total water requirement purposes. A recent analysis made for Calaveras County by Tudor Engineering Company in computing this type of use determined that seasonal and recreationists would translate to a year around population of about 60 percent of the permanent population. This value was accepted as being representative of the area for such use. The total population estimated for Calaveras County by decades follows:

Year	Permanent	Seasonal Converted	<u>Tota</u> l
1980	18,900	12,000	30,900
1990	24,200	12,000	36,200
2000	27,800	13,000	40,800
2010	32,100	26,300	58,400
2020	37,000	27,000	64,000

The projected municipal and industrial water requirements for the subareas considered in the report to be within the "Stanislaus River Basin" are given in the following tabulation:

	M&I Requi:	rement (1,000	<u>acre-feet)</u>
Subarea	1980	2000	2020
West Point	0.8	2.0	2.8
Calaveras (Part A)	2.7	6.4	9.6
Copperopolis	0.3	0.7	1.0
Murphys	<u>4.1</u>	9.1	13.0
Total	7.9	18.2	26.4

2. <u>Tuolumne County</u>. Tuolumne County is located to the south of Calaveras County and east of Stanislaus County. It had an estimated 1974 population of 25,000 people. The county

seat is Sonora with a city population estimated at 3,700 people. Leading group classes of products within the County are lumber and lumber products; however, a strong emphasis is developing for summer homes and recreation.

California Department of Finance population projections for Tuolumne County, by decades, are shown in the following tabulation:

Year	Population
1975	27,400
1980	32,400
1990	41,800
2000	48,000
2010	53,800
2020	60,400

For estimating purposes, the portion of Tuolumne County, within "Stanislaus River Basin" was divided into four subareas identified as (a) Mi-Wuk; (b) Tuolumne Ditch; (c) Sonora; and (d) Lower Tuolumne.

(a) Mi-Wuk is located in the upper elevations (4,000-5,000 feet) and encompasses some 7,000 acres. Most of the area lies along a narrow ridge. It has several small communities, each of which contains a small year-around population. In general, the area is recreationally oriented and the projected expansion is based on summer homes and general recreation development.

(b) The Tuolumne Ditch lies below the 4,000 foot elevation, directly west of the Mi-Wuk subarea. It

consists of some 56,000 acres and contains the once lively gold mining town of Columbia which is now preserved as a State Historical Park. Major industries are lumbering and recreation.

(c) The Sonora subarea extends west from the 2,400 foot elevation which is common to both Tuolumne Ditch and Sonora Subareas and west to include the towns of Jamestown and Jacksonville. It contains the county seat of Sonora with a population of 3,400 people which is the largest town in Tuolumne County. The area is dedicated mainly to agriculture and urbanism.

(d) The Lower Tuolumne subarea lies west of the Sonora subunit with a present small static population. However, with the completion of the Don Pedro Dam and Reservoir and the advent of the New Melones Dam and Reservoir, the population in both permanent and summer home categories is expected to increase significantly.

The municipal and industrial water supplies, by decades, projected for Tuolumne County, through the year 2020, are shown in the following tabulation:

	<u>1980</u>	2000	<u>2020</u>
Sonora Area Tuolumne Ditch Mi-Wuk Area Lower Tuolumne	2.9 2.0 0.3 <u>1.7</u> 6.9	$ \begin{array}{r} 4.3 \\ 2.9 \\ 0.4 \\ \underline{3.7} \\ 11.3 \end{array} $	5.7 4.2 0.6 <u>5.5</u> 16.0
Total	0.9	11.5	10.0

3. Stanislaus County. Stanislaus County is bounded on the north by San Joaquin County, the west by Santa Clara County, the south by Merced County, and on the east by Tuolumne and Calaveras Counties. The county has an estimated population of 213,600 made in 1974 by the State Department of Finance. The county seat is Modesto, with a population of 79,500. For estimating purposes, the portion of the County considered herein to be within the "Stanislaus River Basin" was divided into two subareas, Farmington and Cooperstown. A report, prepared in 1974 for Stanislaus County by its Consulting Engineer, indicated that all municipal and industrial water now being used is pumped from ground water and that all future water for municipal and industrial purposes through 2020 could continue to be supplied by ground water with the exception of some 5,000 acre-feet for the town of Riverbank and about 7,000 acre-feet for the town of Oakdale. These projections (12,000 acre-feet) located in the Cooperstown subarea are accepted as being representative of the county's incremental increased water demands within the Basin for municipal and industrial purposes.

4. <u>San Joaquin County</u>. This County is adjacent to Stanislaus County on the north and west. Projected municipal and industrial requirements were estimated as negligible for the Farmington subarea of San Joaquin County considered in this report to be within "Stanislaus River Basin."

<u>Total Estimated Water Requirements</u>.--The combined agricultural and municipal and industrial water requirements for the Stanislaus River $Basin^{6/}$, discussed in the two immediately prior sections, are presented in the following tabulations by counties and subareas:

County and Subarea	<u>Water</u> 1980	Requirements 2000	(1,000 A.F.) 2020
<u>Calaveras County</u> 1. <u>West Point</u> M&I Agricultural Rural Estates Subtotal	0.8 1.8 <u>1.0</u> 3.6	2.0 5.1 <u>3.0</u> 10.1	2.88.14.014.9
2. <u>Copperopolis</u> M&I Agricultural Rural Estates Subtotal	0.3 5.0 <u>0.4</u> 5.7	0.7 6.9 <u>0.8</u> 8.4	1.0 8.1 <u>1.2</u> 10.3
3. <u>Calaveras - Part</u> M&I Agricultural Rural Estates Subtotal	$ \begin{array}{r} \underline{A} \\ 2.7 \\ 9.5 \\ \underline{0.5} \\ 12.7 \\ \end{array} $	$ \begin{array}{r} 6.4 \\ 32.6 \\ \underline{2.0} \\ 41.0 \end{array} $	9.6 45.4 <u>3.2</u> 58.2
4. <u>Murphys</u> M&I Agricultural Rural Estates Subtotal	$ \begin{array}{r} 4.1 \\ 2.4 \\ \underline{0.2} \\ 6.7 \end{array} $	9.1 4.7 0.4 14.2	$ \begin{array}{r} 13.0 \\ 6.8 \\ \underline{0.6} \\ 20.4 \end{array} $
<u>Total - Calaveras Cou</u> M&I Agricultural Rural Estates Total	7.9 18.7 <u>2.1</u> 28.7	18.2 49.3 <u>6.2</u> 73.7	26.4 68.4 <u>9.0</u> 103.8

6/ Projected water requirements for all that portion of Stanislaus River Basin lying easterly of Oakdale and South San Joaquin Irrigation Districts.

		Requirements (1,000	
County and Subarea	<u>1980</u>	2000	<u>2020</u>
Tuolumne County			
1. <u>Sonora</u>	• •	4.0	
M&I Agricultural	2.9 2.0	4.3 7.9	5.7 14.9
Rural Estates	$\frac{1.0}{5.9}$		5.6
Subtotal	5.9	$\frac{3.0}{15.2}$	26.2
2. Tuolumne Ditch			
M&I	2.0	2.9	4.2
Agricultural	2.0	3.3	5.3
Rural Estates Subtotal	$\frac{0.8}{4.8}$	$\frac{2.0}{8.2}$	$\frac{3.8}{13.3}$
Subtotal	4.0	0.2	T2*2
3. <u>Mi-Wuk</u>	0.2	0.4	0.6
M&I Agricultural	0.3	0.4	0.6
Rural Estates	0.3	0.5	0.7
Subtotal	$\frac{0.3}{0.6}$	$\frac{0.5}{0.9}$	$\frac{0.7}{1.3}$
4. Lower Tuolumne			
M&I	1.7	3.7	5.5
Agricultural	1.6	4.2	6.5
Rural Estates	$\frac{0.4}{3.7}$	$\frac{0.8}{8.7}$	$\frac{1.1}{13.1}$
Subtotal	3./	8./	13.1
<u> Total - Tuolumne Cou</u>			
M&I	6.9	11.3	16.0
Agricultural Rural Estates	5.6 2.5	15.4	26.7 <u>11.2</u>
Total	15.0	$\frac{6.3}{33.0}$	$\frac{11.2}{53.9}$
<u>Stanislaus</u> County			
1. Farmington			
M&I	-	-	
Agricultural	25.9 0.7	38.6	51.6
Rural Estates Recreation <u>a</u> /	20.0	1.1 20.0	1.4 20.0
Subtotal	46.6	59.7	$\frac{20.0}{73.0}$

<u>a</u>/ Estimated quantity of recreation water needed annually on the average to maintain a more suitable level in Woodward Reservoir during the recreational season. This projection should be analyzed in detail by Stanislaus County.

	Water	Requirements (1,	000 A.F.)
County and Subarea	1980	2000	2020
Stanislaus County (Con	tinued)		
2. <u>Cooperstown</u>			
M&I <u>b</u> /	-	12.0	12.0
Agricultural	23.2	42.5	56.7
Rural Estates	0.7	1.3	1.7
Recreation <u>c</u> /	-		
Subtotal	23.9	55.8	70.4
	a .		
<u>Total Stanislaus</u>	County	10.0	10.0
M&I	-	12.0	12.0
Agricultural	49.1	81.1	108.3
Rural Estates	1.4	2.4	3.1
Recreation	$\frac{20.0}{70.5}$	20.0	$\frac{20.0}{1(2)}$
Total	70.5	115.5	143.4
See Jeanuin Country			
San Joaquin County 1. Farmington			
1. <u>Farmington</u> M&I	_	_	_
Agricultural	15.6	26.3	31.7
Rural Estates			
Subtotal	$\frac{0.4}{16.0}$	$\frac{0.7}{27.0}$	$\frac{0.9}{32.6}$
bubcocar	10.0	27.00	52.0
<u> Total San Joaquin</u>	County		
Tota1	16.0	27.0	32.6
IULAL	10.0	41 • V	52.0

b/ For Oakdale and Riverbank (within Oakdale Irrigation District.)

<u>c</u>/ Possibly a relatively small quantity of recreation flow water might be required for Dry Creek. Due to its indefinite status, it was not included in these projections.

Local Water Supply Sources Other than Stanislaus River.--The "Stanislaus River Basin" requirements were estimated to be served in part by water sources other than Stanislaus River. These would consist of surface water supplies from existing and future developments of Mokelumne and Calaveras Rivers, and possibly future developments and diversion from Tuolumne River, and also from ground-water supplies underlying portions of the Basin. The Bureau of Reclamation has contracted for repayment and conservation use of the existing New Hogan Project on Calaveras River with Stockton East Water District in San Joaquin County and Calaveras County Water District. Z' The Calaveras District contemplates that its portion of the supply from that source on the basis of its maximum entitlement of 43.5% of the project yield would be some 30,000 to 40,000 acre-feet. Calaveras County Water District contemplates using that yield near the reservoir and in the Jenny Lind area which lies to the north of New Hogan Reservoir and Calaveras River and extends nearly to the Mokelumne River. The Jenny Lind area has not been included in the "Stanislaus River Basin." Its related New Hogan Reservoir supply also has not been considered herein since it is planned to be used by Calaveras County Water District outside of the Basin.

Two other portions of Calaveras County, not considered to be within "Stanislaus River Basin," are Valley Springs Subarea and Calaveras Subarea (Part B). These are shown on the Plate included in a previous section of this report (Basin Description). Existing developments on Mokelumne River, as well as New Hogan Reservoir on Calaveras River, now supply water to these subareas. The projected water requirements of these two subareas are given subsequently in this report under the section, "Water Requirements for Areas Adjacent to Stanislaus River Basin." It is considered herein that the water

7/ Contract No. 14-06-200-5057A, dated August 25, 1970.

<u>8</u>/ Percentage provided in contract of August 25, 1970 between Stockton East Water District and Calaveras County Water District and is subject to Calaveras County Water District meeting provisions specified therein.

needs of these two subareas would be served from Mokelumne River and Calaveras River supplies. Water supplies from these sources, therefore, are reduced as discussed in the following paragraphs by the quantity of these estimated subarea requirements to derive the supplies available from those two streams for use within the Stanislaus River Basin.

The extent of use of Mokelumne River water within Calaveras County in the future would be dependent on the water rights obtained and agreements made covering this source. The quantity of Mokelumne River water which would be available for such use is considered to be 27,000 acre-feet. $\frac{9}{7}$

Permits granted by the State Water Resources Control Board to Calaveras County Water District provides for construction of five reservoirs on Calaveras River upstream from New Hogan Reservoir. These reservoirs would have a combined capacity of approximately 52,000 acre-feet. The District's plans now contemplate that the upstream storage would be provided by four prospective reservoirs --Esperanza, Jesus Maria, O'Neill, and Scotts -- with a yield of 16,600 acre-feet. This estimated yield was considered in this report as combined with the Mokelumne River supply previously discussed, 27,000 acre-feet, and available by the year 2000 for serving a portion of the water needs of Calaveras County Water District.

<u>9</u>/ Agreement dated November 26, 1958 between Calaveras County Water District and East Bay Municipal Utility District.

The 43,600 acre-feet of combined supply was considered first, as meeting the requirements of the two subareas which were previously discussed and considered to be outside "Stanislaus River Basin." The projected 2020 requirements for these two subareas are $11,900\frac{10}{acre-}$ feet. Subtracting that estimated requirement quantity from the combined supply would leave $31,700\frac{10}{acre-}$ feet available for serving Calaveras County water needs within the Basin.

Calaveras County has only limited ground-water supplies. It was considered herein that no water would be available from this source on a reliable basis to add to the local surface supplies available from Mokelumne and Calaveras River for use in the Basin.

For Tuolumne County Water District No. 2, all surface water supplies available for use were estimated as being from Stanislaus River. It is possible that future developments might be constructed on tributaries of Tuolumne River with some water from that system being imported for use within the District. Similar to Calaveras County, the ground-water supplies were estimated for this report as being negligible.

In the Stanislaus County and also San Joaquin County portion of the "Stanislaus River Basin" any surface water supplies which may be available for use are relatively minor. However, there is some ground-water supplies that would be available, and in addition,

^{10/}Corresponding estimates for the year 2000 would be 9,400 acrefeet of requirement and 34,200 acre-feet remaining water supply.

some of the drainage water resulting from farm irrigation could be recycled and used for irrigation along with the ground water. $\frac{11}{}$

For the Cooperstown subarea of Stanislaus County, which lies south of Stanislaus River and north of Tuolumne River, these local supplies are estimated to be 20,000 acre-feet. The farmington subarea lies northerly of Stanislaus River. For that portion of the subarea which is in Stanislaus County, it is estimated the safe ground-water supply which could be pumped and drainage water recycled would approximate 12,000 acre-feet. For the portion of that subarea in San Joaquin County, these local water supplies are estimated at about 8,000 acre-feet.

Water supplies from local sources other than Stanislaus River, estimated as being available for future use to meet a portion of the "Stanislaus River Basin" requirements, are summarized in the following tabulation:

			plies (1000 A.F.)
County and Sub	area	2000	<u>2020</u>
<u>Calaveras Coun</u> 1. West Poi		10.1	14.9
2. Copperop			
3. Calavera		24.1	16.8
4. Murphys Subtot	a1	34.2	31.7

11/ Estimates for subareas from East Side Division, Ground-Water Geology, and Resources Appendix -- Part I -- Feasibility Study of Subareas north of Merced River, May 1971.

12/ Proportioned on basis of productive acreages in two portions of subarea.

	<u>Local water sup</u>	plies (1000 A.F.)
County and Subarea	2000	2020
<u>Tuolumne County</u>		
1. Sonora	-	
2. Tuolumne Ditch		
3. Mi-Wuk		
4. Lower Tuolumne		
Subtotal		
Stanislaus County	10.0	
1. Farmington	12.0	12.0
2. Cooperstown	20.0	20.0
Subtotal	32.0	32.0
<u>San Joaquin County</u>		
1. Farmington	8.0	8.0
Subtota1	8.0	8.0
Total Stanislaus River Basin	74.2	71.7

a/ Possible future developments might be constructed on tributaries of Tuolumne River with some water from the Tuolumne River system being imported for use within the "Stanislaus River Basin" portion of Tuolumne County. To the extent this occurs, a corresponding reduction would result in need for Stanislaus River water.

Estimated Requirements Which May Need to Rely on Stanislaus <u>River Water</u>.^{13/}--The "Stanislaus River Basin" requirements which it is estimated would need to rely on Stanislaus River water for the year 2000 and 2020 conditions, are derived by deducting the local water supplies given in the preceding section from the total estimated water requirements previously discussed. This computation would result in the following estimated remaining water requirements which would need to be served by Stanislaus River, including New Melones Reservoir:

^{13/} Relates to that portion of the Basin lying generally easterly of Oakdale and South San Joaquin Irrigation Districts. The water needs of those two districts and other areas along Stanislaus River having riparian or other water rights downstream from Goodwin Dam also would be served from Stanislaus River.

County and Subarea		quirement Estimated <u>m Stanislaus River</u> e-feet)
	<u>2000</u>	2020
Calaveras County 1. West Point 2. Copperopolis 3. Calaveras - Part A 4. Murphys Subtotal	8.4 <u>a</u> / 16.9 <u>14.2</u> 39.5	$ \begin{array}{r} 10.3^{\underline{a}} \\ 41.4 \\ \underline{20.4} \\ 72.1 \\ \end{array} $
<u>Tuolumne County</u> 1. Sonora 2. Tuolumne Ditch 3. Mi-Wuk 4. Lower Tuolumne Subtotal	15.2 8.2 0.9 <u>8.7ª</u> / 33.0	26.2 13.3 1.3 <u>13.1a</u> / 53.9
Stanislaus County 1. Farmington 2. Cooperstown Subtotal	47.7 <u>a</u> / <u>35.8</u> a/ 83.5	$\frac{61.0^{\underline{a}/}}{50.4^{\underline{a}/}}$ 111.4
San Joaquin County 1. Farmington Subtotal	$\frac{19.0a}{19.0}$	<u>24.6a</u> / 24.6
Total - Stanislaus River B	Basin 175.0	262.0

<u>a</u>/ Estimated in this report as being supplied water from New Melones Reservoir.

The projected water needs of both Calaveras and Tuolumne Counties would be supplied in part from existing and future reservoirs on Stanislaus River and diversions upstream from New Melones Reservoir to the counties and also by water conserved in New Melones Reservoir. The specific areas in Calaveras and Tuolumne Counties, which would be served from these two sources, cannot be determined definitely at this time. Such determination will depend on many presently undefined

factors including the development of future projects and the rate and location of the increase in agricultural and municipal and industrial water needs. It was estimated for the purpose of this report that Copperopolis subarea in Calaveras County and Lower Tuolumne area in Tuolumne County would be reasonable and logical to serve from New Melones Reservoir with the remaining Basin areas in each county to be supplied from Stanislaus River above New Melones Reservoir. At the specific request of both Calaveras and Tuolumne Counties, New Melones Dam is being designed and facilities will be installed to permit future service to each county from New Melones Reservoir.

The areas within the "Stanislaus River Basin" in Stanislaus and San Joaquin Counties are considered herein to be supplied water for the estimated future requirements from New Melones Reservoir.

On the basis of the foregoing considerations, the "Stanislaus River Basin" requirements for water from Stanislaus River, upstream from New Melones Reservoir, would be:

	Acre-Feet (1000) ^{<u>a</u>/}		
County	2000	2020	
Calaveras Tuolumne Subtotal Conveyance Losses ^{b/} Total Round to:	$\begin{array}{c} 31.1 & (9.1) \\ \underline{24.3} & (\underline{7.6}) \\ 55.4 & (16.7) \\ \underline{2.8} & (\underline{0.8}) \\ 58.2 & (17.5) \\ 59.0 \end{array}$	$\begin{array}{r} 61.8 & (13.0) \\ \underline{40.8} & (10.5) \\ 102.6 & (23.5) \\ \underline{5.1} & (1.2) \\ 107.7 & (24.7) \\ 108.0 \end{array}$	

<u>a</u>/ All quantities in parenthesis are the M&I portion of the total requirements which would need to be met from Stanislaus River. Certain additional requirements for Calaveras County upstream from New Melones Reservoir would be served as considered herein, from other available local surface supplies (Calaveras and Mokelumne Rivers).

<u>b</u>/ In conveying the water from the Stanislaus River and from New Melones Reservoir, some water would be lost through the conveyance system which would need to be constructed. These losses estimated at 5% of the service area requirement. Although some of the losses might be recoverable, such recovery not considered herein. Similarly, the Basin requirements which would be supplied from New Melones Reservoir are estimated to be:

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	Acre-Fee	et (1000) <u>ª</u> /
County	2000	2020
Calaveras Tuolumne Stanislaus San Joaquin Subtotal Conveyance Losses ^{b/} Total Round to:	$\begin{array}{c} 8.4 & (0.7) \\ 8.7 & (3.7) \\ 83.5 & (12.0) \\ \underline{19.0} & (0) \\ 119.6 & (16.4) \\ \underline{6.0} & (0.8) \\ 125.6 & (17.2) \\ 126.0 \end{array}$	$ \begin{array}{r} 10.3 (1.0) \\ 13.1 (5.5) \\ 111.4 (12.0) \\ \underline{24.6} (0) \\ 159.4 (18.5) \\ \underline{8.0} (0.9) \\ 167.4 (19.4) \\ 168.0 \end{array} $

<u>a</u>/ All quantities in parenthesis are the M&I portion of the total requirements which would need to be met from Stanislaus River. Certain additional requirements for Calaveras County upstream from New Melones Reservoir would be served as considered herein, from other available local surface supplies (Calaveras and Mokelumne Rivers).

b/ In conveying the water from the Stanislaus River and from New Melones Reservoir, some water would be lost through the conveyance system which would need to be constructed. These losses estimated at 5% of the service area requirement. Although some of the losses might be recoverable, such recovery not considered herein.

<u>New Melones Reservoir Yield</u>.--The estimated yield of New Melones Reservoir was derived for projected year 2020 conditions and also for year 2000, which would represent interim conditions during the buildup of the requirements. These yields were estimated at about 185,000 acre-feet and 220,000 acre-feet respectively for those two time periods. Deficiencies of 35 percent were considered in critical dry years for the estimated agricultural requirements.

In addition to those yields downstream, water rights, including the agreement with Oakdale and South San Joaquin Irrigation District, would be met. The reservoir also would supply releases for downstream fishery in the amount of 98,000 acre-feet annually during * Previous Bureau of Reclamation documents state other New Melones yield -- based on different estimated year 2020 upstream depletions.

a normal year (69,000 acre-feet during a dry year), and up to 70,000 acre-feet annually to meet established water quality criteria.

The 2,400,000 acre-foot New Melones Reservoir would provide flood control space during winter months of 450,000 acre-feet and maintain a minimum pool of 310,000 acre-feet for hydroelectric power production purposes.

Inflows to New Melones Reservoir would be modified by the operations of the existing upstream storage reservoirs and those constructed in the future. Diversions are considered to be made from Stanislaus River upstream from New Melones Reservoir to meet the requirements in Calaveras, and Tuolumne Counties as projected in this report.

<u>Relation of Estimated Requirements and Stanislaus River Supply</u>.--Comparison of the requirements for Stanislaus River water for that portion of "Stanislaus River Basin" lying easterly of Oakdale and South San Joaquin Irrigation Districts $\frac{14}{}$, with the supply estimated to be available from Stanislaus River, provides the following indicated results:

- (a) For the subareas above New Melones Reservoir, the requirements estimated as needing to rely on Stanislaus River would be supplied from that source and the Stanislaus River inflow to New Melones Reservoir would be modified accordingly.
- (b) The estimated requirements for the subareas indicated herein as being supplied from New Melones Reservoir would

¹⁴/ Portion of Basin for which water requirement estimates were made.

be met for both the year 2000 and 2020 conditions. The estimated reservoir supply would exceed these subarea requirements by approximately 90,000 acre-feet for the year 2000 conditions and by 15,000 acre-feet for 2020. For both conditions, these estimated requirements include, in addition to municipal, industrial, and agricultural uses, an estimate of 20,000 acre-feet (average annual) for recreational purposes to maintain Woodward Reservoir at a more desirable water surface elevation through the summer recreational season. The estimated requirements, however, do not include any projected use of New Melones Reservoir supply for thermal electric powerplant cooling. If an allowance were made for that purpose, the indicated excess of the supply over the requirements would be reduced correspondingly with such allowance.

In addition, it is possible that requirements greater than those projected for year 2000 and 2020 could develop. Agricultural lands with estimated requirements approximating 50,000 acre-feet, are projected as remaining undeveloped by 2020. Increased municipal and industrial developments with additional water requirements also might occur.

Water Requirements for Areas Adjacent to Stanislaus River Basin

General.--There are several areas adjacent to the "Stanislaus River Basin," which would have a projected need for additional water

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to meet the estimated agricultural and municipal and industrial requirements. These areas, which are within Calaveras, Stanislaus, Merced, and San Joaquin Counties, are described briefly in the following paragraphs and in more detail in Appendix B, attached.

<u>Calaveras County</u>.--In Calaveras County, the Valley Springs and Calaveras Part B. subareas are considered outside, but adjacent to the "Stanislaus River Basin." The requirements estimated for those subareas are:

Subarea	Water Requirement 2000	(1,000 acre-feet) <u>2020</u>
<u>Valley Springs</u> M&I Agriculture Rural Estates	2.0 4.0 0.4	2.7 4.9 <u>0.6</u>
Total	6.4	8.2
<u>Calaveras Part B</u> M&I Agriculture Rural Estates	1.4 1.6 	1.6 2.1
Total	3.0	3.7

These requirements were estimated as being met in this report from Calaveras and Mokelumne River supplies for which Calaveras County Water District has water rights. Therefore, they are not considered as having a need for additional water from Stanislaus River.

Montpelier Area (Stanislaus and Merced Counties).--The Montpelier subarea is adjacent to the "Stanislaus River Basin" immediately south

of the Cooperstown subarea. It is bounded on the north by Tuolumme River; on the south by Merced River and Merced Irrigation District; on the west by Turlock Irrigation District; and on the east by the Stanislaus-Tuolumne and Merced-Mariposa County lines. The subarea comprises about 80,000 acres of productive lands in a contiguous block nearly equally divided between Stanislaus and Merced Counties. Some 30,000 acres of these lands are now being irrigated from an overdrafted ground-water supply. The safe ground-water supply, under present conditions, is estimated at about 50,000 acre-feet annually. No surface supplies are presently available. Currently, a substantial portion of the lands being irrigated are planted to tree crops and vines. In the future, approximately one-half of the area may develop to these types of crops if adequate water were available. The estimated water requirements for this area, segregated by the two counties, are as follows:

	Water Requirement	(1000 acre-feet)
County and Subarea	2000	2020
<u>Stanislaus-Montpelier</u> M&I	- 56.3	- 74.9
Agricultural Rural Estates Subtotal	<u>2.0</u> 58.3	<u>2.7</u> 77.6
<u>Merced-Montpelier</u> M&I Agricultural Rural Estates	66.8 2.3 69.1	88.5 <u>3.0</u> 91.5
Subtotal Total - Montpelier (Both Counties)	<u>89.1</u> 127.4	169.1

Comparing the tabulated water requirements with the estimated present safe ground-water supply of about 50,000 acre-feet, indicates that approximately 80,000 acre-feet of imported surface supply would be needed by year 2000 and 120,000 acre-feet by 2020. An additional conduit from the Stanislaus River would need to be constructed to supply New Melones Reservoir water, if it were available to this area. If service were provided to this area from New Melones Reservoir, it would be advantageous to combine this conduit with facilities which will need to be constructed for serving the Cooperstown area within the "Stanislaus River Basin."

Southerly Portion of Folsom South Service Area (San Joaquin County).--Immediately to the north of "Stanislaus River Basin" in San Joaquin County is the Central San Joaquin Water Conservation District which lies within the Folsom South service area. The district contains approximately 65,000 acres with about 50,000 acres presently being irrigated from ground-water supplies. The ground water is being overdrafted by operations within its District, and in addition ground-water outflow from the District is being caused by extensive ground-water pumping within the Stockton East District immediately to the north, particularly pumping for the City of Stockton. There is a rather heavy decline in ground-water levels resulting from the large amount of pumping now occurring.

Central San Joaquin Water Conservation District has contemplated obtaining the additional water it requires from Folsom South Canal. The supplemental water requirements for the District have been estimated on the basis of previous studies $\frac{15}{}$ at 90,000 acre-feet annually. All of this quantity is estimated to be for agricultural uses.

Stockton East Water District, as indicated, is immediately to the north of Central San Joaquin Water Conservation District. Stockton East Water District is obtaining some additional water from New Hogan Reservoir, but even with that source, it is estimated that its supplemental requirements for water from Folsom South Canal would be 145,000 acre-feet annually.

Both of these Districts could be supplied water from New Melones Reservoir, if it were available, by constructing new facilities to divert water from Stanislaus River to Littlejohns Creek. Similar type facilities also would be required to supply New Melones water to the Farmington subarea of the "Stanislaus River Basin." Central San Joaquin Water Conservation District, lying closer to the Stanislaus River, would be somewhat easier to serve than Stockton East Water District.

^{15/} Made in connection with negotiations for water contracts for Folsom South Canal water.

South Delta Water Agency (San Joaquin County).--In 1973, the California Legislature created the South Delta Water Agency (SDWA). The SDWA lies wholly within San Joaquin County in the southern portion of the Sacramento-San Joaquin Delta. The general purposes of the agency are to negotiate and administer agreements to be entered into with the United States and the State of California to protect the water supply of the lands within SDWA against intrusion of ocean salinity and to assure a dependable supply of water of suitable quality for present and future needs of SDWA lands.

The area encompassed by the boundaries of SDWA, approximates 141,000 acres. Of this area, about 90 percent, or 127,000 acres is in agricultural use; the remainder is comprised of waterways, levees, residential, industrial and municipal lands.

Approximately 40 percent of the total area is classified as "lowlands" and 60 percent are designated as "uplands." The distinction between these two classifications hinges on whether or not the lands lie above or below the influence of tide water. Generally, all of the lands lying within the agency between Old River and the main stem of the San Joaquin River below (seaward) of the bifurcation are designated as "lowlands."

Agriculture, the primary use of southern Delta lands, varies considerably with location, season, and market opportunity. Historically, truck crops have been prominent in almost all parts of the

area and in most years, with greatest emphasis being placed on asparagus and tomatoes. Beans, carrots, and lettuce, as well as some onions, have been grown in most years without specific regard to location. A very important use of agricultural lands of the area is for grain and hay crops and pasture, especially alfalfa.

The final water quality criteria to be contained in a contract with SDWA are still under negotiation and the studies to determine the quantity of water required to maintain the various criteria are still in progress. The quantities of water that will be required for SDWA, have not yet been determined. However, it appears definite that SDWA would require a supplemental water supply in some years, in addition to the quantities which would be released annually from New Melones Reservoir for fishery (98,000 acre-feet), and water quality (up to a maximum of 70,000 acre-feet) depending on the specified water quality criteria to be met and which releases would be available for water quality improvement in the waterways through SDWA. Ιf such supplemental water were available from New Melones Reservoir on either an interim or permanent basis, it could be conveyed, through the Stanislaus and San Joaquin River channels, to reach SDWA without additional conveyance facilities.

Reclamation Districts No. 2064 and 2075, located in San Joaquin County, are within SDWA. These two districts also are included within Stanislaus River Basin since each district obtains some water by pumping from Stanislaus River under existing water rights.

Stanislaus River Flows for Fishery.--Flow releases from New Melones Reservoir for anadromous fishery were recommended by Federal and State fishery agencies at 98,000 acre-feet for a normal year and 69,000 acre-feet in a dry year to be maintained in the river below Goodwin Dam. These normal year flows would have a monthly schedule as follows: October through December, 200 ft³/s; January through May, 125 ft³/s; and June through September, 100 ft³/s. These flows were included and became a basic and essential part of the supporting material for the project authorization.

In October 1972, the California Department of Fish and Game advised the Bureau of Reclamation that it believed that substantially increased flows on a different monthly distribution would be needed for anadromous fish over those previously recommended. During the Hearings held by the Water Resources Control Board in December 1972, on the Bureau's applications for water to be regulated by New Melones Reservoir, Bureau testimony $\frac{16}{}$ discussed these indicated increased needs and the effect on New Melones yield. In order to provide for fishery needs and also maintain the other project accomplishments, the Bureau proposed a ten-year period of experimental study after New Melones Reservoir began operating. During such period, as proposed, needed information on fishery for Stanislaus River and other nearby major Streams, such as the Tuolumne and Merced Rivers

^{16/} Presented by Assistant Regional Director J. Robert Hammond. Statement included in the Bibliography in Appendix D.

could be obtained. All possible methods also would be explored to provide fishery accomplishments indicated to be desirable from the studies. No agreement was reached on the Bureau's proposal and no further discussions have been held. APPENDIX A

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United States Department of the Interior

BUREAU OF RECLAMATION WASHINGTON, D.C. 20240

ранных вынкато – 730. 511.

ULT 15 1974

Memorandum

To: Regional Director, Sacramento, California

From: Commissioner

Subject: Reservation Area--New Melones and Stanislaus River Water--Central Valley Project, California (your September 12 memorandum)

Prior to initiating water diversions from the Stanislaus River Basin, Public Law 87-874 requires that the existing and future water needs within the basin be identified. As you have indicated, in order to determine those needs, it is first necessary to identify the basin boundary. For reasons which you have indicated, the area encompassed by the hydrologic boundary of the river basin need not necessarily coincide with that which you have identified as the reservation area.

We feel the rationale you have used in determining the extent of the Stanislaus River Basin is logical. For the purpose of proceeding with your analysis of water needs in the basin, the boundary you have established is acceptable. We are interested in knowing whether or not you have coordinated your effort with the State.

This matter has been discussed with Mr. London of the Solicitor's office.

ICI Man

CONSERVE MERICAS ENERGY

Save Energy and You Serve America!

HP-721

SEP 1 2 1974

511.

To: Commissioner, Washington, D. C.

From: Regional Director, Sacramento, California

Eubject: Reservation Area - New Melones and Stanislaus River Water - Central Valley Project, California

Public Law 87-874 (October 1962), which modifies the New Melones Project as sutherized by the Flood Control Act of 1944, contains the following provision:

"That before initiating any diversions of water from the Stanislaus River Besin in connection with the operation of Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and enticipated future meads within the basin and the diversions shall at all times be subordinate to the quantities so determined . . ."

The intent of that provision in regard to the area to be included within the "Stanislaws River Besin" is a particularly important matter which mouds early consideration and determination by your office and also by the Department.

The Secretary of the Interior is required by the anthonizing act to make the determination of the water meeds within the Besin. As the initial step in such determination, we have considered what area logically was intended to be included in the term "Stanialous River Basin."

The attached paper, with accompanying map, prepared by a Conmittee composed of representatives from the Regional Solicitor's Office, Planning, and Mater and Land Operations Divisions, presents a summarized discussion and conclusions concerning this question. I concur with these findings and recommend that they be adopted. After the decision on this matter has been resched, additional studies and analyzes then will be made and submitted for your review on the estimated water requirements for the reservation area and estimated supplemental water needs from Stanislaus River including New Melones Reservoir.

The determination of the "Stanislaut River Basin" area and the associated supplemental water needs are matters which concern all New Malonce studies including water service contract negotistions. This determination also has an important bearing on the alternative lower American River-Folson South service area studies currently underway. We suggest that, if possible, the area determination review of the attached paper be completed by October 15, with the supplemental requirement analyses tentatively scheduled for submittel to your office by March 15.

(sgd) B. E. Martin

Attachments

RESERVATION AREA STANISLAUS RIVER WATER

This paper summarizes discussions and findings concerning the area of use reservation in the New Melones Project authorization, (P.L. 87-874) which directs the Secretary of the Interior to determine and give priority to local needs. The question is whether this reservation was intended to include lands adjacent to but outside of the Stanislaus River topographic drainage boundary, and if so, the extent of those lands.

For the reasons which are set forth hereafter, it is concluded: That the reservation provision of the authorization should and was intended to cover those areas adjacent to Stanislaus River which now or in the future need to rely on that source of supply to meet all or some portion of their water needs.

This area which is described more specifically subsequently, is depicted on the attached drawing and generally includes: That portion of Alpine County within the Stanislaus River drainage basin; that portion of Calaveras County lying south of Calaveras River below New Hogan Dam, south of New Hogan Reservoir, and extending upstream to include the Calaveras River, Stanislaus River, and a portion of the Mokelumne River watersheds, (all within Calaveras County Water District); that portion of Tuolumne County lying generally north of Tuolumne River, the north fork of that river and Dodge Ridge; (within Tuolumne County Water District No. 2);

that portion of Stanislaus County lying north of Stanislaus River; that portion of Stanislaus County lying south of Stanislaus River and north of Tuolumne River, including the area within Oakdale Irrigation District, but excluding the existing Modesto and Waterford Irrigation Districts; and that portion of San Joaquin County south of Calaveras River and east and south of Folsom South service area including Oakdale Irrigation District and South San Joaquin Irrigation District and Reclamation Districts 2064 and 2075.

Public Law 87-874 modifying the New Melones Project, as authorized by the Flood Control Act, approved in December 1944, states in part:

"That upon completion of construction of the dam and powerplant by the Corps of Engineers, the project shall become an integral part of the Central Valley Project and be operated and maintained by the Secretary of Interior pursuant to the Federal reclamation laws, . . . and . . . That before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within the basin and the diversions shall at all times be subordinate to the quantities so determined . . ."

Thus, the Secretary of the Interior must determine area needs prior to diverting water from Stanislaus River Basin as part of Central Valley Project operations. These area needs are in addition to the other water services authorized to be provided by New Melones Reservoir which include water rights, fishery and water quality releases to Stanislaus River. The authorizing legislation provides for full integration of New Melones Project with the Central Valley

Project with diversions of Stanislaus River water to other Central Valley Project areas contemplated after determining and reserving water for existing and future needs of the Stanislaus River Basin.

The authorization provides, as stated, for reservation of water needs within the Stanislaus River Basin. This wording by itself does not clearly define what areas are intended to be included in the water need determination and reservation. The words "Stanislaus River Basin" could be interpreted to mean a topographic boundary. Under such an interpretation, the areas included would comprise only the Stanislaus River watershed upstream from New Melones Reservoir and the area on either side of the river downstream from New Melones from which surface flows would contribute to Stanislaus River. This would constitute a relatively limited area and adoption of this strict topographic definition of "Stanislaus River Basin" does not appear to be either reasonable nor the intent of the authorization. Currently, and for many years past, there have been substantial diversions of Stanislaus River water to areas outside of the topographic basin. Water rights for these and additional diversions are established. The areas under these rights as a minimum need to be included. Additionally, there are other local areas with substantial claims for inclusion, based on their contemplated plans or needs.

At the time that New Melones Project was under consideration for authorization by the Congress, a group of local interests

designated as the "Stanislaus River Basin Group" had completed a study for a smaller size New Melones Project. This group was attempting to proceed with its proposed development including securing a Federal grant for flood control which would be provided by the reservoir. Additional revenues were contemplated from sale of hydroelectric power which would be generated and from new irrigation water developed. The Stanislaus River Basin Group consisted of the following agencies:

Oakdale Irrigation District

South San Joaquin Irrigation District

Calaveras County Water District

Tuolumne County Water District No. 2

The report, prepared by the Basin Group for the Corps of Engineers on its proposed development, includes the following

statements:

"Logically, this Group should develop the resources of the Stanislaus River. Member agencies have already developed and are utilizing more than half of the average annual flow; they comprise within their confines most of the watershed area of the Stanislaus River; and they are so situated that they must rely largely on the Stanislaus River as a source of water supply . . .

"The formation of the Stanislaus River Basin Group provided the logical and practical procedure for meeting and solving the water supply problems of the Basin.

"During the past year the four agencies have pooled the results of their individual investigations and have carried out cooperative engineering studies to arrive at a comprehensive Basin Plan for further development of the Stanislaus River. The development will include not only the construction of a New Melones Project, but will also include construction of upstream works for the benefit of the Basin Area.

"Each of the Districts in the Group are legal entities having appropriate legal and financial authority to proceed with the development of the Stanislaus River. The cooperation between the Districts in the course of making studies and preparing this report has resulted in agreement that the Stanislaus River Basin Group will be a continuing association of the four Districts involved. The construction work proposed in this report will be carried out by this Group. Additional development of the water resources of the Stanislaus River is planned for the future to provide the means for meeting increased demands for additional water supply. Future development will continue to be for the common good of the Basin area and adjacent areas . . .

"It is recommended that the Board endorse the Stanislaus River Basin Area Development as proposed by the Stanislaus River Basin Group and, further, that the Board recommend to the Chief of Engineers, Department of the Army, and to the Congress that the Stanislaus River Basin Group be given a federal flood control grant equal to the flood control allocation recommended for the proposed Federal project in the "Army Report."

Two letters addressed to the Stanislaus Basin Group were attached as Exhibits to the Basin Group's report both requesting to be included in the area to be served from the proposed Basin Development. These letters were from the Cooperstown-Warnerville Area Committee and the Eugene-Milton Area Water Committee, and, together, essentially covered the area suitable for development outside of organized water districts in Stanislaus County, both to the north of Stanislaus River and on the south side to the Tuolumne River. In addition, the Central San Joaquin Water Conservation District passed a resolution which was included as an Exhibit expressing interest in contracting for irrigation water from the Basin Group's proposed New Melones Dam.

Although the legislative history of P.L. 87-874 which authorized federal construction of New Melones Project and its integration with the Central Valley Project does not clearly indicate, it appears probable that the reservation provision was included to recognize the needs of the Stanislaus River Basin area previously discussed. This appears to be the case, particularly from the aforequoted portions of the report, together with the continued concerted efforts the Stanislaus Basin Group made for its proposal up to the time of Congressional authorization of the federal development.

The supporting report for authorization of New Melones Project was H.D. 453, 87th Congress, 2nd Session. There are several references in that report indicating that the developed New Melones yield would be available for expansion of the local service areas and for export and use in other basins after the demands in local and adjacent service areas have been met. H.D. 453 also refers to Folsom South service area as follows:

"The Bureau, as an addition to CVP, is planning to provide irrigation water to the irrigable valley lands, located immediately north of the Stanislaus Basin, by diversion of water from the American River."

The State of California comments on the Corps' report (H.D. No. 453) on New Melones Project in part as follows:

". . . The State has filed several applications for water rights on Stanislaus River. The first of these were Application Nos. 5648 and 5649, filed in 1927, specifying a service area within or adjacent to the Stanislaus River

drainage basin. Under existing State water law, counties of origin cannot be deprived of any water required to supply their needs by projects operating under these applications. The proposed project would be considered substantially in conformance with the California Water Plan if it were agreed that water would be made available to the counties of origin whenever needed, as specified in water rights Application Nos. 5648 and 5649."

The service areas included by these two State Applications filled in 1927 cover areas indicated by the State to be ". . . within or adjacent to the Stanislaus River drainage basin." These service areas, as shown on the maps, accompanying the two Applications, include essentially all of Calaveras County Water District, Tuolumne County Water District, Stanislaus County north of Stanislaus River and a small portion south of the river, and the easterly part of San Joaquin County, principally outside of Folsom South service area. The State's comments on the Corps' report recognized that Folsom South service area would be supplied by Folsom South Canal as well as possibly other areas through exchange from that Canal. The Chief of Engineers of the Corps of Engineers responded by letter to the State's comments (included in H.D. 453) and stated in part:

". . . the principle of serving local needs is also in accord with our views. It is our understanding that the Bureau of Reclamation intends to meet all the demands of service areas adjacent to the Stanislaus River prior to using the surplus water in other areas of water deficiency."

The Committee on Public Works reported in part as follows on H.R. 13273, 87th Congress, 2nd Session (legislation introduced for authorization of New Melones):

"The legislation provides that before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined. In this connection, it is the Committee's opinion that ultimate Stanislaus River development will necessitate the construction of economically justified upstream developments in both Tuolumne and Calaveras Counties.

"The Stanislaus River should be developed as an entire basin and the only economically feasible means of providing water retention and distribution systems to serve these mountain counties of origin is to tie these projects into the larger New Melones Project. Therefore, it is the hope of the Committee that the present upstream studies being conducted in these counties by the Bureau of Reclamation may be expedited to permit timely consideration of this development."

It is evident that the reservation area was intended to include an area greater than Stanislaus River watershed and drainage area. This conclusion was reached on the basis of the foregoing considerations which are summarized as follows:

1. The Stanislaus River Basin Group's proposed plans and comments to the Corps of Engineers on New Melones Project. From these, it appears the area should include, at least, the four agencies or portions of the District areas and the two associated areas requesting inclusion. These were: Calaveras County Water District, Tuolumne County Water District No. 2, Oakdale Irrigation District, South San Joaquin Irrigation District, and the areas requesting inclusion into the Basin service area -- the Cooperation Warnerville area, and the Eugene-Milton area.

2. The Corps of Engineers' report on New Melones Project (H.D. 453, 87th Congress, 2nd Session) and the State of California's comments on that report. The report includes references to New Melones yield being available in local and adjacent service areas and then for export and use in other basins. The State indicated that water should be available to the counties of origin, whenever needed as specified in Water Rights Application Nos. 5648 and 5649. Areas included are referred to by the State as being "within or adjacent to the Stanislaus River drainage basin." Included are: Calaveras County Water District, Tuolumne County Water District No. 2, Stanislaus County north of Stanislaus River, and a small portion to the south, and easterly San Joaquin County (principally outside of Folsom South service area.)

3. Committee on Public Works report on the authorizing legislation. In this report the Committee specifically indicated consideration of both Tuolumne and Calaveras Counties.

From these foregoing stated considerations, together with an overall practical view, it is concluded that the reservation area in the authorizing Act should be interpreted to include on a general basis those areas adjacent to the Stanislaus River which may need to rely on that river for a water supply. Specifically, this would include the following:

1. Calaveras County Water District lying south of Calaveras River below New Hogan Dam and south of New Hogan Reservoir. Upstream

therefrom all of that portion of the Water District lying south of Calaveras River and North Fork Calaveras River to the westerly boundary of Range 13 East M.D.M. Easterly of that Range line all of the County Water District lying south of North Fork Mokelumne River.

2. Tuolumne County Water District No. 2 lying north of Tuolumne River below New Don Pedro Dam and north of New Don Pedro Reservoir. Upstream therefore, all of that portion of the Water District lying north of Tuolumne River to the northern boundary of Township 2 North M.D.M. and along Dodge Ridge to the southern boundary of the Stanislaus River Basin.

3. Stanislaus County north of Stanislaus River.

4. Stanislaus County south of Stanislaus River and north of Tuolumne River including Oakdale Irrigation District, but excluding Modesto Irrigation District and Waterford Irrigation District. Also, exclusion of unorganized areas west of the westerly boundary of the Modesto Irrigation District and south of State Highway 132.

5. That portion of San Joaquin County lying easterly of San Joaquin River and southerly of Folsom South service area and Calaveras River and including Reclamation Districts 2064 and 2075, Oakdale Irrigation District, South San Joaquin Irrigation District and unorganized areas.

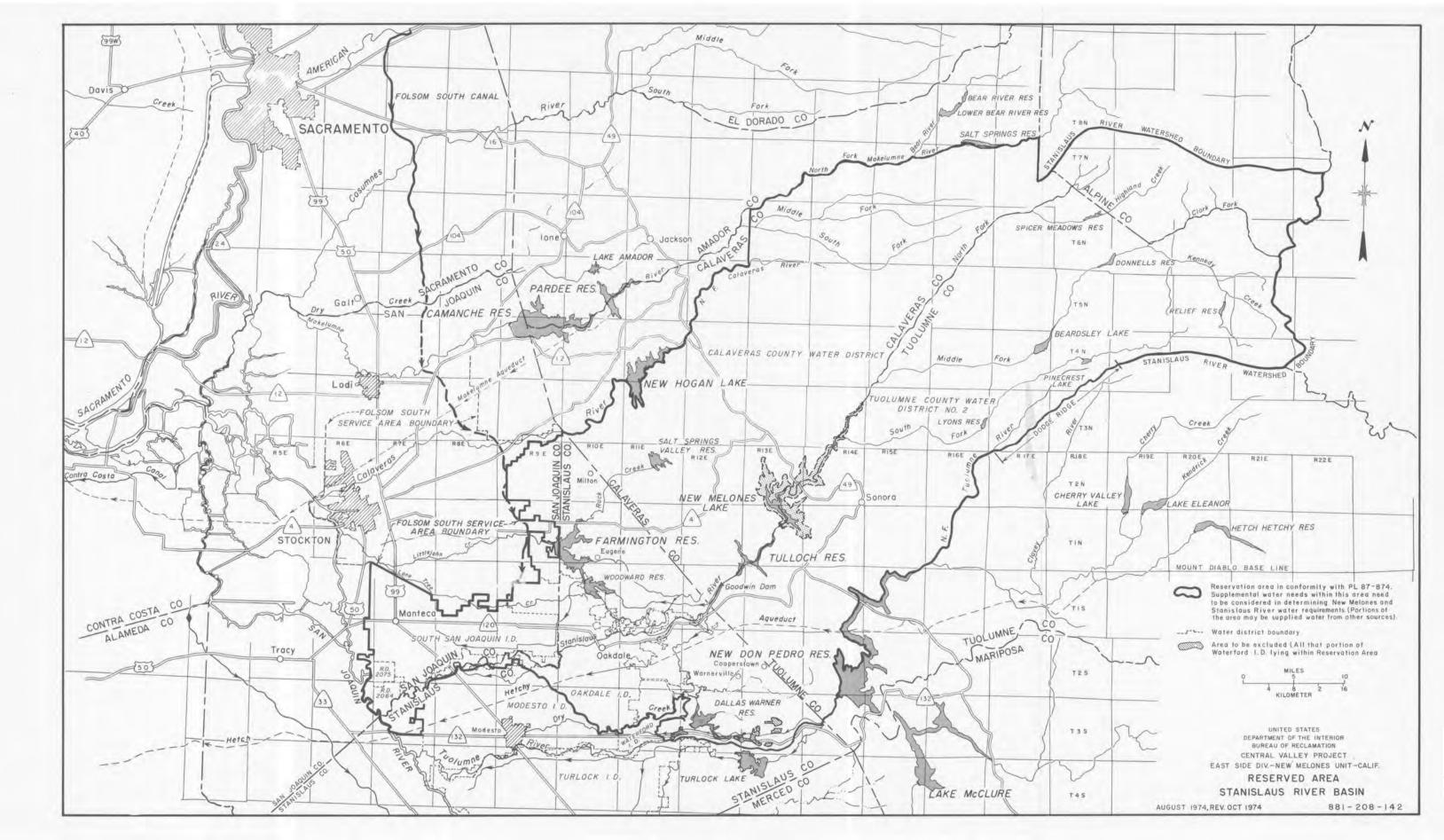
6. Alpine County (Stanislaus National Forest) within the watershed boundary of Stanislaus River.

The foregoing listed areas are shown on the attached drawing. This selection of the reservation area does not mean and is not

intended to imply that the entire area included will need to obtain water from Stanislaus River. Rather, it does mean that some portion of these areas now rely on or in the future may need to rely on that source of supply either from New Melones Project or some other existing or future project. Within the area of reservation, present and projected future water requirements for both agricultural and municipal and industrial purposes will need to be estimated and other sources of supply available to meet these needs will require analysis.

The remaining requirements which logically (including economic consideration) should be met from Stanislaus River then will need to be determined with water being reserved, in conformity with the New Melones authorization, for those requirements. If practicable, other interim use should be made of that portion of the reserved supply not required in the initial project operation - until such supply is needed.

This discussion pertains specifically to the area of reservation in New Melones Project authorization. Separate additional discussions will be prepared subsequently on the estimated water requirements for these areas included and supplemental water needs from Stanislaus River.



REPORTS OF MEETINGS HELD WITH COUNTIES

TUOLUMNE COUNTY WATER DISTRICT No. 2

DIRECTORS

MARGARET K. SYLVA President EARL PURDY JAMES MILFORD EDWARD M. JASPER JOHN R. WISE

March 5, 1974

United States Department of the Interior Bureau of Reclamation 2800 Cottage Way, Sacramento, California 95825

Attention: Mr. Dick Dauber

Dear Mr. Dauber:

You will find enclosed a summary report of the meeting of February 25, 1974, which was held in this District's office in Sonora. Also enclosed are clippings from the local news re said meeting, for your information.

May we please hear from you, if we can be of further help.

Sincerely, Martha Diehl, Secretary

183 W. BRADFORD SI

P. O. BOX 728

SONORA, CALIFORNI

95370

Telephone

(209) 532-7942

md enclosures

TUOLUMNE COUNTY WATER DISTRICT No. 2

Summary Meeting of February 25, 1974 District Office 3:30 P.M.

SUBJECT: "Stanislaus River Basin"

PRESENT:

John Morgan, Bureau of Reclamation James Robertwon, Bureau of Reclamation Lloyd Stennett, Bureau of Reclamation Dick Duaber, Regional Solicitor's Office John Rice, Regional Solicitor's Office

Lloyd Coffelt, Secretary-Manager, Calaveras County Water District Dave Willer, Engineer, Calaveras County Water District James Clayton, Attorney, Calaveras County Water District

Margaret Sylva, President, Tuolumne County Water District No. 2 John Wise, Director, Tuolumne County Water District No. 2 Peter Kerns, Director, Tuolumne County Water District No. 2 Leslie Hay, Manager, Tuolumne County Water District No. 2 Martha Diehl, Secretary, Tuolumne County Water District No. 2 Daniel Gallery, Attorney, Tuolumne County Water District No. 2 Eugene Weatherby, Engineer, Tuolumne County Water District No. 2 Art Zimmerman, Auditor, Tuolumne County Water District No. 2

Also present were members of the Press

As follows is a resume of statements, opinions, questions and answers made by those present at the meeting:

John Morgan - In a letter (from the Bureau) sent to each District, we referred to "Stanislaus River Basin" about which we wish to obtain your opinions. "That before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined" ---- We are not concerned to-day with the problem of need but would like to confine this dicussion to the area so called "Stanislaus River Basin." What you think the intent was to that authorization? Stanislaus Riverr Basin page 2

A meeting is also scheduled with Stanislaus County and San Joaquin. The four Counties associated with the Stanislaus River, and each of the Counties will be asked the same question.

<u>Daniel Gallery</u> - My impression is that in connection with the meetings that you have been having in Sacramento, that you are interested in marketing the Melones water to some areas up in San Joaquin County. Are you trying to find out how much a priority claim there may be on Melones so that you can determine what you can market to these people in San Joaquin County?

John Morgan - The Secretary has to make this finding before the project is complete and before water is delivered anywhere outside the basin area, so as the first step of that finding we have to determine what areas is to be included, and then determine what the needs are within the areas and what the other water supplies are and so on. If there is any water left over then this would make a possible market area. The main thing is to determine the Basin Area associated with New Melones, and the needs within that area. As I have indicated, we would like to confine to-day, "What is the Area?" and then follow up later with discussions of needs and water supplies. <u>Margaret Sylva</u> - Will the other Counties, San Joaquin and Stanislaus be represented by themselves or someone at the County level? John Morgan - by themselves.

<u>Daniel Gallery</u> - So far as Tuolumne goes you are familar with this agreement that we have, which in effect withdraws our protest to the New Melones Reservoir. It provides that this area delineated within TCWD #2 would always have a right to get water out of the Stanislaus, ahead of the Melones filings? My preliminary reaction

Stanislaus River Basin page 3

As that probably this agreement and the delineation of the areas having prior claim would perhaps supersede the quote "basin question" and this may or may not correspond to the basin boundaries. Some people would claim that some of this was actually outside the basin. John Morgan - Let me say this - there is a strict definition which would be a topographic basin, but whether this was the intent or not, we are not sure.

<u>Margaret Sylva</u> - This really was the intent of the four Districts when they got together, at least as far as some of the planning. We were informed by our Supervisors, that there was going to be quite a push to develop water, and so this was the intent of the formation of this District. (to secure a water supply supply for the whole area) When these four Stanislaus Basin Districts got together they were trying to develop the ability to build Melones themselves, but the Districts themselves to outside the topographic area. More or less it has gotten into a wider area than it was originally. <u>Pete Kerns</u> - Was it the intent at the time for all of the lower part of Tuolumne County to have a right to the use of water the same as Stanislaus and Calaveras?

<u>Margaret Sylva</u> - Yes. The emphasis was put on the lower part of the County because it had no source of supply. At the time the emphasis was on securing supplies where they were available, as some rivers were entirely taken up.

<u>Daniel Gallery</u> - Practically all the water distributed in Tuolumne County comes out of the Stanislaus. Our preliminary reaction would be view of the fact that so much of the area depends on the Stanislaus for 100 years or more that all of this area was intended to be within

Stanislaus River Basin page 4

that quote, "basin".

<u>Mr. Kerns</u> - I know that the people who have lived in Tuolumne County for years, feel that in the past the County south had no water rights to our rivers and left us setting here high and dry, not being able to develop, and I am sure that must be the reasoning behind this thing. <u>Daniel Gallery</u> - Not only is all the water that is being used here today coming out of the Stanislaus, but all the future developable water would have to come out of the same place (Stanislaus).

<u>Wise</u> - and we are faced with a growing population.

<u>John Morgan</u> - There is one exception - something like we had - the Sonora Keystone.

<u>Margaret Sylva</u> - Do you think that was possible to export water out of the Tuolumne.

<u>John Morgan</u> - We thought at the time it was possible, I am not sure that it is now. We had the capability of making an exchange if we needed too. <u>Margaret Sylva</u> - It was not agreed to by the people who held rights to the entire river.

John Morgan - No, it was not carried to that point.

Margaret Sylva - It was a proposal but not a certainty.

<u>Daniel Gallery</u> - Our response would be of necessity that we do not consider the basin, technically a topographical area, but we would like to hear what Calaveras has to say.

<u>Lloyd Coffelt</u> - Our maps jump across two and almost three basins, topographic basins. The agreement goes to some length, saying that you honor our prior rights, and I think it even calls out, at least the rights understood to believe, that you will divert North Fork water across Calaveras County. In fact by the direct reference we are going

Stanislaus River Basin page 5

to divert it out of the topographic area. I don't think there is much more to add except obviously, as Dan first said, to see the States rights totally ignored in the Bureau planning, 180 degrees apart. You say you have these rights to move these permits etc. around but we have a hard enough time maintaining these rights with the water rights Board and I wish you would let us in on all these secrets. John Morgan - I am not quite sure what you are referring too. Lloyd Coffelt - You are doing studies of the North Fork of the Stanislaus and ignoring our rights and implementing plans to supplement Folsom-South Canal. This is in direct contradictory to our water rights. Dick Dauber - You might say the study being made there on the North Fork was on the basis of actually being used only for water that would move up there. We were assuming that we were honoring your rights, prior to the use of the New Melones water.

<u>Lloyd Coffelt</u> - I think that is where we have a lack of understanding. Our operating studies do not show that much water there.

<u>Dick Dauber</u> - Partly through use of storage in New Melones, you can do it. At least that was the assumption we were going on. Of course those studies have not gone very far, but this is some of the things we are hoping to get together on. We have an agreement with you but we also have an obligation to the Secretary to enable him to comply with section(whatever that section is) that this legislation define the basin and the use of the basin prior to any export. We also have an agreement with you and I think we are talking about two different things. Maybe we are not, maybe we are talking about the same things. Maybe we are talking about a situation where the determination will be made by the Secretary that what was meant by the basin is in these agreements and if so, fine. A-21 Stanislaus River Basin page 6

<u>Lloyd Coffelt</u> - If that's the case, why the meeting? <u>John Wise</u> - We have no quarrel with you if this is what you are agreeable to.

Dick Dauber - I am not saying that this is going to be the determination of the Secretary. The Secretary has to make the determination as to what Congress intended when they referred to the Stanislaus River He may decide that it is this area and he may decide that Basin. it is not. Withstanding that you still have an agreement. James Clayton - As far as Calaveras County Water District is concerned it says those portions of Calaveras County, and I apply this to Tuolumne County. that can properly be served water from the Stanislaus and especially as recognized by our present permits on file under the decision referred to in the agreement. I think because of the prior dealing before 1962 and at this time that the Secretary should also take that attitude. It is not strictly the geographical lines of the river basin we are talking about, it is what the Bureau and what Calaveras and what Tuolumne have and were dealing with at that time. Daniel Gallery - If San Joaquin and Stanislaus take the same position and say that as far as they are concerned the basin too goes clear across their Counties, and not confined to the technical Stanislaus basin, if that area together, is defined as the priority area, we may be getting into some trouble within our basin." San Joaquin and Stanislaus can develop faster than we can. They are within the service area of the Melones Project. So if we got into a case where we had to get into a race with San Joaquin and Stanislaus, we could not compete with them and so this thing might be a two edgedsword.

Stanislaus River Basin Bage 7

<u>Dick Dauber</u> - The Secretary has to determine two things, he has to determine the basin and the water requirements. He doesn't market any outside of that basin until he has made this determination, to find out whether or not there is more water.

<u>Margaret Sylva</u> - But if the basin is designed to cover those areas you would not have enough water.

<u>Daniel Gallery</u> - Let's say your yield of New Melones is 250,000 and you find that within the broadened basin area you have a total present future need of 500,00, so somebody of the basin is going to come up short.

<u>James Clayton</u> - I think another concept that the Secretary has to take in consideration is the County of origin and place of use filings, and that under these, of course, we obtained the treatment that we think that Calaveras and Tuolumne are entitled to.

<u>Dick Dauber</u> - I think it would be easier to go along with you if the Congress has seen fit to include the County of origin, rather than the language that Congress did put in, referring to the basin. <u>Lloyd Coffelt</u> - It sounds like this wording that Congress used which was not offered by Tuolumne or Calaveras, it was intended to be meaningless and now here is the pressure of the water needs of the Folsom-South Canal users that an all out effort is being made to review this definition and if that is the case then effectly you said Congress had voided two agreements that you see right there.

<u>Dick Dauber</u> - No, I do not think that we have said that - I do not ink that this part of the legislation was ever intended to be meaningless, I think that it was put in obviously for a specific purpose, and

Stanislaus River Basin page 8

that purpose was to protect in-basin demands and now the Secretary has to find out or determine, I think, what Congress intended by the Basin and what those demands are and that is why we are here. <u>James Clayton</u> - There may be such a thing that there is going to be more water, depending upon the size of New Melones, that Calaveras and Tuolumne together could possibly use, and in that case, I guess Congress wanted to make sure it didn't go beyond the confines of the basin.

<u>Margaret Sylva</u> - If you go through the language of this and look at the language of the State's filings, and the applications on the river; you just as well assume that this applies to protecting assignments that were made by the State. The language was a little vague but at the sametime these Districts appeared before the Congressional Committee, and you could assume that this is in answer to the applications made at that time for protection.

Daniel Gallery - Wouldn't you agree that those State filings tend to give areas outside the basin considerable protection, quite aside from the basin (Congressional Basin concept), so you come along in 1951, I guess, and made your filings for Melones under the Congressional Act; you are suppose to protect the basin under 1951 filings, so here we have the 1927 filings that really protect the broader area? <u>Dick Dauber</u> - I don't know - I really don't have enough background to give you an answer; just off the top of my head it seems to me those 1927 filings would give some protection. I am sure that the Bureau wants to recognize and take care of all the rights on the river. We are trying to find out what that Basin is, and then subsequently, what those requirements are. I certainly don't want anybody to think we came

Stanislaus River Basin page 9

down here to see if we could take some water away from somebody, because the purpose of the thing is to find out what you people think the basin is so we can make our recommendation to the Secretary, and he can do what Congress told him.

John Wise - I think we have given you our position.

<u>Dick Dauber</u> - Let my say that in order to try and help us and I think all of us, we have tried to review legislative history, and we have tried to find out if at any point prior to the passage of this Act, that there was any testimony any place to Congress or any representation to Congress, as to what was going to be served.

<u>Margaret Sylva</u> - There was a hearing before a Congressional Committee prior to this legislation. It was representatives of these four Districts. They appeared before the committee and their request was that they be allowed to develop the river because they felt that it was needed in the area and there was not sufficient to export. <u>Dick Dauber</u> - If you can get us the date of the hearings and so on, it might be of help.

Daniel Gallery - We will see what we can find on that hearing. I would recommend Margaret that today we would not give any official response to the Bureau on this. We will check this information. I think I would also recommend that we wait and see what San Joaguin County and Stanislaus County have to say.

Two Agencies Push Prior Water Pact

SONORA - Representatives mitments be met by saying the of the Calaveras County Water purpose of the meeting was to foot capacity dam would only District and Tuolumne County define the river basin. Water District No. 2 are less' interested in a technical definit dent and charter member of tion of a preferential service District No. 2, said she was cerarea for New Melones Project! tain that the river basin was water than in receiving assur- defined during congressional the dam could only be filled to ances that the US Bureau of hearings on New Melones that Reclamation will honor exist. she testified in and she proming agreements with each dis. med to try to locate resumes of trict.

The agreements with the Bureau of Reclamation in es- the New Melones Project, a sence provide District No. 2 with smaller version was proposed siready obtained by the Cala- trict No. 2 and the Calaveras veras district for 19,669 and district. feet.

in 1572 situ the Sate Water interpretation would exclude Resources Control Preid in most of Stanislaus and San Joa-Sacramento.

Mutual Stand

Such was the sist of the cost-tion taken yesterda. by the Calave as a set of Sacramento, attorney for

gineer with the base and base at long as the bureau hor purpose was w contain local and its egramool for an anthinking on how the Stanialans limited supply of apstraim wa-River basin should be dofined in tore

approval of New Melones pro- in the best interest of District við satisfied before water can be tion as possible of the river baexported. However, the Stanis- sin. laus River basin is not defined in the modified act of Oct. 23, 1962.

The bureau will meet at 10 a.m. March 13 in the Stanislaus County Courthouse with Stanislana officials to review the same question. Meetings als o will be set with San Joaquin and Calaveras County officials.

District No. 2 officials invited Calaveras district representatives to yesterday's meeting.

Define It First

Bureau representatives, sidestepped the insistence by representatives of both Mother: Lode districts that prior com-

Mrs. Margaret Sylva, presithe hearings.

Priot to federal planning of piet an unlimited reservation of up- by the Stanislaus River Basin a private citizen, he felt that stream Stanislaus River water Group consisting of the Oakdale only the Congress could set the for future projects, and support Irrigation District, South San policy for New Melones, Ces water rights on the Stanislaus Joaquin Irrigation District, Dis- tainiy not a state agency.

Mrs. Sylva said the hearings Because of the agreements, would show that the river basin both districts did not opplies the - that is, the area of preferen- threat of continued litigation in Bureau of Reclarations a line tial treatment for New Melones for Stanislaus Kiver actor of water — would be the service the New Melones arcient that areas of the four agencies. Her quin Counties from preferential treatment.

Narrow Definition

At one point, Daniel Gallery District No. 2 at a main the sales District No. 2, suggested that by the Bureau of Science anon, the district should not become John R. Morgan, a co il en hisplited in defining the river

Mrs. Sylva everinde the sug-The modifiest Congressional gestion, saying that if would be that basin needs must be No. 2 to have as narrow a defini-

> Lloyd C. Coffelt, manager of the Calaveras district, said the bureau was committed by agreement to support the Calaveras district water rights regardless of how the river basin was defined.

Gallery said the bureau obviously needs a definition so that it-can market water from New Melones.

Testimony at the 1972 hearing in Sacramento Indicated that the counties of Tuolumne, Calaveras, San Joaquin and Stanislaus could use as much as 913,000 acre feet from New Melones.

have about 200,000 acre feet of new yield — that is, water not already covered by existing rights of other agencies.

The state board ruled that one - quarter capacity until the bureau had signed contracts for the 200,000 acre feet of new

Richard J. Dauber, an attorney with the US Soliciter General's office, said, speaking as

Bids for constrction of New Melones Dam and spillway were scheduled to be opened today; however, the the US Supreme Court over environmental effects from the dam could further delay the project.

DAILY UNION DEMOCRAT Sonora, California

Tuesday, F co. 26, 1974 .

Agreement Sought On River Basin Size

The larger the Stanislaus River basin, the less water there will be for Tuolumne county.

That was the feeling expressed to the U.S. Bureau of Reclamation yesterday by Tuolumne County Water District No. 2 (TCWD2).

The bureau met with directors from TCWD2 and Calaveras County Water District (CCWD) in the first attempt to secure a specific definition of the Stanislaus River basin.

The special meeting in TCWD2 offices brought no official positions from either water district, but directors expressed general feelings.

Basically, neither water district objects to what the bureau plans to do with Stanislaus river water from New Melones as long as Tuolumne and Calaveras county water rights are assured priority ratings.

The bureau is attempting to gauge what water needs for the two local communities will be in determining storage for New Melones.

Once the local needs have been shown, then the bureau can determine what is left over to sell to other areas—such as Folsomton canal, East Side canal, Stockton and other urban areas. "We'd like to confine this discussion to what the area actually is," John R. Morgan, an engineer for the bureau told directors. "We can talk about need later."

TCWD2's position is that the basin consists of the four agencies originally involved in New Melones project authorization—

TCWD2, CCWD, Oakdale Irrigation district and South San Joaquin Irrigation district.

Congress, in re-authorizing New Melones in 1962, agreed to respect the needs of those four service areas, terming them the Stanislaus River basin.

But, TCWD2 urged that

the basin not be determined solely along topographical lines.

Basin on topographic lines solely would exclude areas of Tuolumne county that are fed from the Stanislaus, but drain into the Tuolumne river.

The Tuolumne district

also agreed to furnish the bureau with copies of testimony before Congress in 1962, outlining what the basin concept was intended to be.

Calaveras had a slightly harder line to take yesterday.

That district is afraid the bureau will try to take water away for other areas. "We want our rights recognized," attorney James Clayton said.

"We can't compete in the race for development of water," CCWD manager Lloyd Coffelt said. -"We want our agreement honored too."

Richard Dauber, an assistant regional solicitor for the bureau, assured, "The bureau can't market outside the basin until basin requirements have been met."

But the catch phrase is the determination of what those needs are.

A bureau report of 1972 lists Tuolumne county's current needs as 40,000 acre feet per year.

Calaveras supposedly needs 57,000 acre feet per year.

"That's what you're saying," Coffeit argued, "We say we need 160,000 per year, and our rights exceed even that total."

Calaveras, currently in the early stages of preparing a north fork Stanislaus river power project, is afraid the bureau will commit water to other areas while Calaveras rights await development.

A lawsuit may solve the whole issue.

The bureau and the state are currently involved in litigation over state water rights vs. federal power project needs.

The bureau's position is A-27clear.

"We're going to operate a federal power project as Congress intended, and no other way," Dauber said of Melones.

"The state water (resources control) board isn't going to tell the government how to run Melones," Dauber added.

But the court may decide that state rights supercede federal rights, and then Melones would be left with only half the storage the federal government wants.

A court ruling in favor of the state would also uphold water rights filed in 1927 by the state on behalf of the local counties.

Those rights are held in trust by the state.

"I don't think you're going to have enough water left over for Melones if you respect prior rights," Coffelt said.

The bureau thinks it does, and said it plans to continue negotiations over the basin description.

The final determination of what the basin is will be made by the Secretary of the Interior.

Memorandum to: Regional Director, Attn: MP-105, MP-110, Central								
Subject: REPORT OF MEETING XXXXXX UNITS OF THE BUREAU OF R	NWNEXXXKX WITH OTHER AGENCIES AND ECLAMATION							
Date of Meeting XIXING MAXMAXXXXX:	Place:							
April 25, 1974	Stockton, California							
Other Bureau Personnel Involved:	Outside Agencies and/or Personnel:							
John Morgan, Jim Robertson, Lloyd Stennett	See attached list.							
Topic Discussed or Subject: Area of Re New Melones Project Authorization.	servation for Water as Included in							
General Summary: John Morgan briefly referred to the New Melones authorization which stated that before initiating diversions of water from Stanislaus River Basin the Secretary of the Interior shall determine the quantity of water re- quired to satisfy all existing and anticipated future needs within the basin. He stated that the Bureau's Regional Office would initially recommend the area boundary for this reservation of water to the Commissioner which would be forwarded to the Secretary for his determination, as required. He indicated that our purpose was to receive inputs and information from local interests to assist in arriving at the area of reservation boundary for New Melones water.								
Alex Hildebrand from the Southern Delta Water Agency stated that their area of over 150,000 acres of land benefits and is dependent on water from Stanislaus River and, therefore, felt this area should be included in area of use from New Melones Reservoir. He also indicated that the return flows from districts using Stanislaus River water such as South San Joaquin Irrigation District contribute to the water supply for the Delta area. He stated that to maintain suitable water quality conditions in the Delta areas for agricultural purposes with use of New Melones water would not require pumping, as compared with obtaining water from other possible sources.								
Charles Gore, representing Central San Joaquin Water Conservation District, stated that the basin means more than the topographic boundary of the watershed. He felt the basin would include local areas and that the Central District would be considered in that area that could possibly extend about half way up to the Calaveras River in San Joaquin County.								
Copies to: MP-724 (Magnussen) 710 (Robertson) 440 (Stennett) Solicitor (Dauber) Solicitor (Rice)	(Signature) Jum C Durney							

Dante Nomellini from Central Delta Water Agency presented copies of the attached resolution indicating use of New Melones yield for water quality control for agricultural and fishery purposes. He also stated that to maintain suitable water quality conditions that New Melones water could be provided without utilization of additional pumping energy and conveyance facilities.

Allan Hall from Bante-Carbona I.D. stated that Friant Dam has affected the quality of water for his district and that they should have the opportunity to contract for water from New Melones Reservoir.

Thomas Shepard from Stockton East Water District had some involvement in the language included in the project authorization regarding the area of reservation. He referred to the Stanislaus Basin Group, comprised of Calaveras County W.D., Tuolumne County Water District No. 2, and South San Joaquin and Oakdale I.D.'s, that were pursuing a local project which included a smaller New Melones Reservoir with service to areas adjacent to the Stanislaus River. He felt the intent of language in the authorization was to meet the needs in the 4 counties of Tuolumne, Calaveras, Stanislaus and San Joaquin. This was to reserve water for the local areas as compared to possible exports such as to the East Side Project.

It was indicated that there would not be enough water available from New Melones Reservoir with a general adoption of basin boundary. Mr. Hildebrand stated that he felt water should not be moved from south to north with conveyance facilities. He particularly thought that without extension of Folsom South Canal the Stockton East Water District could be served by pumping from Peripheral Canal rather than utilizing New Melones water as the pump lift would be less than pumping additional water through Delta Mendota Canal or State Aqueduct to maintain quality parameters in Lower San Joaquin River. Thomas Shepard stated that his district has considered the possibility that the north Stockton area could be served by a pump lift from Peripheral Canal or Delta Diversion.

It was agreed that a coordinated approach and plans need to be considered for serving all areas. It was also suggested that the legislative history and reports of Committee Hearings for authorization be researched to assist in determining the area to be served from New Melones. This we agreed to do as an essential part in arriving at our recommendation.

Attachment

Attendance List

Michael Garrigan Robert Ferguson Albert Muller Alex Hildebrand John Rice Richard Dauber Dante Nomellini Al Lorrenti Thomas Shepard J. Allan Hall Charles M. Gore Thomas Zumberm Noel Negley John Wilson

Name

Agency

San Joaquin County San Joaquin County South Delta Water Agency South Delta Water Agency Regional Solicitors Office Regional Solicitors Office Central Delta Water Agency Central San Joaquin Water Conservation District Stockton East Water District Banta-Carbona Irrigation District Central San Joaquin Water Conservation District Central Delta Water Agency South San Joaquin Irrigation District South Delta Water Agency

RESOLUTION OF THE BOARD OF DIRECTOPS OF THE CENTRAL DELEA WATER AGENCY REGARDING NEW MELONES DAM

WHEREAS, the CENTRAL DELTA WATER AGENCY was created by the CENTRAL DELTA WATER AGENCY ACT (Stats. 1973, c. 1133) for the purpose of negotiating, entering into and administering one or more agreements with the United States and the State of California having the following general purposes, to wit:

(a) To protect the water supply of the lands within the agency against instrusion of ocean salinity; and

(b) To assure the lands within the agency a dependable supply of water of suitable quality sufficient to meet present and future needs; and

WHEREAS, water quality in the lower San Joaquin has been seriously degraded by development of the Central Valley Project and State Water Project, and

WHEREAS, the New Melones Dam appears to be the only authorized source of water which can provide water to the lower Stanislaus and the lower San Joaquin areas including the South Delta Area without the unnecessary utilization of much needed electrical power for pumping and without the need of special conveyance facilities, and

WHEREAS, the New Melones Dam appears to be the <u>only</u> authorized source of water which can provide water native to the Stanislaus and San Joaquin watershed to the lower Stanislaus and lower San Joaquin including the Delta for fishery purposes.

NOW THEREFORE, BE IT HEREBY RESOLVED, that this Board of Directors supports the early construction and completion of the New Melones Dam and recommends that the entire consurvation yield of the New Melones Dam be reserved for control of water quality for agricultural and fishery purposes within the lower Stanislaus and lower San Joaquin including the Delta.

AND BE IT HEREBY ORDERED that the staff of the CUNTRAL DELTA WATER AGENCY appropriately distribute covies of this resolution and take all other necessary and appropriate steps to achieve the purposes and intent of this resolution.

Memorandum to: Regional Director, Attn MP-105, MP-110, Central	
Subject: REPORT OF MEETING (TELE UNITS OF THE BUREAU OF I	PHONE CALL) WITH OTHER AGENCIES AND RECLAMATION
Date of Meeting (Tokephone-Cal): April 24, 1974	Place: Modesto, California
Other Bureau Personnel Involved:	
John Morgan, Jim Robertson, & Lloyd Stennett	Outside Agencies and/or Personnel: See attached list.
Topic Discussed or Subject: Area of Reso New Melones Project Authorization	ervation for Water Use as Included In
General Summary: John Morgan opened the New Melones authorization which states water from the Stanislaus River Basin the determine the quantity of water required future needs within the basin. He state and information from local interests to reservation boundary for New Melones was	that before initiating diversions of he Secretary of the Interior shall d to satisfy all existing and anticipated ed that our purpose was to receive inputs assist in arriving at the area of
the area boundary for this reservation forwarded to the Secretary for his deter within this area and the available supp	rmination as required. The water needs ly with New Melones Reservoir would formation the local interests may recall
area of reservation boundary for New Me Stanislaus County. He stated at the tin that the Stanislaus Basin Group, compris Tuolumne County Water District No. 2, an tion Districts, were pursuing a local pr of a smaller New Melones Reservoir with slaus River. He indicated that in addit receive water service, that resolutions served were received from the Eugene are	me of New Melones authorization hearings sed of Calaveras County Water District, nd South San Joaquin and Oakdale Irriga- roject which included local construction service to areas adjacent to the Stani- tion to the primary group members to
Copies to: MP-724 710 (Robertson) 440 (Stennett) Solicitor (Dauber) Solicitor (Rice)	(Signature) Jom C. D. Enny

Marshall Jones, water consultant for Stanislaus County, also thought a broad interpretation of this boundary should be made for use within the County. He referred to a draft report he had just completed for Stanislaus County. which indicated a need of about 300,000 acre-feet of water from New Melones. This would include over 200,000 acre-feet for agricultural uses within areas north and south of Stanislaus River, a small quantity for municipal and industrial purposes, recreational water for Woodward Reservoir and Dry Creek and possible need for cooling water at nuclear powerplant that is jointly being investigated by PG&E and the Modesto and Turlock Irrigation Districts. He stated he felt about 75% of the water indicated for M&I and agricultural purposes could be utilized in about 30 years. Mr. Jones indicated that a draft of the report has been sent out with comments to be provided by May 15 with a scheduled completion of the final report by about June 15. The Bureau has received a copy of this draft report.

It was indicated that the physical boundary of the Stanislaus River drainage boundary through Stanislaus County was quite narrow with a width of about 2 to 3 miles. Several individuals thought a regional concept needs to be considered in serving areas adjacent to the Stanislaus River. Mr. Chrisman stated these adjacent areas have only the Stanislaus River for a logical supply and that most of this area could be served by gravity. It was suggested that the area west of Modesto Irrigation District and south of Stanislaus River and also the unorganized areas in the Waterford Irrigation District be included in the area of service.

Marshall Jones and several other participants thought that it was also practical to include service to the northern portion of Merced County since this area is contiguous with Southern Stanislaus County. Possible exchanges with Turlock Irrigation District for the extension of serving this area was also discussed.

It was agreed by the participants that the area adjacent to the Stanislaus River in Stanislaus County lying primarily outside the topographic basin boundary should be considered. It was also suggested that the reports for the committee hearings for authorization should also be researched to assist in determining the area to be served from New Melones. This we agreed to do as an essential part in arriving at our recommendation.



Attendance List

Name

John Rice

Richard Dauber

T. W. Martz

Cecil O. Hensley

Keith F. Chrisman

Leroy H. Kennedy

John M. Bingham

Hoig Arakelian

Marshall Jones

Floyd Galo

Dick Vanderwall

Bill Ulm

George Gaekle

John Hectle

M. N. Bennett

R. L. Ericsen

Organization

Regional Solicitors Office, Interior

Regional Solicitors Office, Interior

Stanislaus County Council Waterford Irrigation District Oakdale Irrigation District Turlock Irrigation District City of Riverbank Stanislaus County Supervisor Stanislaus County Water Consultant Waterford Irrigation District Stanislaus County Supervisor Stanislaus County Supervisor Stanislaus County Supervisor Stanislaus County Stanislaus River Modesto Irrigation District APPENDIX B

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MUNICIPAL AND INDUSTRIAL WATER REQUIREMENTS

General

This study concerns itself with the future needs for municipal and industrial water in the Stanislaus River Basin. As used in this study, the term municipal water signifies all water supplied to living quarters, whether for inside or outside use. Permanent living quarters includes apartments, trailer courts, single and multiple family dwellings and group quarters. It also includes supporting light industry such as gas stations, local stores, etc. Heavy industry is identified as a separate category. The basic method for determining the future water demand of an urbanized area is to apply appropriate values of unit water use to population projections for that area.

A selective bibliography of works on water requirements for the subject areas follows:

- "Calaveras County Water Master Plan" Tudor Engineering Company, 1960.
- "Calaveras Count Water Master Plan" Tudor Engineering Company, May 1974.
- "Municipal & Industrial Water Requirements" Sonora-Keystone Unit - U.S.B.R. Analysis, April 1968.
- 4. "Municipal & Industrial Water Requirements" Lower Tuolumne Unit - U.S.B.R. Analysis, January 1968.
- "Population Projections for California Counties 1975-2020" -Department of Finance - State of California, June 1974.
- 6. "Water Requirements Calaveras County" Department of Water Resources - (Draft - Unpublished) 1974.
- 7. "Calaveras Area Investigation" Department of Water Resources -Bulletin No. 97, 1963.
- 8. "Needs for New Melones Project Water" Stanislaus County -Marshal Jones Consulting Engineer, June 1974.

The reservation area for New Melones water includes water uses within portions of a five-county area. These counties are (1) Calaveras, (2) Tuolumne, (3) Stanislaus, (4) Merced and (5) San Joaquin. As the municipal and industrial water requirements for the areas in Merced and San Joaquin Counties that lie within the Stanislaus River Basin were considered negligible, these two counties were excluded from the evaluations although they are included for irrigation and other water using purposes. Municipal and industrial water requirements for Calaveras, Tuolumne and Stanislaus Counties follow.

Calaveras County

Calaveras County is bounded on the north by Amador County, the south by Tuolumne County, the west by San Joaquin and Stanislaus Counties and on the east by Alpine County.

For estimating purposes the county was divided into five subareas identified as: (1) West Point, (2) Valley Springs, (3) Copperopolis, (4) Calaveras and (5) Murphys.

The county has a population estimated in 1974 at about 16,000 people. Permanent population projections by decades for Calaveras County made by Department of Finance, State of California, using the D-150 Series are shown in the following tabulation:

Year	Permanent Population
1980 1990	18,900 24,200
2000 2010	27,800
2020	32,100
	37,000

In addition to the year-around residency there is a continuing trend toward more summer homes and general recreation use which creates a water demand that must be included for total water requirement purposes. Projections for such use were made on the basis of data found in a recent analysis made for Calaveras County by Tudor Engineering Company1/ together with studies made by the Bureau for other foothill areas. The total population including the seasonal and recreation converted as estimated for Calaveras County by

1/ Calaveras County Water Plan by Tudor Engineering Company, May 1974.

Year	Permanent	Seasonal Converted	<u>Total</u>
1980	18,900	12,000	30,900
1990	24,200	12,500	36,700
2000	27,800	13,000	40,800
2010	32,100	26,300	58,400
2020	37,000	27,000	64,000

Unit Water Requirements

Water requirements for various California areas have been found to range between 50 gallons per day per capita to over 300 gallons per day per capita. Analysis made for other Bureau studies for foothill areas 1/ have indicated a present water use of 150 gallons per day per capita to a projected future use of 220 gallons per day per capita. For analysis purposes the following municipal water requirements were assumed:

1980	170	gallons	per	day	per	capita
2000	190	11	**	**		11
2020	200	tt	11	**	11	11

Industrial Water

Present industrial water users are few, with the largest single industrial complex being the Calaveras County Cement Company with a present annual requirement of 700 acre-feet. Recent unpublished studies made by the Department of Water Resources relative to municipal and industrial water requirements for foothill areas indicate a future (2020) industrial water requirement of 16,200 acre-feet for Calaveras County. This value is accepted as being representative of such future use. Industrial water requirements by time frames for Calaveras County are shown in the following tabulation:

1980	3,500 acre-feet
2000	12,900 acre-feet
2020	16,200 acre-feet

The total municipal and industrial water requirements for Calaveras County from 1980 through 2020 by sub-areas follow:

1/ Municipal & Industrial Appendix - Sonora-Keystone Unit - CVP 1968. Municipal & Industrial Projections - Lower Tuolumne Unit - CVP 1968.

Municipal & Industrial Water Requirements (acre-feet)

	1980	<u>1990</u>	2000	2010	2020
West Point Valley Springs Copperopolis Calaveras (Unit 1A) (Unit 1B) Murphys	800 800 3,400 (2,700) (700) 4,100	1,800 1,700 600 6,700 (5,400) (1,300) 7,800	2,000 2,000 700 7,800 (6,400) (1,400) 9,100	2,400 2,300 900 9,600 (8,100) (1,500) 11,000	2,800 2,700 1,000 11,200 (9,600) (1,600) 13,000
Total	9,400	18,600	21,600	26,200	30,700

Tuolumne County

Tuolumne County is located in the east-central valley of the State with an estimated 1974 population of 25,000 people. The county seat is Sonora with a city population estimated at 3,700 people. Leading group classes of products within the county are lumber and lumber products; however, a strong emphasis is developing for summer homes and recreation.

Department of Finance, State of California population projections for Tuolumne County by decades are shown in the following tabulation:

ation
Seasonal Converted
3,700 4,100 5,000 7,500 10,600

Unit Water Requirements

Unit water requirements for Tuolumne are:

1980	170	gallons	per	day	per	capita	
		gallons					
		gallons					

Existing industrial water service is primarily from Pacific Gas and Electric Company, while residential and urban use is primarily from ground water.

For estimating purposes Tuolumne County was divided into four sub-areas identified as (1) MiWuk, (2) Tuolumne Ditch, (3) Sonora and (4) Lower Tuolumne.

(1) Mi-Wuk is located in the upper elevations (4,000-5,000 feet) and encompasses some 7,000 acres. Most of the area lies along a narrow ridge. It has several small communities, each of which contains a small year-around population. In general, the area is recreationally oriented and the projected expansion is based on summer homes and general recreation development.

(2) The Tuolumne Ditch lies below the 4,000 foot elevation, directly west of the Mi-Wuk sub-area. It consists of some 56,000 acres and contains the once lively gold mining town of Columbia which is now preserved as a State Historical Park. Major industries are lumbering and recreation.

(3) The Sonora sub-area extends west from the 2,400 foot elevation which is common to both Tuolumne Ditch and Sonora sub-areas and west to include the towns of Jamestown and Jacksonville. It contains the county seat of Sonora with a population of 3,400 people which is the largest town in Tuolumne County. The area is dedicated mainly to agriculture and urbanism.

(4) The Lower Tuolumne sub-area lies west of the Sonora subunit with a present small static population. However, with the completion of the Don Pedro Dam and Reservoir and the advent of the New Melones Dam and Reservoir the population in both permanent and summer home categories is expected to increase.

The municipal and industrial water supplies by decades projected for Tuolumne County through the year 2020 are shown in the following tabulation:

	<u>1980</u>	<u>1990</u>	2000	<u>2010</u>	2020
Sonora Area Tuolumne Ditch Mi-Wuk Area Lower Tuolumne	2,900 2,000 300 1,700	3,600 2,500 300 2,600	4,300 2,900 400 3,700	5,000 3,400 500 5,000	5,700 4,200 600 5,500
Total	6,900	9,000	11,300	13,900	16,000

Stanislaus County

Stanislaus County is bounded on the north by San Joaquin County, the west by Santa Clara County, the south by Merced County and on the east by Tuolumne and Calaveras Counties. The county has an estimated population of 213,600 made in 1974 by the State Department of Finance. The county seat is Modesto with a population of 79,500. For estimating purposes the county was divided into three sub-areas which are: (1) Farmington, (2) Cooperstown and (3) Montpelier. A report $\frac{1}{2}$ prepared in 1974 for Stanislaus County by their consulting engineer indicated that all municipal and industrial water now being used is pumped from ground water and that all future water for municipal and industrial purposes through 2020 could continue to be met by this ground-water supply with the exception of some 5,000 acre-feet for the town of Riverbank and about 7,000 acre-feet for the town of Oakdale. These projections (12,000 acre-feet) located in the Cooperstown sub-area are accepted as being representative of the county's incremental increased water demands for municipal and industrial purposes.

1/ "Needs for New Melones Project Water" - Stanislaus County, Marshall Jones, Consulting Engineer

STANISLAUS RIVER BASIN - AGRICULTURAL WATER REQUIREMENTS

Introduction

The area considered to be included within the Stanislaus River Basin referred to in the Congressional Act modifying the New Melones Authorization (P.L. 87-874) comprises portions of five counties, namely; Alpine, Calaveras, Tuolumne, San Joaquin and Stanislaus (from the Tuolumne River north to the Calaveras River). The portion of Alpine County within the Stanislaus River Basin area is located in high country (6,000 to 9,000 feet above sea level).

Calaveras and Tuolumme County prospective service areas range in elevation from about 500 feet to 3,000 plus feet. Service areas within San Joaquin and Stanislaus Counties are considered part of the main valley floor all at elevations of 500 feet or less.

All of the lands lie along the east side of the Northern San Joaquin Valley, but areas within Oakdale and South San Joaquin Irrigation Districts are excluded in this report. Land data were taken from previous Bureau of Reclamation studies which identified the basic components of land classes 1 through 4 for each county. Crops were projected to each part of the service area as described below.

In order to determine the productive acreage of the Stanislaus River Basin area the following procedure was followed: (1) the

gross classified acreage was taken less any Class 6 land plus the acreage taken for County, State or Federal roads and canals, drains, etc. The result of these deductions from the gross area gives the irrigable area. (The amount usually deducted for County, State of Federal roads is usually about 6% of the gross area classified); (2) a four percent deduction from the irrigable area was taken and split between farmsteads and farm roads and ditches. The resulting acreage is the productive area.

PROJECTED CROP PATTERNS - STANISLAUS RIVER BASIN AREA

<u>General</u> -- The crops projected to develop within the Stanislaus River Basin are based on a consideration of their adaptability to the land and climate characteristics of the area, the type of irrigation service which may become available, and the market outlooks for adapted crops. The ability of the land to produce specific crops is based upon standard Bureau of Reclamation land classification techniques. Such a reconniassance, semi-detailed or modified detailed classification was made in 1969 under the title heading "Stanislaus Division, Calaveras County", the Sonora Keystone Unit in 1967 and other related studies completed in 1973. These surveys were used as a guide in selection of crops most likely to be grown in the respective areas. As indicated by Table 1, most of the productive lands of the Basin area are in Land Classes 4F and 4P. The 4F land has generally steep and/or irregular topography; however, with soils of adequate depth for orchard development. The 4P and

		Land class										
County	Subarea		2	3	4F	4P and 4SP	Rural	<u>Total</u>				
San Joaquin	Farmington	735	584	7,160	-	3,169	582	12,230				
Stanislaus	Farmington	911	2,149	3,948	-	11,972	949	19,929				
	Cooperstown	1,995	,2,030	6,714	-	12,441	1,159	24,339				
	Montpelier ^a	<u>2,911^a</u>	<u> </u>	<u>2,397^a</u>		<u>29,775</u> a	<u>1,779^a</u>	37,365				
	Totals	5,817	4,682	13,059	-	54,188	3,887	81,633				
Merced	Montpelier ^a	7,613 ^a	3,584 ^a	1,601 ^a	-	25,205 ^a	1,900 ^a	39,903				
Calaveras	Copperopolis	-	135	256	467	1,964	750	3,572				
	Murphys	301	45	-	1,078	1,163	375	2,962				
	Calaveras (Part "a")	5	321	-	18,753	-	2,250	21,329				
•	West Point	-	-	· -	2,765	-	3,750	6,515				
	Valley Springs ^a	101 ^a	413 ^a	_a	552 ^a	683 ^a	375 ^a	2,124				
	Calaveras (Part "b") ²	a	a	_a	715 ^a	110 ^a	_ a	825				
	Totals	407	914	256	24,330	3,920	7,500	37,327				
Dont 11h	II . Doub subtack he sound	an from No	w Hogan of	r Mokelumn	e River			-				
rait D	" - Part subject to servi	ce from ne	w nogan of									
						303	2.550	4 943				
	Tuolumne Ditch Sonora	51	368	155	1,516	303 2,821	2,550	-				
	Tuolumne Ditch				1,516 2,697	2,821	3,750	10,594				
Tuolumne	Tuolumne Ditch Sonora	51	368	155	1,516		3,750 750	10,594 3,436				
	Tuolumne Ditch Sonora Lower Tuolumne	51	368 593 -	155 502 -	1,516 2,697	2,821	3,750	4,943 10,594 3,436 <u>450</u> 19,423				
Tuolumne	Tuolumne Ditch Sonora Lower Tuolumne Mi-Wuk Totals	51 231 -	368 593 -	155 502 -	1,516 2,697 1,229	2,821 1,457	3,750 750 450	10,594 3,436 450				
Tuolumne ^a Areas adja	Tuolumne Ditch Sonora Lower Tuolumne Mi-Wuk Totals cent to Stanislaus	51 231 - - 282	368 593 - - 961	155 502 - - 657	1,516 2,697 1,229 - 5,442	2,821 1,457 	3,750 750 <u>450</u> 7,500	10,594 3,436 <u>450</u> 19,423				
Tuolumne ^a Areas adja River Ba	Tuolumne Ditch Sonora Lower Tuolumne Mi-Wuk Totals cent to Stanislaus	51 231 -	368 593 -	155 502 -	1,516 2,697 1,229	2,821 1,457	3,750 750 450	10,594 3,436 450				

Table 1. Acreages of productive land by land class Stanislaus River Basin^b and adjacent areas

Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

в-9

4SP lands are best suited to irrigated pasture, because of shallower soils, together with moderately irregular or steep topography. The 4F lands are best adapted to sprinkler irrigation both for efficient crop application and frost protection purposes. It is anticipated that sprinkler irrigation will be prevalent, and that the construction of irrigation facilities and development of the lands will occur at a rate commensurate with the market demand for adapted crops.

The smaller part of the service area, consisting of land classes 1, 2 and 3 is adaptable to a wider selection of crops and the rate of development might be less restricted by market limitations. On these lands, however, as on the Class 4 lands most rapid development may be expected on the larger more readily serviceable blocks of land. For purposes of estimating ultimate water requirements it is assumed that all of the productive lands will eventually be developed and the crop pattern is projected accordingly. The rate of development is discussed subsequently in this report.

<u>Crop Projection Considerations</u> -- According to recent records of the Counties concerned, about 19,900 acres of land are presently irrigated in the Stanislaus River Basin area. The crop adaptibility of the area is best judged from that demonstrated in areas with similar land and climatic characteristics together with the opinions of agricultural experts at U.C. Davis, the local Extension Service

and other agencies. Based on population projections, an additional rural water requirement acreage is included in the total. These areas are mostly rural suburban areas.

Service Areas Within Calaveras and Tuolumme Counties (500-3,000 ft).

The upper portion of the Stanislaus River Basin area includes the higher arable areas above 500 feet above sea level. It is anticipated that the crops in the higher elevations of both counties will include extensive acreages of fruit, such as apples, pears and grapes. Other crops will include irrigated pasture, alfalfa and miscellaneous field and truck crops. On the basis of discussions with U.C. Davis experts and local farm advisors it was decided that cherries and plums would also be included as part of the future cropping pattern of these portions of the Basin area.

Pears, which have proven adaptable to areas with similar land and climatic characteristics, may be grown throughout these parts of the Basin area although different varieties will be grown at higher elevations which will be adaptable to the longer, cold and dormant period. Pears will require frost protection in the spring months and this can be provided by sprinkling.

Apples are also well adapted chiefly to the higher elevations with longer cold periods to break dormancy. Both the delicious and Roman Beauty varieties may be grown. Apples will require less

frost protection than pears as they blossom and leaf out later in the spring.

Various grape varieties may be grown throughout most of these areas. At higher elevations these will be chiefly selected varietal wine grapes which can compete to advantage with the grapes grown in the valley areas because of the high quality and the lower cost of land. To achieve the desired quality, the Extension Service recommends such grapes be grown on deep soils with high moisture-holding capacity with much of the consumptive use requirements being met by rainfall. This will limit production to the smoother areas of Class 4F with deeper soils. Grapes also leaf out later and require less frost protection than pears.

It is anticipated that most of the Class 4P lands will be devoted to irrigated pasture to which they are best suited. To provide a supplement to pasture, some alfalfa hay, grain and other feed crops may be grown. However, as a relatively small area is adaptable for these crops the acreages will not be extensive. Small areas of miscellaneous field and truck crops may also be grown throughout the area. In addition small areas of cherries and plums are expected to develop, mainly in the higher elevations.

The market outlook for many of these crops is difficult to estimate. At present there is an overproduction, or near market saturation,

with many of them due to large acreage expansion of recent years. This is particularly true of wine grapes, and to some extent, walnuts. Because of this the projection of walnuts for Calaveras County has been greatly reduced from that projected in preliminary studies of the Bureau of Reclamation in 1969 entitled "Stanislaus Division-Calaveras County" and the wine grape acreage is markedly less than that projected in the study for the Calaveras County Master Water Plan of 1972.

With these considerations in mind the crops are projected as shown in Table 2. Olives are projected entirely below 1200' elevation. Irrigated pasture and minor acreages of alfalfa and miscellaneous crops are projected throughout most of the service area.

Although the immediate market prospects are not favorable for expansion of some of these crops it is believed that long term outlooks will be sufficiently favorable to support the acreages as indicated.

<u>Service Areas Within San Joaquin and Stanislaus Counties (500 ft</u>. <u>and less</u>). The valley portion of the Stanislaus River Basin area includes the unorganized portions of San Joaquin and Stanislaus Counties north of the Tuolumne River to the Calaveras River. Under ultimate conditions it is anticipated that the cropping pattern will be 28% permanent crops and 72% field and row crops. Grapes are the main permanent crop projected followed by lesser acreages

Table 2. Projected crops by counties and by subareas (acres) Ultimate conditions Stanislaus River Basin^b and adjacent areas

.

County		ounty Stanislaus County					Calave	ras County						Tuolumne County					Merced County
	Total Stanislaus River Basin Area	Stanislav	Total us River Basin	a Area	Total Adjacent Area ^a	Star		otal iver Basin				Total djacent Area				Total Is River Bas	sin Area		Total Adjacent Area ^a
	Farmington	Farmington		County				Calaveras		County			· · · · ·			Lower		County	
Land Use	subarea	subarea	Cooperstown		Montpelier ^a			a distant and a second s	Point	Total		a Part "b"a	Total	Ditch	Sonora		Mi-Wuk		subareaª
Walnuts	560	940	985	1,925	1,810	475	100	100	-	675	275	200	475	-	-	483	-	483	
Almonds	375	625	-	625	7,240	-	-	-	-	-	-	-	-	-	-	-	-	-	7,670
Peaches	185	315	2,850	3,165		-	-	-	-	-	-	-	-	-	-	-	-	-	1,800
Apricots	-	-	-	-	450	-	-	-	-	-	-	-	-	-	-	-		-	550
Olives	340	560	-	560	4,070	475	-	-	-	475	175	-	175	-	-	483	-	483	4,180
Apples	-	-	-	-	-	-	500	6,038	800	7,338	-	-	-	574	2,122		-	2,696	
Pears	-	-	-	-	-	460	600	5,000	400	6,460		300	400	598	1,779		-	2,780	
Cherries	190	315	-	315	-	-	-	760	365	1,125	-	-	-	-	274		-	274	
Citrus	-	-	2,460	2,460		-	-	-	-	-	-	-	-	-	-	-	-	-	2,190
Grapes	750	1,250	2,950	4,200		-	387	5,000	500	5,887	175	215	390	455	1,848		-	2,303	
Plums	-	-	-	-	-	-	-	381	200	581	-	-	-	-	137		-	137	
Tomatoes	340	560	885	1,445	1,130	-	-	-	-	-	-	-	-	-	-	-		-	1,370
Sugar beets	s 640	1,165	2,654	3,819	1,585	-	-	-	-	-	-		-	-	-	-	-	-	1,540
Melons	195	325	550	875		-	-	-	-	-	-	-	-	-	-	-	-	-	940
Sorghum	550	987	483	1,470		-	-	-	-	-	-	-	-	-	-	-	-	-	1,100
Alfalfa	1,870	3,043	1,475	4,518		450	200	200	100	950	225	-	225	168	137	403	-	708	
Corn	645	1,075	985	2,060		-	-	-	-	-	-	-	-	-	-	-	-	=	3,180
Barley	500	503	583	1,086		-	-	-	-	-	-	-	-	-	-	-	-	-	1,050
Safflower	-	-	-	-	250	-	-	-	-	-	-		-	-		-	-	-	275
Dry beans	-	-	770	770		-	-	-	-	-	-	-	-	-	-	-	-	-	100
Irrigated																			
pasture	3,718	6,102	4,740	10,842	3,925	662	600	1,200	400	2,862	651	110	761	430	410	645	-	1,485	4,030
Misc. field		0,000		***	-,			-,		-,								-,	
and truck		-	-	-	-	300	200	400	-	900	148	-	148	168	137	269	-	574	-
Rice	790	1,215	810	2,025		-	-		-	-	-	-	-	-	-	-	-	-	-
Rural	582	949	1,159	2,108		750	375	2,250	3,750	7,125	375	-	375		3,750		450	7,500	
Total	12,230	19,929	24,339	44,268	37,365 ^a	3,572	2,962	21,329	6,515	34,378	2,124 ^a	825 ^a	2,949 ^a	a 4,943	10,594	3,436	450	19,423	39,903 ^a

^a Total adjacent area - areas outside Stanislaus River Basin area. ^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

of peaches, citrus, walnuts, almonds, olives and cherries. Main field and row crops projected are irrigated pasture, alfalfa, sugar beets, rice and corn. All of the above crops except olives and citrus are presently grown in the area. The crop projection made is shown in Table 2 and discussed in additional detail in the following paragraphs:

GRAPES

It is expected that grapes, particularly those of the wine variety, will continue to be important in the area. About 4,950 acres, or 9% of the total productive area is projected to grapes.

PEACHES

Peaches are a crop which are on a decline in the southern San Joaquin Valley, but which have remained relatively stable in the areas farther north. They are expected to remain important in the area and therefore about 3,350 acres, or 6% of the total productive area has been projected to peaches.

CITRUS

Another crop which may be grown in the foothill area of better air drainage are oranges. Presently no oranges are grown within the two county valley service area, but with continued demands and relatively high prices for the fruit this crop could be important. About 2,460 acres, or 5% of the total productive area are projected to citrus.

WALNUTS

Walnuts are a crop requiring deeper alluvial soils than the other tree crops, but which will be important because of continued

demand, high prices and the nearness of processing facilities to the area. About 2,485 acres, of 5% of the total productive area has been projected to walnuts.

ALMONDS

It would presently appear that the almond acreage is over-extended, but with continued high prices and increased demand the acreage will continue to rise significantly. The area is adapted to the growing of almonds and processing facilities are close at hand. About 1,000 acres, or 2% of the total productive acreage is projected to almonds.

OLIVES

The main olive producing areas of California are on the east side of the southern San Joaquin Valley and the Sacramento Valley area. Presently there is no olive acreage within the two county proposed service area, but with the recent development of new olive rootstocks which are resistant to verticillium wilt, the area has potential for developing into an olive producing area. Therefore, about 900 acres, or 2% of the total productive acreage has been projected to olives.

IRRIGATED PASTURE

About 49% of all the productive area within the two county valley area is made up of class 4P and 4SP lands. These lands will be mainly devoted to irrigated pasture for which they are best suited. Better phases of class 4 land may be used to provide a supplement

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to pasture where alfalfa hay, grain and other feed crops could be grown. In regions where slope is a problem orchard crops could be grown. About 14,560 acres, or 27% of the total productive area is projected to irrigated pasture.

ALFALFA

Alfalfa already utilizes about 2,000 acres, or about 4% of the total productive area. Under project conditions this crop is expected to be important in terms of both value and acreage. It will be grown in rotation with other field crops and will be used locally as well as shipped to milksheds close to the San Francisco Bay Area. It is best adapted to deeper soils, but produces relatively well on shallower soils. About 6,400 acres of alfalfa is projected or about 12% of the total productive area.

SUGAR BEETS

Sugar beet quotas are administered by the sugar factory and it is quite difficult for new farms to obtain permission to plant sugar beets. Nevertheless, some additional quota acreage probably will be available because domestic sugar refineries will be granted a share of the increased demand created by a larger U. S. population. The projection of 4,459 acres of sugar beets is therefore made which is 8% of the total productive area.

CORN

Field corn has become an increasingly important crop in association with alfalfa and irrigated pasture in a livestock enterprise. The

importance of corn hybrids in increasing yields has been more generally known and makes corn an important source of cash income. Frequently it is grown as a double crop with barley and it could be so utilized in the two county service area. About 2,700 acres, or 5% of the total productive area is projected to corn.

WATER REQUIREMENTS - DEFINITIONS

To estimate the farm delivery requirements for the projected crop patterns, consideration was given to the following water requirements for long-term average climatic conditions.

<u>CONSUMPTIVE USE</u> -- Also known as evapotranspiration, is the quantity of water transpired by a plant and evaporated from the adjacent soil surface with an adequate water supply and normal crop growth during a specific period of time.

In this report, consumptive use has been estimated for the entire seasonal growth of the various crops projected in acre-feet/acre. For crops such as pasture at low elevations, this includes the entire year. For orchards and vineyards it includes the time from leaf-out to maturity; however, if a crop cover is gone prior to leaf-out the cover crop use is also included. For annually planted crops the consumptive use is determined from planting to maturity. In determinations of effective precipitation and monthly farm delivery requirements, consumptive use is also considered on a monthly basis.

<u>EFFECTIVE PRECIPITATION</u> -- This is the portion of the total precipitation that contributes to the crop consumptive use, the balance being lost as runoff, deep percolation, or evaporation from a bare soil surface during the non-growing season. <u>CROP IRRIGATION REQUIREMENT</u> -- This is the portion of crop consumptive use which must be met by irrigation; in other words, consumptive use less effective precipitation.

<u>IRRIGATION EFFICIENCY</u> -- This is the percentage of the farm headgate delivery which meets the crop irrigation requirement, the balance being lost by runoff or deep percolation. It is expressed as crop irrigation requirement over farm delivery requirement times 100.

<u>FARM DELIVERY REQUIREMENT</u> -- This is the quantity of water required at the farm headgate to meet the crop irrigation requirement plus surface runoff and deep percolation losses which are unavoidable under reasonable irrigation management.

<u>FROST PROTECTION REQUIREMENT</u> -- In areas where sprinkling is practiced for frost protection of certain fruit trees or grapes - this is the extra quantity of water estimated as necessary to provide frost protection. This report considers pears, apples, grapes, citrus, cherries and plums as needing this protection.

TOTAL FARM DELIVERY -- As used herein this is the farm delivery requirement plus the frost protection for applicable crops.

METHODS OF DETERMINATION

To determine the foregoing water requirements by subareas of the Stanislaus River Basin Area, requirements were first estimated for the various crops by elevations ranging from 1000' to 3000' as shown in Table 3. These requirements were applied to the portion of the productive lands occurring at the various elevation ranges of each subarea to estimate average requirements for each subarea as shown in Tables 4 through 8.

The requirements so obtained in acre-feet/acre were then applied to the projected acreages of each crop to obtain the total water requirements in acre-feet by subarea. As shown in Table 3 the requirements vary by elevation. For each crop the consumptive use decreases at higher elevations dur to shorter growing seasons. Effective precipitation tends to increase due to increased total precipitation at higher elevations; however, the increases are limited for reasons later discussed. The general decreased consumptive use and increased effective precipitation results in decreasing crop irrigation requirements for each crop at higher elevations.

On the steeper slopes and shallower soils of higher elevations, irrigation efficiencies tend to decrease which causes farm delivery requirements to increase. Thus, the decrease in farm delivery requirements are proportionately less than those of the crop

		use Use feet/a		Prec	fective ipitati -feet/a	Lon	Req	Irrigat uiremen -feet/a	nt.	Ef	rigatio ficienc ercent		Req	n Delive uiremen e-feet/a	nt
Crop	1000'	2000'	3000'	1000'	2000'	3000'	1000'	2000'	3000'	1000'	2000'	3000'	1000'	2000'	3000 '
Walnuts	3.0	-	-	0.8	-	-	2.2	-	-	80	-	.	2.8	-	-
Olives	2.8	. .	-	0.8	-	-	2.0	-	-	75	-	-	2.7	-	-
Pears	2.9	2.7	2.5	0.6	0.7	0.8	2.3	2.0	1.7	75	70	70	3.1	2.9	2.4
Apples	2.7	2.5	2.3	0.6	0.7	0.8	2.1	1.8	1.5	75	70	70	2.8	2.5	2.1
Grapes	2.5	2.3	2.1	0.6	0.8	0.9	1.9	1.5	1.2	75	75	75	2.5	2.0	1.6
Cherries	-	3.0	2.8	-	1.1	1.2	-	1.9	1.6	-	75	75	-	2.5	2.1
Plums	-	2.7	2.5	-	0.7	0.8	-	2.0	1.7	•	70	70	-	2.9	2.4
Alfalfa	4.0	3.8	3.6	1.3	1.3	1.3	2.7	2.5	2.3	80	75	75	3.4	3.3	3.1
Pasture	4.2	4.0	3.8	1.3	1.3	1.3	2.9	2.7	2.5	70	65	65	4.1	4.1	4.0
Misc. Truck and															
field crops	2.2	2.0	1.8	0.6	0.7	0.8	1.6	1.3	1.0	75	70	70	2.1	1.9	1.4
Rura1	1.7	1.7	1.7	0.5	0.5	0.5	1.2	1.2	1.2	60	60	60	2.0	2.0	2.0

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Table 3. Seasonal crop water requirements by elevation in acre-feet/acre Calaveras and Tuolumne Counties

Req	Protec uiremen -feet/a 2000'	t	Require Fros	Farm De ment Ind t Prote <u>e-feet/</u> 2000'	cluding ction
. .	-	-	2.8	-	-
	-	-	2.7	-	-
0.3	0.5	0.8	3.4	3.4	3.2
0.2	0.4	0.7	3.0	2.9	2.8
0.1	0.3	0.6	2.6	2.3	2.2
-	0.5	0.8	-	3.0	2.9
-	0.4	0.7	-	3.3	3.1
-	-	-	3.4	3.3	3.1
	-	-	4.1	4.1	4.0
-	-	-	2.1	1.9	1.4
-	-	-	2.0	2.0	2.0

Crop	Consumptive Use _AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement AF/acre	Irrigation Efficiency Percent	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Requirement Including Frost Protection <u>AF/acre</u>
Walnuts	3.0	0.8	2.2	× 75	2.93	-	2.93
Almonds	2.6	0.7	1.9	75	2.53	0.2	2.73
Peaches	2.6	0.7	1.9	75	2.53	0.2	2.73
Apricots	2.6	0.7	1.9	75	2.53	0.2	2.73
Olives	2.8	0.8	2.0	75	2.67	-	2.67
Cherries	2.6	0.8	1.8	75	2.40	-	2.40
Plums	2.6	0.7	1.9	75	2.53	0.2	2.73
Citrus	2.6	0.7	1.9	75	2.53	0.7	3.23
Grapes	2.5	0.5	2.0	. 75	2.67	0.2	2.87
Tomatoes	2.3	0.5	1.8	60	3.00	- · · · ·	3.00
Sugar beets	2.4	0.5	1.9	70	2.71	-	2.71
Melons	2.2	0.5	1.7	65	2.62	-	2.62
Sorghum	1.7	0.5	1.2	75	1.60	-	1.60
Alfalfa	4.0	0.7	3.3	80	4.13	-	4.13
Corn	1.7	0.5	1.2	70	1.71	-	1.71
Barley	1.2	0.6	0.6	70	0.86	-	0.86
Safflower	2.2	0.5	1.7	70	2.43	-	2.43
Dry beans	1.6	0.4	1.2	70	1.71	-	1.71
Irrigated							
pasture	4.2	0.8	3.4	75	4.53	-	4.53
Rice	4.8	0.4	4.4	65	6.77	-	6.77
Rural	1.7	0.5	1.2	60	2.00	· -	2.00

Table 4. Seasonal crop water requirements in valley areas - acre-feet/acre San Joaquin, Stanislaus, and Merced Counties

Total Farm Delivery

Table 5. Seasonal water requirements by subareas - acre-feet/acre Calaveras and Tuolumne Counties - Valley Springs; Cooperstown; Calaveras (Part "b"); and Lower Tuolumne subareas

Crop	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement AF/acre	Irrigation Efficiency % "a"	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Total Farm Delivery AF/acre
Walnuts	3.0	0.8	2.2	80	2.8		2.8
Olives	2.8	0.8	2.0	75	2.7		2.7
Pears	2.9	0.6	2.3	75	3.1	0.3	3.4
Apples	2.7	0.6	2.1	75	2.8	0.2	3.0
Grapes	2.5	0.6	1.9	75	2.5	0.1	2.6
Alfalfa	4.0	1.3	2.7	80	3.4		3.4
Irrigated pasture	4.2	1.3	2.9	70	4.1		4.1
Misc. truck a	nd						,
field crops	2.2	0.6	1.6	75	2.1		2.1
Rural	1.7	0.5	1.2	60	2.0		2.0

"a"- Rounded to nearest 5 percent.

"b"- Not included in Stanislaus River Basin area.

Crop	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement AF/acre	Irrigation Efficiency % "a"	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Total Farm Delivery AF/acre
Valnuts	3.0	0.8	2.2	80	2.8	_	2.8
0lives	-	-	-	-		-	-
Pears	2.6	0.7	1.9	70	2.7	0.6	3.3
Apples	2.4	0.7	1.7	70	2.4	0.5	2.9
Frapes	2.2	0.8	1.4	75	1.9	0.4	2.3
Cherries	2.9	1.2	1.7	75	2.3	0.7	3.0
lums?	2.6	0.7	1.9	70	2.7	0.6	3.3
lfalfa rrigated	3.7	1.3	2.4	75	3.2	-	3.2
pasture lisc. truck and	3.9 L	1.3	2.6	65	4.1	-	4.1
field crops	1.9	0.7	1.2	70	1.7	_	1 7
lural	1.7	0.5	1.2	60	2.0	-	1.7 2.0
		·····		- • <i></i>	1.2 00	1.2 00 2.0	

Table 6. Seasonal water requirements by subareas - acre-feet/acre Calaveras and Tuolumne Counties - Calaveras subarea within Stanislaus River Basin and Sonora subarea in Tuolumne County

"a" - Rounded to nearest 5 percent.

Crop	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement AF/acre	Irrigation Efficiency <u>%</u> "a"	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Total Farm Delivery AF/acre
Walnuts	3.0	0.8	2.2	80	2.8	-	2.8
Olives	-	-	-	-	-	-	
Pears	2.8	0.7	2.1	70	3.0	0.4	3.4
Apples	2.6	0.7	1.9	75	2.6	0.3	2.9
Grapes	2.4	0.7	1.7	75	2.2	0.2	2.4
Alfalfa Irrigated	3.9	1.3	2.6	75	3.3	-	3.3
pasture	4.1	1.3	2.8	70	4.1	-	4.1
Misc. truck a	nd						
field crops	2.1	0.7	1.4	70	2.0	-	2.0
Rura1	1.7	0.5	1.2	60	2.0	-	2.0

Table 7. Seasonal water requirement - Calaveras County - acre-feet/acre Murphys subarea

"a" - Rounded to nearest 5 percent.

Table 8. Seasonal water requirements by subareas - acre-feet/acre West Point subarea in Calaveras County and Tuolumne Ditch subarea in Tuolumne County

Crop	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement <u>AF/acre</u>	Irrigation Efficiency <u>%</u> "a"	Farm Delivery Requirement <u>AF/acre</u>	Frost Protection Requirement AF/acre	Total Farm Delivery <u>AF/acre</u>
Walnuts	-	-	-	-	-	-	_
0lives	-	-	-	-	-	-	-
Pears	2.6	0.7	1.9	70	2.7	0.6	3.3
Apples	2.4	0.8	1.6	70	2.3	0.5	2.8
Grapes	2.2	0.9	1.3	70	1.8	0.4	2.2
Cherries	2.9	1.2	1.7	75	2.3	0 .7	3.0
Plums	2.6	0.7	1.9	70	2.7	0.6	3.3
Alfalfa	3.7	1.3	2.4	75	3.2	-	3.2
Irrigated							
pasture	3.9	1.3	2.6	65	4.0	-	4.0
Misc. truck an	nd						
field crops	-	-	-	-	-	-	-
Rural	1 .7	0.5	1.2	60	2.0	-	2.0

"a" - Rounded to nearest 5 percent.

irrigation requirement. Also, the total farm delivery requirement increases because of the increased frost protection requirements for applicable crops at higher elevations. The net result of these interacting factors is a small but definite decrease in total farm delivery requirements for most crops with elevation. The methods of determining the various water requirement components are discussed in the following paragraph.

<u>CONSUMPTIVE USE REQUIREMENTS</u> -- The consumptive use requirements shown on Table 3 for 1000' elevation were assumed to be essentially the same as for the valley floor and the quantities were taken from other Reclamation studies. For higher elevations the consumptive use requirements were decreased to reflect shorter growing periods in accordance with information obtained from the Agricultural Extension Service, Irrigation District records, and local experience in comparable areas.

In addition to variations in length of growing seasons it is recognized that the consumptive use during the growth period may vary with elevation due to variations in intensity of solar radiation, cloud cover, wind, humidity, temperature and other climatic factors. With the elevation range considered, however, the net effect of these differences does not appear to be great enough to warrant consideration in this study.

The most reliable consumptive use measurements available for this study are the 12 year lysimeter measurements, of grass pasture at U.C. Davis, which appear adequately representative for elevations up to 1000 feet. These data were adjusted for shorter growing periods at higher elevations as follows:

Elevation in Feet	Growing Period				
1000	All Year				
2000	February 1 - November 15				
3000	March 1 - October 31				

Alfalfa, considered to have a slightly shorter growing period than irrigated pasture and slightly lower use at all elevations, was adjusted in the same manner. Field and truck crops, which might be grown most of the year at lower elevations were adjusted by the same amounts. Olives and walnuts are not projected for elevations above 1000 feet and the values shown at 1000 feet are those taken from Reclamation studies on the valley floor.

For pears, apples and grapes, the following growth periods were used in estimating consumptive use:

Elevation	Pears	Apples	Apples	Wine
(feet)		<u>Delicious</u>	<u>Roman Beauties</u>	<u>Grapes</u>
1000	4/1 - 11/15	4/8 - 11/15	4/20 - 11/15	4/10 - 11/15
2000	4/8 - 11/10	4/15- 11/10	5/1 - 11/10	4/18 = 11/10
3000	4/15- 11/1	4/22- 11/1	5/5 - 11/1	4/25 - 11/1

By reference to previous Reclamation studies dealing with consumptive use requirements of approximately 2.9 acre-feet/acre for pears, and 2.5 acre-feet/acre for grapes on the valley floor, the requirements

shown in Table 3 were derived from the foregoing growth periods for the various elevations.

<u>PRECIPITATION - EFFECTIVE</u> -- This was estimated by comparison of monthly rainfall at representative stations with estimated consumptive use and moisture holding capacity of the soil during the same period. This indicated that at all elevations the average winter rainfall was 18 inches or more; sufficient to fill 6 feet of soil with available moisture and supply winter consumptive use with considerably less excess for runoff or deep percolation.

Thus, at all elevations crops starting growth in the spring would have a full root zone, with available moisture varying from 4 inches in a shallow soil to as much as 15 inches in a deep soil. During the summer months less than 3 inches of rainfall occurs at lower elevations and more than 5 inches at higher elevations. Thus, for a given crop and soil condition the effective precipitation may be expected to increase with elevation, largely due to increased summer rainfall.

For crops such as pasture, effective precipitation will also increase with elevation during the summer months. During the winter months, however, even though the root zone is filled and all consumptive use is supplied by rainfall, there is less consumptive use to be supplied during the latter start of growth,

hence, less of the rainfall is effective than at lower elevations. Thus, at higher elevations the greater effective precipitation in the summer is offset by less during the winter so that there is no appreciable difference in the annual effective precipitation for alfalfa and pasture at different elevations.

<u>IRRIGATION REQUIREMENTS</u> -- This is determined by deducting the effective precipitation from consumptive use. The requirements by crops in acre-feet/acre are shown in Tables 3 through 8. In all cases the requirements decrease with elevation. For alfalfa and pasture - since the effective precipitation is estimated to be the same at all elevations - the crop irrigation requirement decreases by the same amount as consumptive use. For other crops the decrease represents the sum of decreases in consumptive use and the effective precipitation.

EFFICIENCY OF IRRIGATION -- The irrigation efficiencies for each crop are estimated from irrigation experience in other areas with similar land characteristics and irrigation methods, as representing those obtainable under reasonable irrigation management with sprinklers. Consideration is given to the depth of the soil and crop rooting habit as they affect deep percolation, to the slope and soil characteristics as they affect runoff, and to the control of those losses provided by sprinklers.

With deep rooted crops such as walnuts and alfalfa, grown at lower elevations on deep soils, efficiencies of 80% are estimated as attainable, since on deep soils percolation losses are minimized, and with sprinkling little runoff should occur from the gentle slope characteristics of such soils. For most of the crops at lower elevations which may be grown on shallow soils there should be very little deep percolation, however, with the typically more irregular relief more runoff may occur, and the efficiencies are estimated at 75%. Irrigated pasture, grown largely on lands with irregular relief and having a shallow rooting habit is estimated to have an efficiency of 70%.

At higher elevations having a larger proportion of steeper slopes and more runoff the efficiency for pears, apples and miscellaneous crops are decreased to 70% and for pasture to 65%. The estimated efficiency for grapes is maintained at 75% as it is expected that for the desired quality they will be grown mostly on deeper soils with less irrigation required.

<u>ON-FARM DELIVERY REQUIREMENT</u> -- These requirements were determined by dividing the crop irrigation requirements of each crop by the corresponding irrigation efficiency. As shown on Tables 3 through 8 these decrease with elevation for each crop, but in most cases the decrease is proportionately less than the decrease in crop irrigation requirement because of lower irrigation efficiency.

<u>FROST PROTECTION REQUIREMENT</u> -- These were estimated for the applicable crops according to the estimated number of nights of protection required at each elevation, assuming an average application of one-eighth inch per hour for 8 hours, or one inch per night. The number of nights for which frost protection would be required were estimated from experience from similar climatic situations in the same elevation range.

At 3000 feet elevation it is estimated that 10 nights of frost protection, amounting to 10 inches, or 0.8 acre-feet/acre would be required for pears, 8 nights or 0.7 acre-feet/acre for apples, and 7 nights or 0.6 acre-feet/acre for grapes. These decrease to 0.5, 0.4 and 0.3 acre-feet/acre at 2000 feet, and 0.3, 0.2 and 0.1 acre-feet/acre at 1000 feet.

TOTAL UNIT FARM DELIVERY REQUIREMENT -- The values were determined for each crop by adding the frost protection requirement to the farm delivery requirement. Since the frost protection requirement increases while the farm delivery requirement decreases with increased elevation, the net result is a relatively small decrease in total requirement with elevation. The requirements so calculated, ranging from 1.4 to 3.2 acre-feet/acre at an elevation of 3000 feet check reasonably well with delivery records obtained from similar cropping under comparable conditions in El Dorado County.

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PROJECTED CROP PATTERNS BY SUBAREA -- The projected crop pattern acreages were estimated for each subarea within the Stanislaus River Basin area and are shown on Tables 9, 11, 15 and 17.

WATER REQUIREMENT BY SUBAREAS -- To determine the water requirements by subareas, the requirements given by elevation were first applied to the estimated proportion of productive lands in the various elevation ranges of each subarea to develop average subarea requirements shown in Tables 4 through 8. These requirements were then multiplied by the projected crop acreages for each subarea shown in Table 2 and presented in Tables 10, 12, 16 and 18 under ultimate conditions for each of the respective counties.

<u>RURAL ESTATES (Rural Water Requirement</u>) -- In addition to the projected agricultural water requirements previously described in the Stanislaus River Basin Area, there is an additional requirement, referred to in the tables included herein as rural water requirement. These rural estate areas are part of the urban-suburban area shown on G.P.O. Drawing 881-208-149 which totals about 87,900 acres for the basin area and were originally designated during the land classification process. It is expected that the rural estate areas will develop as shown on the accompanying tables with the influx of people in quest of retirement or second homes. Most of the homesites will consist of small acreages capable of carrying pasture for horses for pleasure riding, beef, sheep and swine for 4-H and similar-type participants, beef for home use, and also have the capability for some fruit trees, nuts, and grapes. According to tables listed in this report, it is

Table 9. Present and projected crop patterns Stanislaus River Basin area^a San Joaquin County

	·····		Acres		
Crop	1975	1980	2000	2020	Ultimate
Walnuts	25	30	315	420	560
Almonds		40	211	281	375
Peaches			104	139	185
Apricots					
Olives		20	191	255	340
Cherries			107	143	190
Citrus					
Grapes		100	422	563	750
Tomatoes		30	191	255	340
Sugar beets			360	480	640
Melons			110	146	195
Sorghum	400	405	410	413	550
Alfalfa		320	1,052	1,403	1,870
Corn			363	484	645
Barley	300	320	350	375	500
Safflower					
Dry beans					
Irrigated pasture	2,375	2,500	2,600	2,789	3,718
Rice	200	210	445	593	790
Rura1	165	<u> 199 </u>	362	437	582
	·····				
Total	3,465	4,174	7,593	9,176	12,230

Farmington Subarea

^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

Table 10. Present and projected water requirements Stanislaus River Basin areaa San Joaquin County

Farmington	Subarea
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		Acre-feet (F.D.D.)						
Crop	1975	1980	2000	2020	<u>Ultimate</u>			
Walnuts	73	88	923	1,231	1,641			
Almonds		109	576	767	1,024			
Peaches			284	379	505			
Apricots								
Olives		53	510	681	908			
Cherries			257	343	456			
Citrus								
Grapes	~~~~	287	1,211	1,616	2,153			
Tomatoes		90	573	765	1,020			
Sugar beets			976	1,301	1,734			
Melons			288	383	511			
Sorghum	640	648	656	661	880			
Alfalfa		1,322	4,345	5,794	7,723			
Corn	~ -		621	828	1,103			
Barley	258	275	301	322	430			
Safflower								
Dry beans								
Irrigated pasture	10,759	11,325	11,778	12,634	16,843			
Rice	1,354	1,422	3,013	4,015	5,348			
Rural	330	398	724	<u> </u>	<u>1,164</u>			
Total	13,414	16,017	27,036	32,594	43,443			

^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

F.D.D.: Farm delivery demand, indicates that water required at the farmer's headgate.

Table 11. Present and projected crop patterns, productive area Stanislaus River Basin^D and adjacent areas Stanislaus County

(acres)

	- 1			- Stanisla							jacent A		Summar	y Total	- Stanis	laus Riv	er Basin	Su			jacent A	rea ^a
			on Subar	the second s		oopersto				and they are allowed and the second states	r Subare	a second and a second								elier Su		
Crop	1980	2000	2020	Ultimate	1980	2000	2020	<u>Ultimate</u>	1980	2000	2020	Ultimate	1975	1980	2000	2020	<u>Ultimate</u>	1975	1980	2000	2020	<u>Ultimate</u>
																		_				
Walnuts	362	525	705	940	377	546	739	985	711	1,030	1,358	1,810	700	739	1,071	1,444	1,925	700	711	1,030	1,358	1,810
Almonds	132	354	469	625	-	-	-	-	1,518	4,070	5,430	7,240	109	132	354	469	625	1,500	1,518	4,070	5,430	7,240
Peaches	72	168	236	315	684	1,595	2,138	2,850	444	1,035	1,358	1,810	649	756	1,763	2,374	3,165	400	444	1,035	1,358	1,810
Apricots	-	-	-	-	-	-	-	-	160	254	338	450	86	-	-	-	-	120	160	254	338	450
Olives	60	313	420	560	-	-	-	-	440	2,292	3,053	4,070	-	60	313	420	560	-	440	2,292	3,053	4,070
Cherries	40	177	236	315	-	-	-	-	-	-	-	-	-	40	177 [.]	236	315	-	-	-	-	-
Citrus	-	-	-	-	174	1,393	1,845	2,460	126	1,009	1,358	1,810	-	174	1,393	1,845	2,460	-	126	1,009	1,358	1,810
Grapes	216	700	938	1,250	516	1,673	2,213	2,950	468	1,517	2,036	2,715	649	732	2,373	3,151	4,200	450	468	1,517	2,036	2,715
Tomatoes	158	319	420	560	245	492	664	885	317	637	848	1,130	389	403	811	1,084	1,445	294	317	637	848	1,130
Sugar beets	110	669	874	1,165	245	1,490	1,991	2,654	145	881	1,189	1,585	260	355	2,159	2,865	3,819	140	145	881	1,189	1,585
Melons	158	189	244	325	262	314	413	550	630	754	1,020	1,360	400	420	503	657	875	600	630	754	1,020	1,360
Sorghum	400	407	542	987	195	199	266	483	255	259	346	630	469	595	606	808	1,470	250	255	259	346	630
Alfalfa	1,580	1,716	2,282	3,043	760	826	1,106	1,475	585	635	848	1,130	2,000	2,340	2,542	3,388	4,518	550	585	635	848	1,130
Corn	527	598	806	1,075	497	565	739	985	1,901	2,159	2,884	3,845	1,000	1,024	1,163	1,545	2,060	1,875	1,901	2,159	2,884	3,845
Barley	315	362	483	503	365	420	560	583	580	667	888	926	674	680	782	1,043	1,086	516	580	667	888	926
Safflower	-	-	-	-	-	-	-	-	20	141	188	250	-	-	-	-		-	20	141	188	250
Dry beans	-	-	-	-	403	432	578	770	472	507	675	900	400	403	432	578	770	453	472	507	675	900
Irrigated									•• –						•=-				••	;		
pasture	2,860	3,405	4,577	6,102	2,232	2,658	3,555	4,740	1,883	2,243	2,944	3,925	5,069	5,092	6,063	8,132	10,842	1,850	1,883	2,243	2,944	3,925
Rice	144	683	911	1,215	96	456	608	810	-,	- ,		-,	130	240	1,139	1,519	2,025	98	-	-	-	-
Rural	356	530	707	949	353	653	871	1,159	533	1,004	1,338	1,779	649	709	1,183	1,578	2,108	490	533	1,004	1,338	1,779
Total	7,490	11,115	14,850	19,929	7,404	13,712	18,286	24,339	11,188 ^a	21,094 ^a	28,099 ^a	37,365 ^a	13,633	14,894 [.]	24,827	33,136	44,268	10,286 ^a	11,188 ^a	21,094 ^a	28,099 ^a	37,365 ^a

^a Total adjacent area - areas outside Stanislaus River Basin area.

^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

Table 12. Present and projected water requirements Stanislaus River Basin^b and adjacent areas Stanislaus County

(Acre-feet - F.D.D.)

	<u></u>			- Stanisl	<u>aus Rive</u>	r Basin			(and the second s	the second s	jacent A	المتقادين فيترج ويهان والقام	Summ	ary - To	tal Stan	islaus Ri	ver Basin	<u>Summa</u>		tals of		Area
		Farmingt	on Subar	ea	Co	operstow	n Subare	8		Montpeli	er Subar	ea ^a	Far	mington	and Coop	erstown S	ubareas		Montp	elier Su		
Crop	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate
													• • • • •									
Walnuts	1,061	1,538	2,066	2,754	1,105	1,600	2,165	2,886	2,083	3,018	3,979	5,303	2,051	2,166	3,138	4,231	5,640	2,051	2,083	3,018	3,979	5,303
Almonds	360	966	1,280	1,706	-	-	-	-	4,144	11,111	14,824	19,765	298	360	966	1,280	1,706	4,095	4,144	11,111	14,824	19,765
Peaches	197	459	645	860	1,867	4,354	5,837	7,781	1,212	2,826	3,707	4,941	1,772	2,064	4,813	6,482	8,641	1,092	1,212	2,826	3,707	4,941
Apricots	-	· -	-	-	-	-	-	-	437	693	923	1,229	235	-	-	-	-	328	437	693	923	1,229
Olives	160	836	1,121	1,495	-	-	-	-	1,175	6,120	8,152	10,867	-	160	836	1,121	1,495	-	1,175	6,120	8,152	10,867
Cherries	96	425	567	756	••	-	-	-	•	-	-	-	-	96	425	567	756	-	-	-	-	-
Citrus	-	-	-	-	562	4,499	5,959	7,946	407	3,259	4,386	5,846	-	562	4,499	5,959	7,946	-	407	3,259	4,386	5,846
Grapes	620	2,009	2,691	3,588	1,481	4,802	6,351	8,467	1,343	4,354	5,843	7,792	1,863	2,101	6,811	9,042	12,055	1,292	1,343	4,354	5,843	7,792
Tomatoes	474	957	1,260	1,680	735	1,476	1,992	2,655	951	1,911	2,544	3,390	1,167	1,209	2,433	3,252	4,335	882	951	1,911	2,544	3,390
Sugar beets	298	1,813	2,369	3,157	664	4,038	5,396	7,192	393	2,388	3,222	4,295	705	962	5,851	7,765	10,349	379	393	2,388	3,222	4,295
Melons	414	495	639	852	686	823	1,082	1,441	1,651	1,975	2,672	3,563	1,048	1,100	1,318	1,721	2,293	1,572	1,651	1,975	2,672	3,563
Sorghum	640	651	867	1,579	312	318	426	773	408	414	554	1,008	750	952	969	1,293	2,352	400	408	414	554	1,008
Alfalfa	6,525	7,087	9,425	12,568	3,139	3,411	4,568	6,092	2,416	2,623	3,502	4,667	8,260	9,664	10,498	13,993	18,660	2,272	2,416	2,623	3,502	4,667
Corn	901	1,023	1,378	1,838	850	966	1,264	1,684	3,251	3,692	4,932	6,575	1,710	1,751	1,989	2,642	3,522	3,206	3,251	3,692	4,932	6,575
Barley	271	311	415	433	314	361	482	501	499	574	764	796	580	585	672	897	934	444	499	574	764	796
Safflower		-		-	-	-	<u> </u>	-	49	343	457	608	-	-	-	-	-	-	49	343	457	608
Dry beans	-	-	-	-	689	739	988	1,317	807	867	1,154	1,539	684	689	739	988	1,317	775	807	867	1,154	1,539
Irrigated								-,			-,	-,					-,				-,	-,
pasture	12,956	15,425	20,734	27,642	10,111	12,041	16,104	21,472	8,530	10,161	13,336	17,780	22,963	23,067	27,466	36,838	49,114	8,380	8,530	10,161	13,336	17,780
Rice	975	4,624	6,167	8,226	650	3,087	4,116	5,484	0,500				880	1,625	7,711	10,283	13,710	663	-	-		
Rural	712	1,060	1,414	1,898	706	1,306	1,742	2,318	1,066	2,008	2,676	3,558	1,298	1,418	2,366	3,156	4,216	980	1,066	2,008	2,676	3,558
NULGI		1,000	<u> </u>			000				000	_2,070				000					000		
Total	26,660	39,679	53,038	71,0 32	23,871	43,821	58,472	78,009	30,822 ^a	58,337 ^a	77,627 ^a	103,522 ^a	46,264	50,531	83,500	111,510	149,041	28,811 ^a	30,822 ^a	58,337 ^a	77,627 ^a	103,522 ^a

^a Total adjacent area - area outside Stanislaus River Basin area.

^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

F.D.D. - Farm delivery demand, indicates that water required at the farmer's headgate.

Table 15. Present and projected crop patterns Stanislaus River Basin^b and adjacent areas Calaveras County

(Acres)

							Total	- Stanisl											Total	- Adjace							mary Tot aus Rive		1			jacent Ar		
			10.04			40 m m	6			Calaveras		/ a		- Q.V.				1000	1000		Ca.		s Subarea											
	Co	pperopo	lis Suba	area			s Subare	the second s	-	(Part			We		nt Subar			ley Sprin			_	(Part	and the second se											
Crop	1980	2000	2020 1	Ultimate	1980	2000	2020 U	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020 U	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020 Ulti	mate 1	975	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate
ives	245	310	350	475	0	ň	0	ō	0	0	0	0	0	0	0	0	100	135	150	175	0	0	0	Ó	166	245	310	350	475	68	100	135	150	175
lnuts	250	305	350	475	50	65	100	100	60	90	100	100	0	0	0	0	184	235	250	275	110	145	170 2	200	352	360	460	550	675	2.88	294	380	420	475
ples	0	0	0	0	60	250	329	500	720	3,200	5,600	6,038	100	550	800	800	0	0	0	0	0	0	0	0	140	880	4,000	6,729	7,338	0	D	D	0	0
ars	100	333	358	460	70	330	475	600	690	3,347	4,390	5,000	100	250	400	400	12	80	100	100	38	1.80	210	00	0	960	4,260	5,623	6,460	0	50	260	310	400
spes	0	0	0	0	20	100	275	387	365	2,500	3,000	5,000	97	350	500	500	12	110	150	175	13	75	170 7	15	50	482	2,950	3,775	5,887	0	25	185	320	390
arries	0	0	0	0	0	0	0	0	60	413	525	760	100	150	300	365	0	0	0	0	0	0	0	0	0	160	563	825	1,125	0	0	0	0	D
ms	Ω	0	0	0	0	0	0	0	50	150	277	381	75	118	200	200	0	0	0	0	0	0	0	0	0	125	268	477	581	0	0	0	0	0
alfa	200	300	350	450	60	100	150	200	60	100	175	200	0	60	100	100	80	160	200	225	0	0	0	0	160	320	560	775	950	40	80	160	200	225
igated																																		
asture	525	550	600	662	370	480	600	600	801	900	925	1,200	100	222	400	400	350	400	420	651	88	100	110 1	110 1,0	600 1	1,796	2,152	2,525	2,862	400	438	500	530	761
c, field																																		
nd truck	130	200	250	300	75	100	149	200	200	300	400	400	0	0	0	0	75	105	130	148	0	0	0		273	405	600	799	900	52	75	105	130	148
al	200	400	600	750	75	1.75			250	1,000	1,600	2,250	500	1,500	2,000	3,750		175	300	375	0		_0	0	279 1	1,025	3,075	4,500	7,125		75	175		375
otals	1,650	2,398	2,858	3,572	780	1,600	2,378	2,962	3,256	12,000	16,992	21,329	1,072	3,200	4,700	6,515	888 ^a	1,4008	1,700 ^a	2,124 ^a	2498	500 ^a	660 ⁸ 8	825 ^a 3,	020 (6,758	19,198	26,928	34,378	869 ⁸	1,1378	1,900 ⁸	2,360 ⁸	2,949

" Adjacent area outside Stanislaus River Basin

^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

Table 16. Present and projected water requirements Stanislaus River Basin^b and adjacent areas Calaveras County

(Acre-feet - F.D.D.)

							Tota	1 - Stani	slaus Ri	ver Basi	n								Tota	1 = Adja	cent An	rea					mary Tot aus Rive					nary To acent A		
	Co	pperopo	lis Sub	area		Murphys	10.000		the second s	alaveras (Part	Subarea	1	W	est Poi	nt Subar	ea	Va	lley Spr				Calavera	t "b")									and the second s		
Crop	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020 1	ltimate	1980	2000	2020 0	lltimate	1975	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate
Olives	662	837	945	1,283	0	0	0	0	0	0	0	0	0	0	0	0	270	365	405	473	0	0	0	0	449	662	837	945	1,283	183	270	365	405	473
Walnuts	700	854	980	1,330	140	182	280	280	168	252	280	280	0	0	0	0	515	658	700	770	30.8	406	476	560	986	1,008	1,288	1,540	1,890	806	823	1,064	1,176	1,330
Apples	0	0	0	0	174	725	954	1,450	2,088	9,280	16,240	17,510	280	1,540	2,240	2,240	0	0	0	0	0	0	0	0	400	2,542	11,545	19,434	21,200	0	0	0	0	0
Pears	340	1,132	1,217	1,564	238	1,122	1,615	2,040	2,277	11,045	14,487	16,500	330	825	1,320	1,320	41	272	340	340	129	612	714	1,020	0	3,185	14,124	18,639	21,424	0	170	884	1,054	1,360
Grapes	0	0	0	0	48	240	660	929	840	5,750	6,900	11,500	213	770	1,100	1,100	31	195	442	559	34	195	442	559	124	1,101	6,760	8,660	13,529	1	65	390		1,118
Cherries	0	0	0	0	0	0	0	0	180	1,239	1,575	2,280	300	450	900	1,095	0	0	0	0	0	0	0	0	0	480	1,689	2,475	3,375	0	0	0	0	0
Plums	0	0	0	0	0	0	0	0	165	495	914	1,257	248	389	660	660	0	0	0	0	0	0	0	0	0	413	884	1,574	1,917	0	0	0	0	0
Alfalfa	680	1,020	1,190	1,530	198	330	495	660	192	320	560	640	D	192	320	320	272	544	680	765	0	- 0	0	0	528	1,070	1,862	2,565	3,150	132	272	544	680	765
Irrigated pasture	2,153	2,255	2,460	2,714	1,517	1,968	2,460	2,460	3,284	3,690	3,793	4,920	400	888	1,600	1,600	1,435	1,640	1,722	2,669	361	410	451	451	6,560	7,354	8,801	10,313	11,694	1,640	1,796	2,050	2,173	3,120
Misc. field		1.00	10.0	1.00		100		alers.					1.0				1.4.4		100		1.1							10.00		10 al 11	1.11	1.00		
and truck		840	1,260	1,575	150	200	298	400	340	510	680	680	0	0	0	0	158	368	630	788	0	0	0	0	552	910	1,550	2,238	2,655	98	158	368	630	788
Rural	400	800	1,200	1,500		350	600	750	500	2,000	3,200	4,500	1,000	3,000	4,000	7,500	150	350	600	750	0	0	0	0	558	2,050	6,150	9,000	14,250	42	150	350	600	750
Totals	5,355	7,738	9,252	11,496	2,615	5,117	7,362	8,969	10,034	34,581	48,629	60,067	2,771	8,054	12,140	15,835	2,872 ⁸	4,392 ^a	5,519 ^a	7,114 ^a	832 ⁸	1,623 ^a	2,083 ^a	2,590 ^a	10,157	20,775	55,490	77,383	96,367	2,902 ⁸	3,704 ⁸	6,015 ^a	7,602	9,704 ^a

F.D.D. - Parm delivery demand, indicates that water required at the farmer's headgate.

^a Adjacent area outside Stanislaus River Basin.

^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

Table 17. Present and projected crop patterns, productive area Stanislaus River Basin area^a Tuolumne County

(Acres)

	Tuo	lumne D	itch Su	barea		Sonora	Subare	a	Low	er Tuol	umne Su	barea		Mi-Wuk	Subare	a		Summary	(Tuolu	mne Cou	nty)
Crop	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate
Walnuts	*			•					100	250	362	483	-	-	-	-	70	100	250	362	483
Olives	-	-	-	-	-	-	-	-	20	250	362	483	-	-	-	-	-	20	250	362	483
Apples	275	300	430	574	275	810	1,592	2,122	-	-	-	• ,	-	-	-	-	500	550	1,110	2,022	2,696
Pears	100	229	448	598	100	665	1,334	1,779	-	146	302	403	-	-	-	-	-	200	1,040	2,084	2,780
Cherries	-	-	-	-	10	100	206	274	-	-	-	-	-	-	-	-	•	10	100	206	274
Grapes	40	173	341	455	40	692	1,386	1,848	· ••	-	-	-	-	-	-	-	-	80	865	1,727	2,303
Plums	-		-	-		50	103	137	-	-	-	-	-	-	-	-	-	•	50	103	137
Alfalfa	36	64	126	168	28	50	103	137	86	152	302	403	-	-	-	-	-	150	266	531	708
Irrigated																					
pasture	16 0	261	322	430	154	252	308	410	236	387	484	645	-	-	-	-	520	550	9 00	1,114	1,485
Misc. field																					
and truck		62	126	168	10	52	103	137	18	101	202	269	-	-	-	-	-	40	215	431	574
Rural	400	1,000	1,912	2,550	500	1,500	2,812	3,750	200	400	562	750	150	250	338	450	900	1,250	3,150	5,624	7,500
					مارد پر سیمی و				••••••••••												
Total	1,023	2,089	3,705	4,943	1,117	4,171	7,947	10,594	660	1,686	2,576	3,436	150	250	338	450	1,990	2,950	8,196	14,566	19,423
	•	•	•	-	-	-	-	-													

^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

Table 18. Present and projected water requirements Stanislaus River Basin area^a Tuolumne County

(acre-feet)

	Tuo		itch Su .D.D.)	ibarea			Subarea D.D.)	l	Low		umne Su D.D.)	barea			ik Suba 7.D.D.)	rea			y (Tuolu e-feet)	mne Coun (F.D.D.)	ty)
Crop	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1980	2000	2020	Ultimate	1975	1980	2000	2020	Ultimate
Walnuts	-	-	_	-	-	-	-	-	280	700	1,014	1,352	-	-	-	-	192	280	700	1,014	1,352
Olives	-	-	•	-	-	-	-	-	54	675	977	1,304	-	-	-	-	-	54	675	977	1,304
Apples	770	840	1,204	1,607	798	2,349	4,617	6,154	· =	-	-	-	-	-	-	-	1,408	1,568	3,189	5,821	7,761
Pears	330	756	1,478	1,973	330	2,194	4,402	5,871	-	496	1,027	1,370	-	-	-	-	•	660	3,446	6,907	9,214
Cherries	-		_	-	30	300	618	822	-	-	-	-	-	-	-	-	-	30	300	618	822
Grapes	88	381	750	1,001	92	1,592	3,188	4,250	-	· 🕳	/ -	-	-	-	-	-	-	180	1,973	3,938	5,251
Plums	-	-	-	-	-	165	340	452	-	-	-	-	-	-	-	-	-	-	165	340	452
Alfalfa	115	205	403	538	90	160	330	438	292	517	1,027	1,370	-	-	-	-	-	497	882	1,760	2,346
Irrigated											•	•								-	•
pasture	640	1,044	1,288	1,720	631	1,033	1,263	1,681	968	1,587	1,984	2,644	-	-	-	-	2,122	2,239	3,664	4,535	6,045
Misc. field				•		,		•			•	•					•	•	-	•	•
and truck	17	87	176	235	17	88	175	233	38	212	424	565	-	-	-	· -	-	72	387	775	1,033
Rural	800	2,000	3,824	5,100	1,000	3,000	5,624	7,500	400	800	1,124	1,500	300	500	676	90 0	1,800	2,500	6,300	11,248	15,000
Total	2,760	5,313	9,123	12,174	2,988	10,881	20,557	27,401	2,032	4,987	7,577	10,105	300	500	676	900	5,522	8,080	21,681	37,933	50,580

^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

F.D.D. - Farm delivery demand, indicates that water required at the farmer's headgate.

estimated that about 12,700 acres of rural estate area will be developed by the year 2020 and about 17,300 acres under ultimake conditions. The estimated farm delivery requirement for rural estates is two acre-feet per acre. The domestic use for the residences on the rural lands are considered to be included in the municipal and industrial requirements.

<u>PROJECTED TOTAL WATER REQUIREMENTS</u> -- The projected water requirements from all sources for the Stanislaus River Basin area are given on Tables 10, 12, 16, and 18 in terms of total farm delivery requirement by each subarea and for five periods of time, that is, years 1975, 1980, 2000, 2020 and ultimate. The values as shown on these tables were determined by use of crop unit water delivery requirements given on Tables 4 through 8 multiplied by the crop acreages (shown on Tables 9, 11, 15 and 17) estimated for each subarea by time frame. As shown, the ultimate agricultural plus rural water requirement determined by the above described procedure is about 259,500 acrefeet by the year 2020. The value represents the water requirement needed at the farmer's headgate. Water transport losses will need to be added to this value to arrive at the total diversion requirement. The acreage summary for the Stanislaus River Basin area for

the various time periods are given on Table 19 and the corresponding water requirements given on Table 20.

REVIEW OF LAND CLASSIFICATION -- Consideration of specific land classification and other related factors in the Stanislaus River Basin area indicated that all of the total productive area would not be developed by the year 2020. The review evaluated each county area based upon the relative position of lands with respect to logical and probable future water service to those lands. In effect, and on a judgmental basis, the more scattered and smaller parcels of productive land in each county were estimated as not being supplied water by the year 2020. The reductions made in such a manner were then totaled and shown on Tables 9, 11, 15 and 17. The percentage of productive land estimated for each county as not being irrigated by year 2020 is estimated as follows: Calaveras County 18%, Tuolumne, Stanislaus and San Joaquin Counties 25%. Also shown on the same tables are the total productive areas of each county estimated to be developed in a particular time frame. Under ultimate conditions it is estimated that the entire productive area as mapped by the Bureau of Reclamation will be fully developed.

LAND CLASSIFICATION AND RELATED MAPS -- A map showing the potential arable, urban and suburban areas within the Stanislaus River Basin

Table 19.	Summary - productive areas by counties*
	Stanislaus River Basin area ^a

			Acres		
County	<u> 1975 </u>	1980	2000	2020	<u>Ultimate</u>
Alpine					
Calaveras	3,020	6,758	19,198	26,928	34,378
Tuolumne	1,990	2,950	8,196	14,566	19,423
San Joaquin	3,465	4,174	7,593	9,176	12,230
Stanislaus	<u>13,633</u>	<u>14,894</u>	24,827	<u>33,136</u>	44,268
Totals	22,108	28,776	59,814	83,806	110,299

* Acreages include rural requirement.

^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

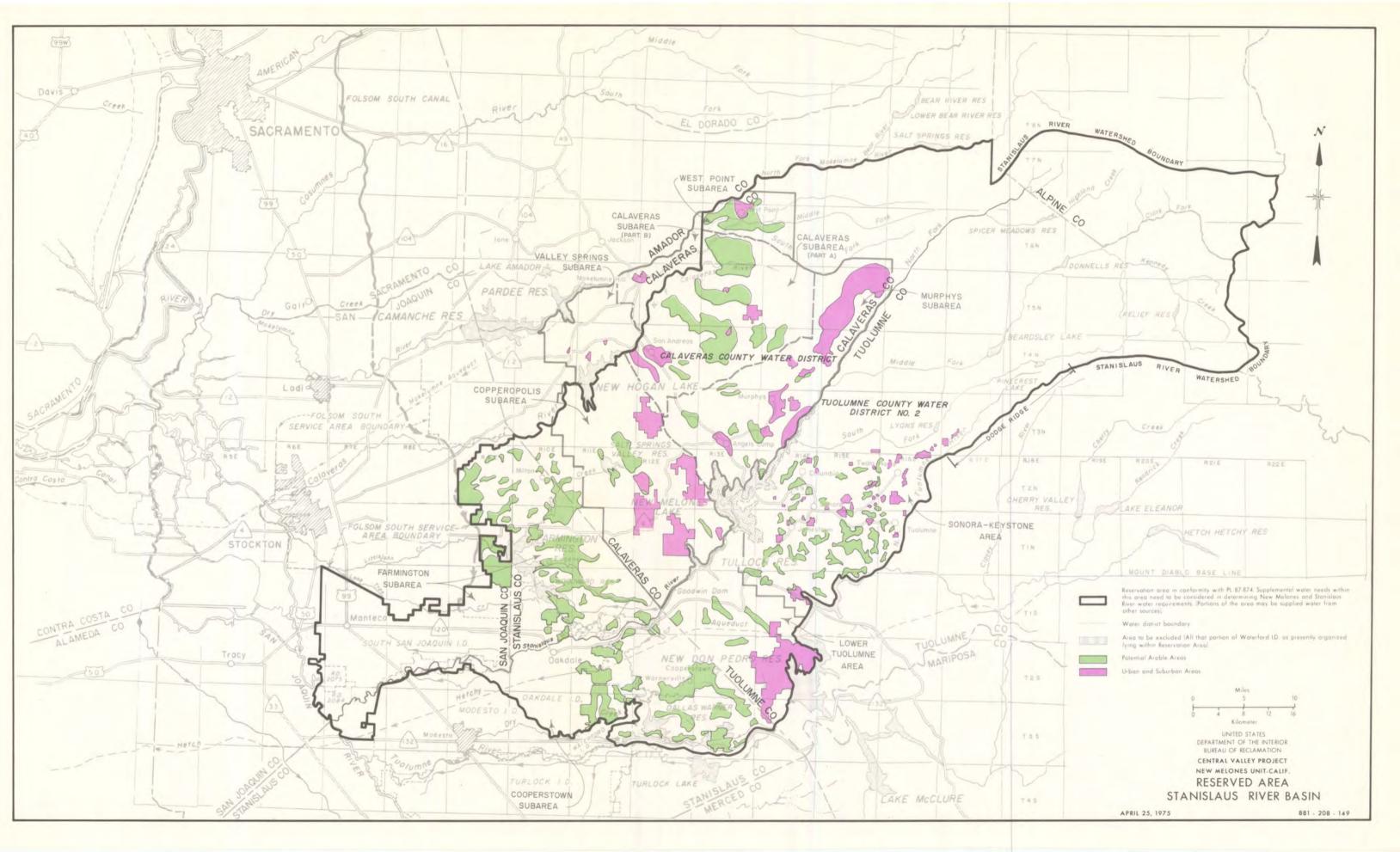
Table 20. Summary - water requirements by counties*

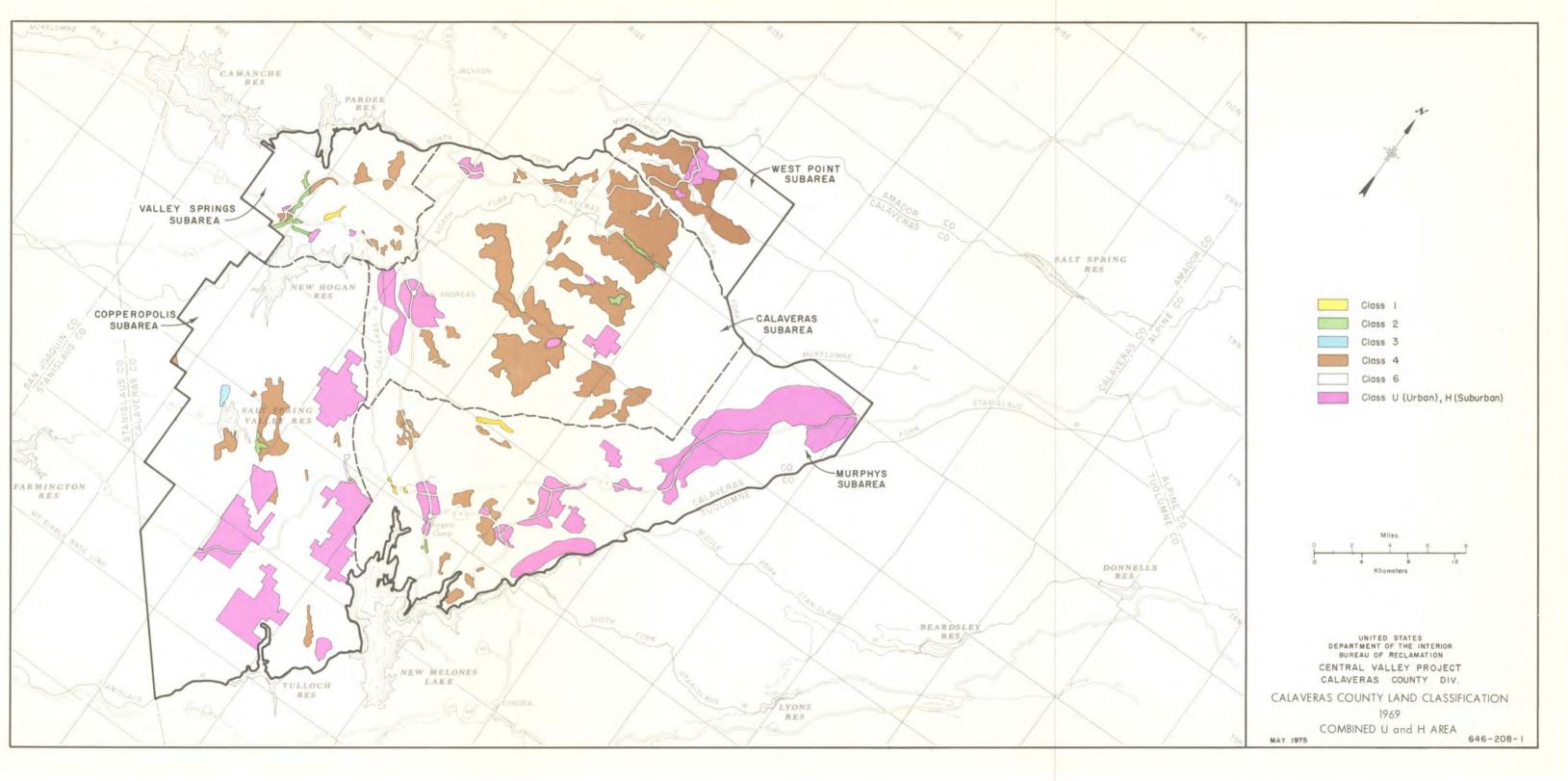
		Farm deliv	very demand	l (acre-fee	t)
County	1975	1980	2000	2020	Ultimate
		<u></u>			
Alpine					
Calaveras	10,157	20,775	55,490	77,383	96,367
Tuolumne	5,522	8,080	21,681	37,933	50,580
San Joaquin	13,414	16,017	27,036	32,594	43,443
Stanislaus	46,264	<u>50,531</u>	83,500	<u>111,510</u>	<u>149,041</u>
Totals	75,357	95,403	187,707	259,420	339,431

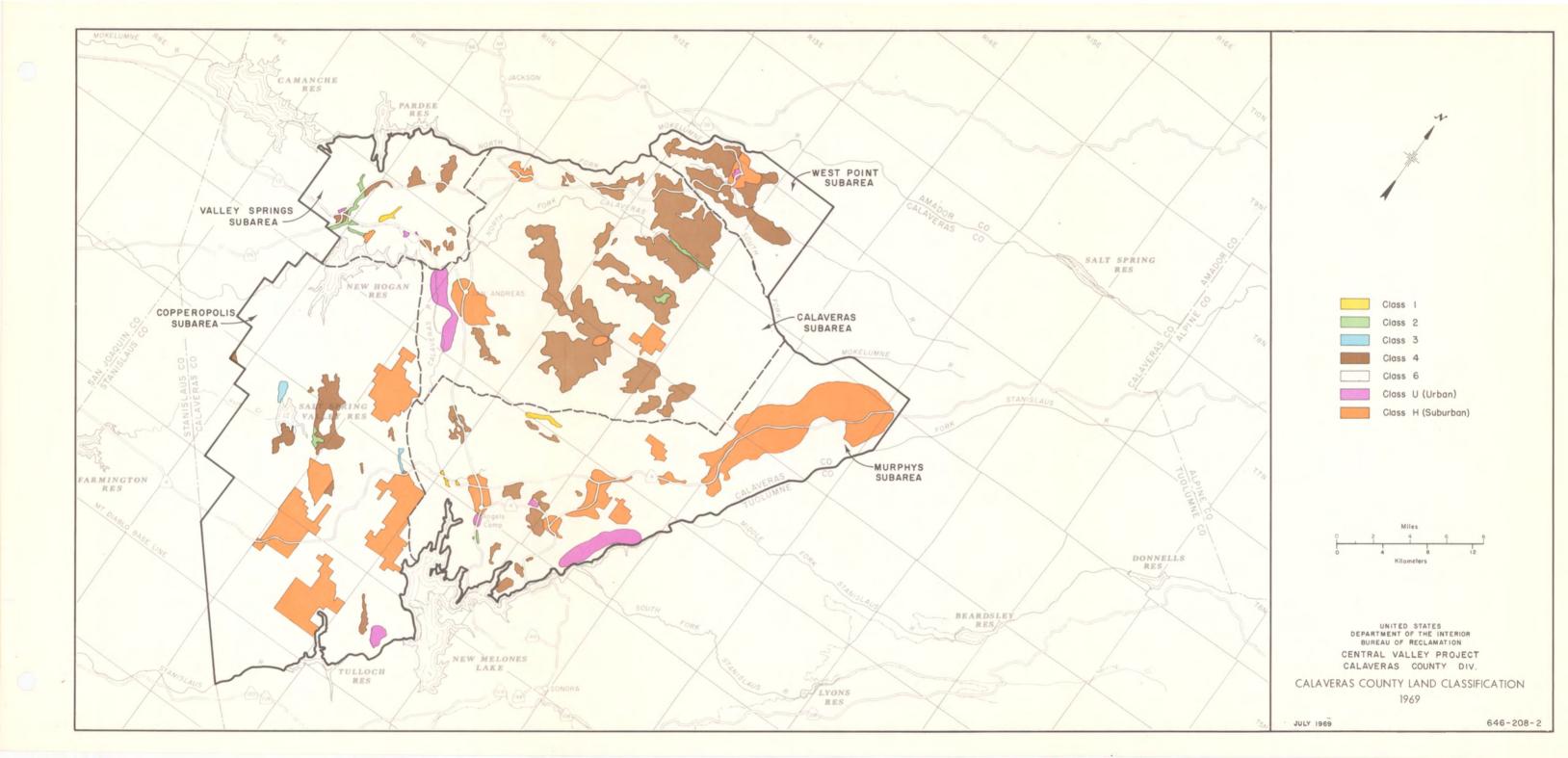
Stanislaus River Basin area^a

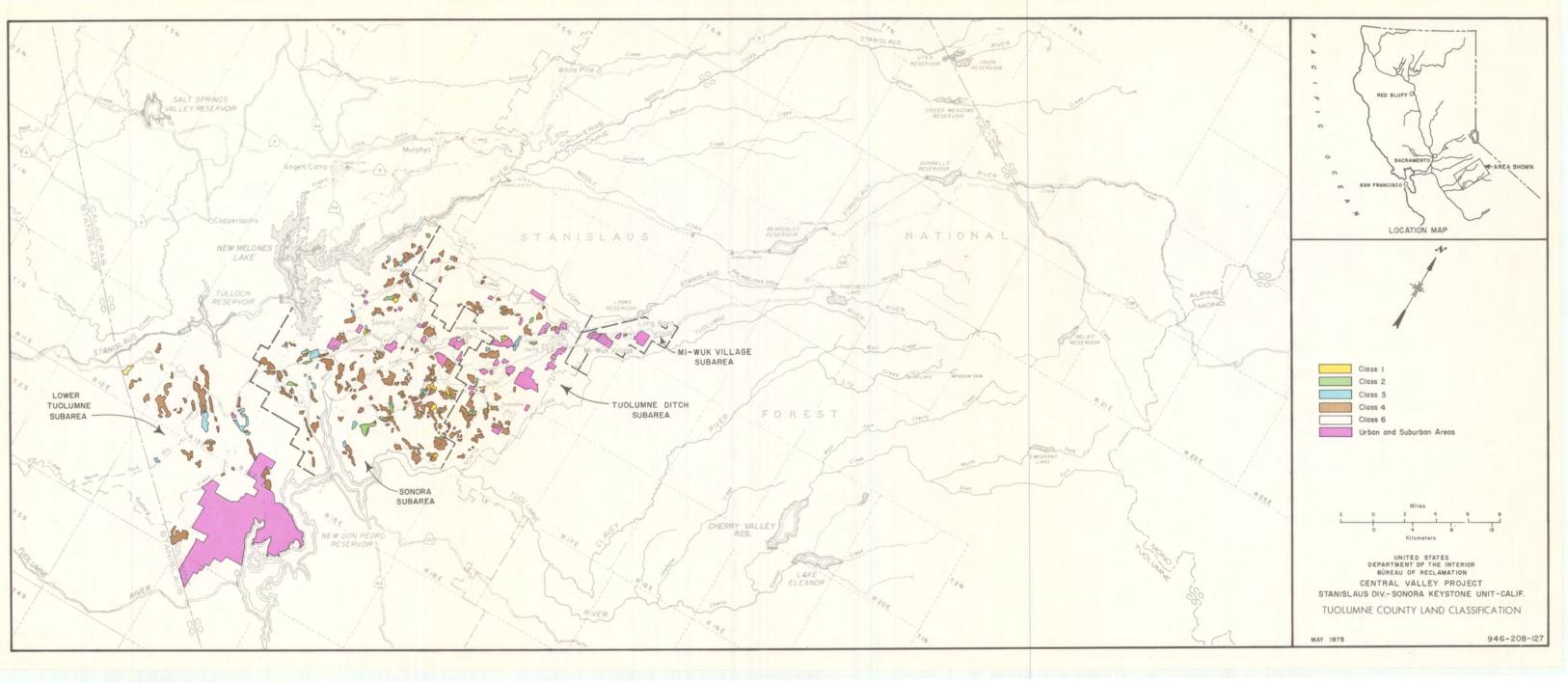
* Includes rural water requirement.

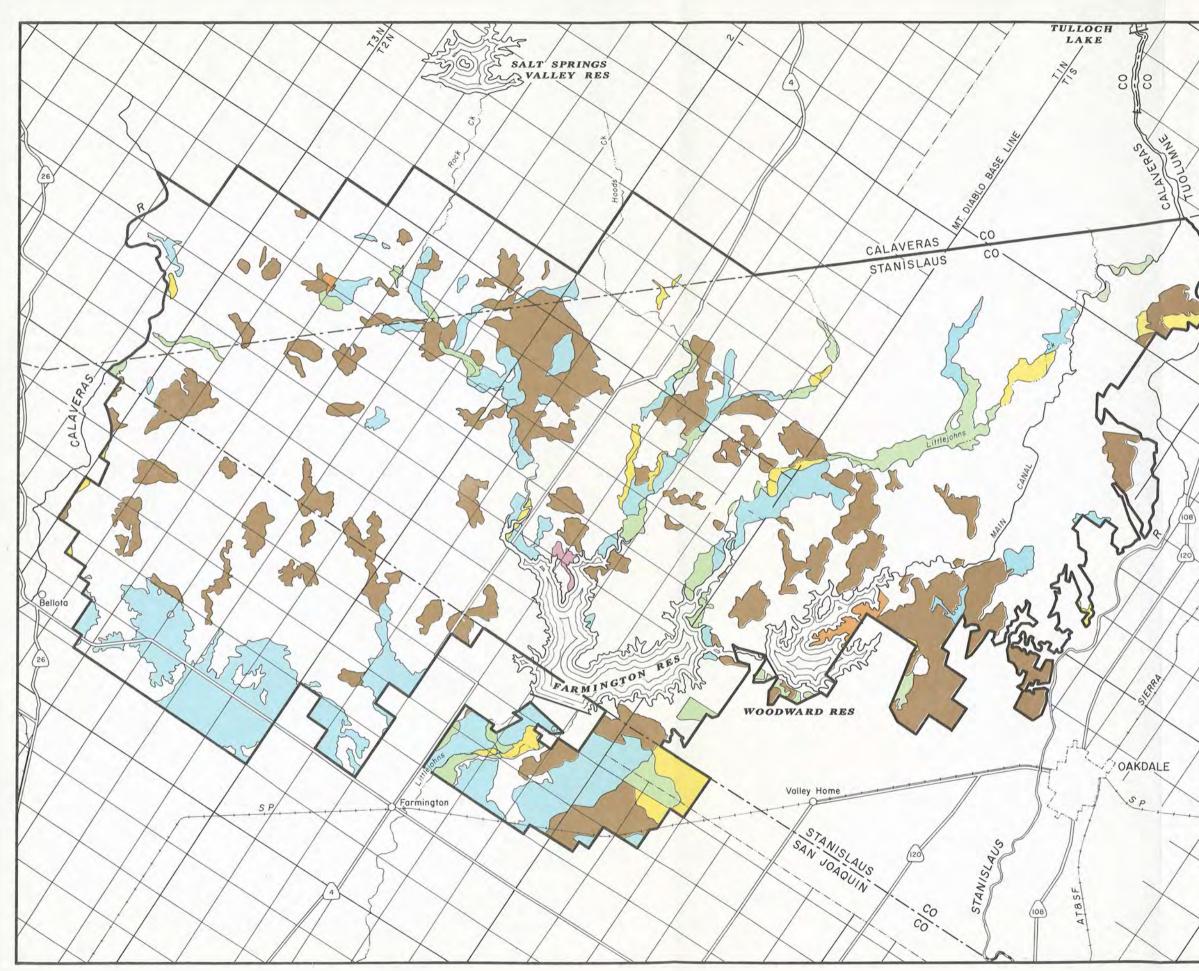
^a Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations. is shown on Drawing No. 881-208-149. A map showing Calaveras County Land Classification and combined U and H areas is shown on Drawing No. 646-208-1. A land classification map of Calaveras County is shown on Drawing No. 646-208-2. The land classification of Tuolumne County is shown on Drawing No. 946-208-127. Land Classification of Stanislaus and San Joaquin Counties north of the Stanislaus River is shown on G.P.O. Drawing No. 155-208-550. Land classification of Stanislaus County from the Stanislaus River to the Tuolumne River is shown on G.P.O. Drawing No. 155-208-551.



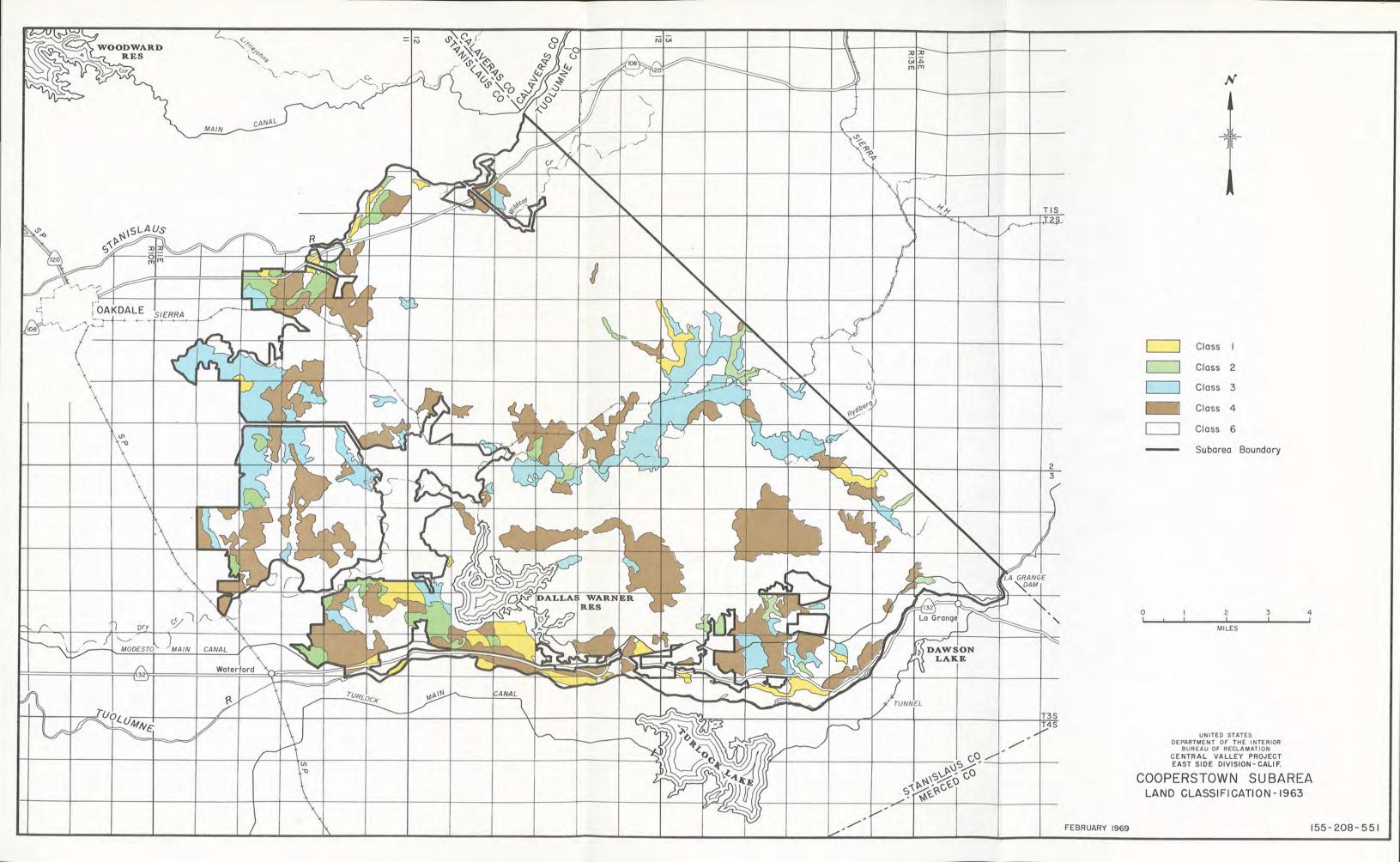


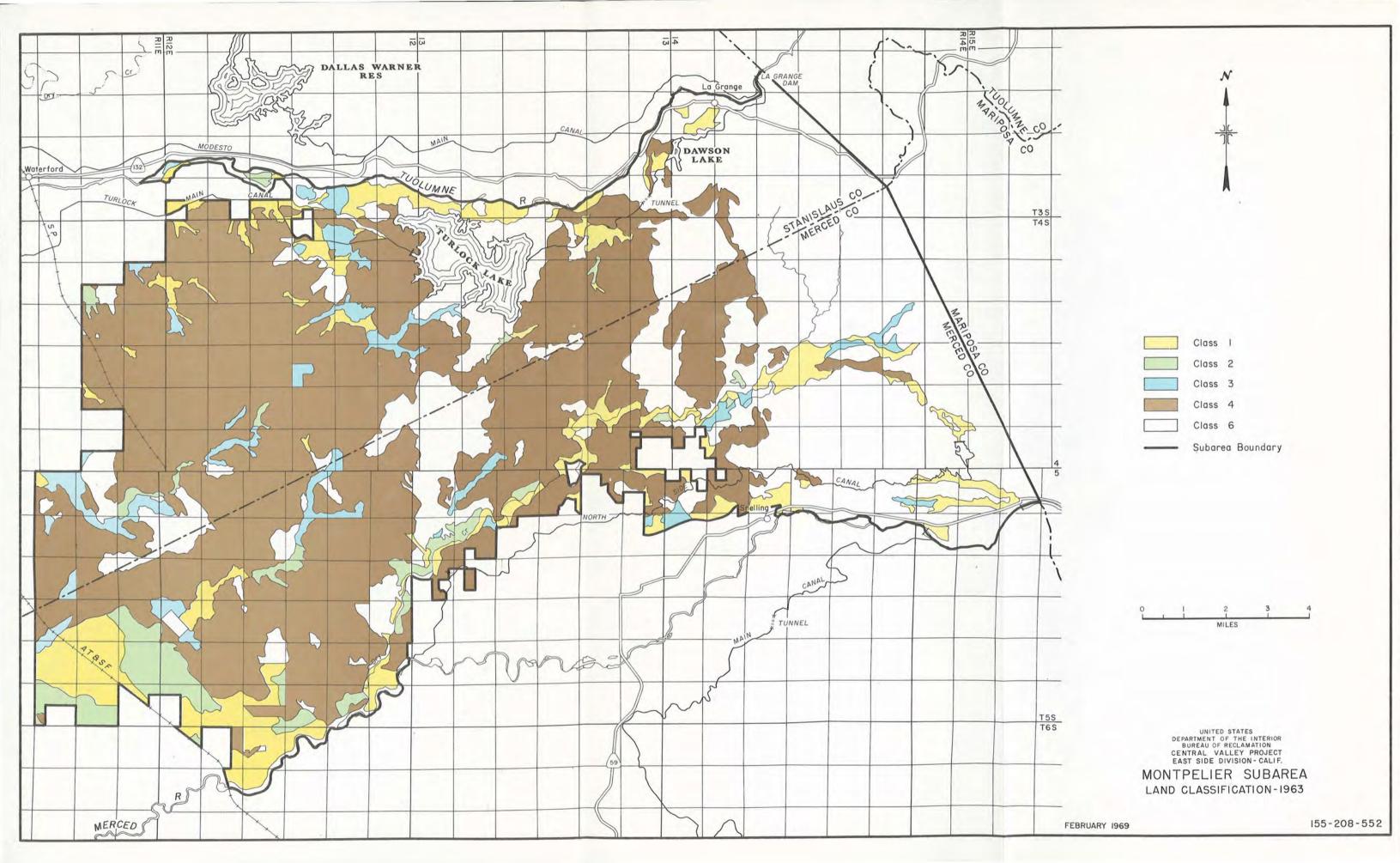






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	Class 2
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	Class 4
4	Class 6
	Class H (Suburban)
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X	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION CENTRAL VALLEY PROJECT EAST SIDE DIVISION - CALIF. FARMINGTON SUBAREA LAND CLASSIFICATION - 1963
\times	LAND GLASSIFICATION-1965
FEBRUARY 1969	155-208-550





AREAS ADJACENT TO STANISLAUS RIVER BASIN

AGRICULTURAL WATER REQUIREMENTS

Introduction

The area considered to be included as adjacent to the Stanislaus River Basin referred to in the Congressional Act modifying the New Melones Authorization (P.L. 87-874) comprises portions of three counties, namely; Calaveras, Stanislaus and Merced. Specific areas within Calaveras County to be included are the Valley Springs subarea and Calaveras subarea Part "B" (that portion planned to be served from Calaveras River or the Mokelumme River). The adjacent portions of Stanislaus and Merced counties lie south of the Tuolomne River and extend to the Merced River, and are northeasterly of the Merced River within the Merced and Turlock Irrigation Districts.

Areas within Calaveras County range in elevation to about 1100 feet but are considered part of the main valley floor.

All of the lands lie along the east side of the Northern San Joaquin Valley, but areas within Turlock and Merced Irrigation Districts are excluded in this report. Land data were taken from previous Bureau of Reclamation studies which identified the basic components of land classes 1 through 4 for each county. Crops were projected to each part of the service area as described below.

In order to determine the productive acreage of the area adjacent to the Stanislaus River Basin the following procedure was followed: (1) the gross classified acreage was taken less any Class 6 land plus the acreage taken for County, State or Federal roads and canals, drains, etc. The result of these deductions from the gross area classified gives the irrigable area. (The amount deducted for County, State or Federal roads is usually about 6% of the gross area classified); (2) a 4% deduction from the irrigable area was taken and split between farmsteads and farm roads and ditches. The resulting acreage is the productive area.

PROJECTED CROP PATTERNS AREAS ADJACENT TO STANISLAUS RIVER BASIN

<u>General</u> -- The crops projected to develop within the area adjacent to the Stanislaus River Basin are based on a consideration of their adaptability to the land and climatic characteristics of the area, the type of irrigation service which may become available, and the market outlooks for adapted crops. The ability of the land to produce specific crops is based upon standard Bureau of Reclamation techniques. Such a semi-detailed or modified detailed classification was made in 1969 under the title heading "Stanislaus Division, Calaveras County" and other related studies completed in 1973. These surveys were used as a guide in selection of crops most likely to be grown in the respective areas. As indicated by Table 1, most of the productive lands of the adjacent areas are in Land Classes 4P

			Land class					
County	Subarea	<u> </u>	2	3	4F	4P and 4SP	Rura1	<u>Total</u>
San Joaquin	Farmington	735	584	7,160	-	3,169	582	12,230
Stanislaus	Farmington	911	2,149	3,948		11,972	949	19,929
	Cooperstown	1,995	2,030	6,714	-	12,441	1,159	24,339
	Montpelier ^a	<u>2,911^a</u>	<u>503</u> a	<u>2,397^a</u>		<u>29,775^a</u>	<u>1,779^a</u>	37,365
	Totals	5,817	4,682	13,059	-	54,188	3,887	81,633
Merced	Montpelier ^a	7,613 ^a	3,584 ^a	1,601 ^a	-	25,205 ^a	1,900 ^a	39,903 ⁶
Calaveras	Copperopolis	÷	135	256	467	1,964	750	3,572
	Murphys	301	45	-	1,078	1,163	375	2,962
	Calaveras (Part "a")	5	321	· -	18,753	-	2,250	21,329
	West Point	-	-	-	2,765	-	3,750	6,515
	Valley Springs ^a	101 ^a	413 ^a	_a	552 ^a	683 ^a	375 ^a	2,124
	Calaveras (Part "b") ²	a	a	a	<u>715</u> ª	110 ^a	_ a	825
Totals		407	914	256	24,330	3,920	7,500	37,327
Part "b	" - Part subject to serv	ice from Ne	ew Hogan o	Mokelumn	e River			
Tuolumne	Tuolumne Ditch	51	368	155	1,516	303	2,550	4,943
~	Sonora	231	593	502	2,697	2,821	3,750	10,594
	Lower Tuolumne	-	-	-	1,229	1,457	750	3,436
	Mi-Wuk			-	-	-	450	450
	Totals	282	961	657	5,442	4,581	7,500	19,423
^a Areas adja	cent to Stanislaus				. 120		4 <u></u>	
River Ba	sin	10,625	4,500	3,998	1,267	55,773	4,054	80,217
Total Stan	islaus River Basin		-	-	•	• • • •	- ,	,
area		4,229	6,225	18,735	28,505	35,290	17,315	110,299

Table 1. Acreages of productive land by land class Stanislaus River Basin^b and adjacent areas

^b Areas of Oakdale and South San Joaquin Irrigation District are excluded in these tabulations.

and 4SP. Smaller areas are classed as 4F with the remainder in classes 1 through 3. The 4P and 4SP lands are best suited to irrigated pasture, because of the shallower soils, together with moderately irregular or steep topography. The 4F land has generally steep and/or irregular topography; however, with soils of adequate depth for orchard development. The 4F lands are best adapted to sprinkler irrigation both for efficient crop application and frost protection purposes. It is anticipated that sprinkler irrigation will be prevalent, and that the construction of irrigation facilities and development of the lands will occur at a rate commensurate with the market demand for adapted crops.

Land classes 1, 2 and 3 are adaptable to a wider selection of crops and the rate of development might be less restricted by market limitations. On these lands, however, as on the class 4 lands, most rapid development may be expected on the larger more readily serviceable blocks of land. For purposes of estimating ultimate water requirements it is assumed that all of the productive lands will eventually be developed and the crop pattern is projected accordingly. The rate of development is discussed subsequently in this report.

<u>Crop Projection Considerations</u> -- According to recent records of the counties concerned, about 28,100 acres of land are presently irrigated in the area adjacent to the Stanislaus River Basin. The

crop adaptability of the area is best judged from that demonstrated in areas with similar land and climatic characteristics, together with the opinions of agricultural experts at U.C. Davis, the local Extension Service and other agencies. Based on population projections, an additional rural water requirement acreage is included in the total. These areas are mostly rural suburban areas.

Service Areas Within Calaveras County (500 to about 1100 feet).

The areas of Calaveras County included in this portion are the Valley Springs subarea and Calaveras subarea, "part b." It is anticipated that the crops in these subareas will be mainly permanent crops such as walnuts, pears, grapes and olives. Other crops will include irrigated pasture, alfalfa and miscellaneous field and truck crops.

Pears may be grown within this portion of the service area, but will require frost protection in the spring months and this can be provided by sprinkling.

Various grape varieties may be grown throughout most of the area although at the higher elevations these will be chiefly selected varietal wine grapes which can compete to advantage with the grapes grown in the valley areas because of the high quality and the lower cost of land. To achieve the desired quality the Extension Service recommends such grapes be grown on deep soils with high moistureholding capacity with much of the consumptive use requirements

being met by rainfall. This will limit production to the smoother areas of class 4F with deeper soils. Grapes also leaf out later and require less frost protection than pears.

It is anticipated that most of the Class 4P lands will be devoted to irrigated pasture to which they are best suited. To provide a supplement to pasture, some alfalfa hay, grain and other feed crops may be grown. Small areas of miscellaneous field and truck crops may also be grown throughout the area. In addition small areas of cherries and plums are expected to develop, mainly in the higher elevations.

The market outlook for many of these crops is difficult to estimate. At present there is an overproduction, or near market saturation, with many of them due to large acreage expansion of recent years. This is particularly true of wine grapes, and to some extent, walnuts. Because of this the projection of walnuts for Calaveras County has been greatly reduced from that projected in preliminary studies of the Bureau of Reclamation in 1969 entitled "Stanislaus Division-Calaveras County" and the wine grape acreage is markedly less than that projected in the study for the Calaveras County Master Water Plan of 1972.

With these considerations in mind the crops are projected as shown in Table 2. Olives are projected entirely below 1200' elevation.

Irrigated pasture and minor acreages of alfalfa and miscellaneous crops are projected throughout most of the service area.

Although the immediate market prospects are not favorable for expansion of some of these crops it is believed that long term outlooks will be sufficiently favorable to support the acreages as indicated.

Service Areas Within Merced and Stanislaus Counties (500 feet & less)--The valley portion of the area adjacent to the Stanislaus River Basin includes the unorganized portions of Merced and Stanislaus Counties north of the Merced River to the Tuolomne River. Under ultimate conditions it is anticipated that the cropping pattern will be 56% permanent crops and 44% field and row crops. Almonds are the main permanent crop projected followed by lesser acreages of olives, grapes, citrus, walnuts and peaches. Main field and row crops projected are irrigated pasture, corn, alfalfa and sugar beets. All of the above crops except olives and citrus are presently grown in the area. The crop projection made is shown in Table 2 and discussed in additional detail in the following paragraphs:

ALMONDS

It would presently appear that the almond acreage is over-extended, but with continued high prices and increased demand the acreage will continue to rise significantly. The area is adapted to the growing of almonds and processing facilities are close at hand. About

14,910 acres or 20% of the total productive acreage is projected to almonds.

OLIVES

The main olive producing areas of California are on the east side of the southern San Joaquin Valley and the Sacramento Valley area. Presently there is no olive acreage within the two county proposed service area, but with the recent development of new olive rootstocks which are resistant to verticillium wilt, the area has potential for developing into an olive producing area. Therefore about 825 acres or 11% of the total productive acreage has been projected to olives.

GRAPES

It is expected that grapes, particularly those of the vine variety, will continue to be important in the area. About 5,248 acres or 7% of the total productive area is projected to grapes.

CITRUS

Another crop which may be grown in the foothill area of better air drainage are oranges. Presently no oranges are grown within the two county valley service area, but with continued demands and relatively high prices for the fruit this crop could be important. About 4,000 acres or 5% of the total productive area are projected to citrus.

WALNUTS

Walnuts are a crop requiring deeper alluvial soils than the other tree crops, but which will be important because of continued

demand, high prices and the nearness of processing facilities to the area. About 3,835 acres or 5% of the total productive area has been projected to walnuts.

PEACHES

Peaches are a crop which is on a decline in the southern San Joaquin Valley, but which have remained relatively stable in the areas farther north. They are expected to remain important in the area and therefore about 3,610 acres or 5% of the total productive area has been projected to peaches.

IRRIGATED PASTURE

About 75% of all the productive area within the two county valley area is made up of class 4P and 4SP lands. These lands will be mainly devoted to irrigated pasture for which they are best suited. Better phases of class 4 land may be used to provide a supplement to pasture where alfalfa hay, grain and other feed crops could be grown. In regions where slope is a problem orchard crops could be grown. About 7,955 acres or 11% of the total productive area is projected to irrigated pasture.

ALFALFA

Alfalfa already utilizes about 2,000 acres or about 3% of the total productive area. Under project conditions this crop is expected to be important in terms of both value and acreage. It will be grown in rotation with other field crops and will be used locally as well as shipped to milksheds close to the San Francisco Bay

Area. It is best adapted to deeper soils, but produces relatively well on shallower soils. About 4,600 acres of alfalfa is projected or about 6% of the total productive area.

SUGAR BEETS

Sugar beet guotas are administered by the sugar factory and it is quite difficult for new farms to obtain permission to plant sugar beets. Nevertheless, some additional quota acreage probably will be available because domestic sugar refineries will be granted a share of the increased demand created by a larger U. S. population. The projection of 3,125 acres of sugar beets is therefore made which is 4% of the total productive area.

CORN

Field corn has become an increasingly important crop in association with alfalfa and irrigated pasture in a livestock enterprise. The importance of corn hybrids in increasing yields has been more generally known and makes corn an important source of cash income. Frequently it is grown as a double crop with barley and it could be so utilized in the two county service area. About 7,025 acres or 10% of the total productive area is projected to corn.

WATER REQUIREMENTS - DEFINITIONS

To estimate the farm delivery requirements for the projected crop patterns, consideration was given to the following water requirements for long-term average climatic conditions.

<u>CONSUMPTIVE USE</u> -- Also known as evapotranspiration, is the quantity of water transpired by a plant and evaporated from the adjacent soil surface with an adequate water supply and normal crop growth during a specific period of time.

In this report, consumptive use has been estimated for the entire seasonal growth of the various crops projected in acre-feet/acre. For crops such as pasture at low elevations, this includes the entire year. For orchards and vineyards it includes the time from leaf-out to maturity, however, if a crop cover is gone prior to leaf-out the cover crop use is also included. For annually planted crops the consumptive use is determined from planting to maturity. In determinations of effective precipitation and monthly farm delivery requirements, consumptive use is also considered on a monthly basis.

<u>EFFECTIVE PRECIPITATION</u> -- This is the portion of the total precipitation that contributes to the crop consumptive use, the balance being lost as runoff, deep percolation, or evaporation from a bare soil surface during the non-growing season. <u>CROP IRRIGATION REQUIREMENT</u> -- This is the portion of crop consumptive use which must be met by irrigation; in other words, consumptive use less effective precipitation.

<u>IRRIGATION EFFICIENCY</u> -- This is the percentage of the farm headgate delivery which meets the crop irrigation requirement

the balance being lost by runoff or deep percolation. It is expressed as crop irrigation requirement over farm delivery requirement times 100.

FARM DELIVERY REQUIREMENT -- This is the quantity of water required at the farm headgate to meet the crop irrigation requirement plus surface runoff and deep percolation losses which are unavoidable under reasonable irrigation management.

<u>FROST PROTECTION REQUIREMENT</u> -- In areas where sprinkling is practiced for frost protection of certain fruit trees or grapes this is the extra quantity of water estimated as necessary to provide frost protection. This report considers pears, apples, grapes, citrus, cherries and plums as needing this protection.

TOTAL FARM DELIVERY -- As used herein this is the farm delivery requirement plus the frost protection for applicable crops.

METHODS OF DETERMINATION

To determine the water requirements of the area adjacent to the Stanislaus River Basin, requirements from previous Bureau of Reclamation studies for the valley area were used. These crop water requirements shown on Tables 4 and 5 were then applied to the projected acreages of each crop to obtain the total water requirements by subarea.

<u>PROJECTED CROP PATTERNS BY SUBAREA</u> -- The projected crop pattern acreages were estimated for each subarea within the area adjacent to the Stanislaus River Basin. These projected acreages are shown on Tables 11, 13 and 15.

	San Joaquin, Stanislaus, and Merced Councies						
<u>Crop</u>	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement <u>AF/acre</u>	Irrigation Efficiency Percent	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Requirement Including Frost Protection AF/acre
Walnuts	3.0	0.8	2.2	75	2.93	-	2.93
Almonds	2.6	0.7	1.9	75	2.53	0.2	2.73
Peaches	2.6	0.7	1.9	75	2.53	0.2	2.73
Apricots	2.6	0.7	1.9	75	2.53	0.2	2.73
Olives	2.8	0.8	2.0	75	2.67	-	2.67
Cherries	2.6	0.8	1.8	75	2.40	-	2.40
Plums	2.6	0.7	1.9	75	2.53	0.2	2.73
Citrus	2.6	0.7	1.9	75	2.53	0.7	3.23
Grapes	2.5	0.5	2.0	75	2.67	0.2	2.87
Tomatoes	2.3	0.5	1.8	60	3.00	-	3.00
Sugar beets	2.4	0.5	1.9	70	2.71	-	2.71
Melons	2.2	0.5	1.7	65	2.62	-	2.62
Sorghum	1.7	0.5	1.2	75	1.60	-	1.60
Alfalfa	4.0	0.7	3.3	80	4.13	-	4.13
Corn	1.7	0.5	1.2	70	1.71	-	1.71
Barley	1.2	0.6	0.6	70	0.86	-	0.86
Safflower	2.2	0.5	1.7	70	2.43	-	2.43
Dry beans	1.6	0.4	1.2	70	1.71	-	1.71
Irrigated							
pasture	4.2	0.8	3.4	75	4.53	-	4.53
Rice	4.8	0.4	4.4	65	6.77	-	6.77
Rural	1.7	0.5	1.2	60	2.00	-	2.00

Table 4. Seasonal crop water requirements in valley areas - acre-feet/acre San Joaquin, Stanislaus, and Merced Counties

Total Farm

в-59

Crop	Consumptive Use AF/acre	Effective Precipitation AF/acre	Crop Irrigation Requirement AF/acre	Irrigation Efficiency % "a"	Farm Delivery Requirement AF/acre	Frost Protection Requirement AF/acre	Total Farm Delivery AF/acre
Walnuts	3.0	0.8	2.2	80	2.8	 '	2.8
Olives	2.8	0.8	2.0	75	2.7		2.0
Pears	2.9	0.6	2.3	75	3.1	0.3	3.4
Apples	2.7	0.6	2.1	75	2.8	0.2	3.0
Grapes	2.5	0.6	1.9	75	2.5	0.1	2.6
Alfalfa Irrigated	4.0	1.3	2.7	80	3.4		3.4
pasture Misc. truck an	4.2 nd	1.3	2.9	70	4.1		4.1
field crops		0.6	1.6	75	2.1		2.1
Rura1	1.7	0.5	1.2	60	2.0		2.0

Table 5. Seasonal water requirements by subareas - acre-feet/acre Calaveras and Tuolumne Counties - Valley Springs; Cooperstown; Calaveras (Part "b"); and Lower Tuolumne subareas

"a"- Rounded to nearest 5 percent.

"b"- Not included in Stanislaus River Basin area.

Table 13. Present and projected crop patterns Adjacent area^a Merced County

	· .		Acres		
Crop	1975	1980	2000	2020	<u>Ultimate</u>
Walnuts	1,000	1,050	1,200	1,519	2,025
Almonds	2,400	2,520	2,876	5,753	7,670
Peaches	1,000	1,050	1,200	1,350	1,800
Apricots			206	413	550
Olives		150	1,568	3,135	4,180
Cherries					
Citrus		100	821	1,643	2,190
Grapes	1,700	1,725	1,800	1,900	2,533
Tomatoes	400	420	514	1,028	1,370
Sugar beets	400	420	578	1,155	1,540
Melons	600	630	800	850	940
Sorghum	400	420	600	825	1,100
Alfalfa	3,400	3,410	3,425	3,450	3,470
Cotton	1,800	1,750			
Corn	2,800	2,900	2,950	3,000	3,180
Barley	1,000	1,010	1,025	1,040	1,050
Safflower				206	275
Dry beans	200	200	150	100	100
Irrigated pasture	2,500	2,625	2,900	3,023	4,030
Rice	400				
Rural	1,000	1,019	1,131	1,520	1,900
	ومتعادي والمحالي والم			<u>,,,,,,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Total	21,000	21,399	23,744	31,910	39,903
		*	•	•	-

Montpelier Subarea

^a Outside Stanislaus River Basin area.

WATER REQUIREMENT BY SUBAREAS -- To determine the water requirements by subareas the individual crop requirements shown in Tables 4 and 5 were multiplied by the projected crop acreages shown in Table 2 and presented on Tables 12, 14 and 16 under ultimate conditions for each of the respective counties.

RURAL ESTATES (Rural Water Requirement) -- In addition to the projected agricultural water requirements previously described for the area adjacent to the Stanislaus River Basin, there is an additional requirement, referred to in the tables included herein, as rural water require-These areas were originally designated during the land classifiment. cation process. It is expected that these rural estate areas will develop as shown on the accompanying tables with the influx of people in quest of retirement or second homes. Most of the homesites will consist of small acreages capable of carrying pasture for horses for pleasure riding, beef, sheep and swine for 4-H and similar-type participants, beef for home use, and also have the capability for some fruit trees, nuts, and grapes. According to tables listed in this report, it is estimated that 1,350 acres of rural estate area would be developed in the adjacent area by the year 2020 and 1,800 acres under ultimate conditions. The estimated farm delivery requirement for rural estates is two acre-feet per acre.

The domestic use for the residences on the rural lands are considered to be included in the municipal and industrial requirement.

Table 14. Present and projected water requirements Adjacent area^a Merced County

	Acre-feet (F.D.D.)				
Crop	1975	1980	2000	2020	<u>Ultimate</u>
TT 1 .		0.076			
Walnuts	2,930	3,076	3,516	4,451	5,933
Almonds	6,552	6,880	7,851	15,706	20,939
Peaches	2,730	2,866	3,276	3,68 6	4,914
Apricots			562	1,127	1,502
0lives		400	4,187	8,370	11,161
Cherries					
Citrus	~ -	323	2,652	5,307	7,074
Grapes	4,879	4,951	5,166	5,453	7,270
Tomatoes	1,200	1,260	1,542	3,084	4,110
Sugar beets	1,084	1,138	1,566	3,130	4,173
Melons	1,572	1,651	2,096	2,227	2,463
Sorghum	640	672	960	1,320	1,760
Alfalfa	14,042	14,083	14,145	14,248	14,331
Cotton	4,770	4,638	-		-
Corn	4,788	4,959	5,044	5,130	5,438
Barley	860	869	882	894	903
Safflower				500	668
Dry beans	342	342	256	171	171
Irrigated pasture	11,325	11,891	13,137	13,694	18,256
Rice	2,708				
Rural	2,000	2,038	2,262	3,040	3,800
Total	62,422	62,037	69,100	91,538	114,866

Montpelier Subarea

^a Outside Stanislaus River Basin area.

F.D.D.: Farm delivery demand, indicates that water required at the farmer's headgate.

PROJECTED TOTAL WATER REQUIREMENTS -- The projected water requirements from all sources for the area adjacent to the Stanislaus River Basin are given on Tables 12, 14 and 16 in terms of total farm delivery requirement by each subarea and for five periods of time, that is, years 1975, 1980, 2000, 2020 and ultimate. The values as shown on these tables were determined by use of crop unit water delivery requirements given on Tables 4 and 5 multiplied by the crop acreages (shown on Tables 11, 13 and 15) estimated for each subarea by time frame. As shown, the ultimate agricultural plus rural water requirement determined by the above described procedure is about 176,800 acre-feet by the year 2020. The value represents the water requirement needed at the farmer's headgate. Water transport losses will need to be added to this value to arrive at the total diversion requirement. The acreage summary for the area adjacent to the Stanislaus River Basin for the various time periods are given on Table 21 and the corresponding water requirements are given on Table 22.

<u>REVIEW OF LAND CLASSIFICATION</u> -- Consideration of specific land classification and related factors in the area adjacent to the

County	Acres							
	1975	1980	2000	2020	<u>Ultimate</u>			
Stanislaus (Montpelier					•			
subarea)	10,286	11,188	21,094	28,099	37,365			
Calaveras	869	1,137	1,900	2,360	2,949			
Merced	21,000	21,399	23,744	<u>31,910</u>	<u>39,903</u>			
Totals	32,155	33,724	46,738	62,369	80,217			

Table 21. Summary - productive areas by counties*

Areas adjacent to Stanislaus River Basin area

* Acreages include rural requirement.

Table 22. Summary - water requirements by counties*

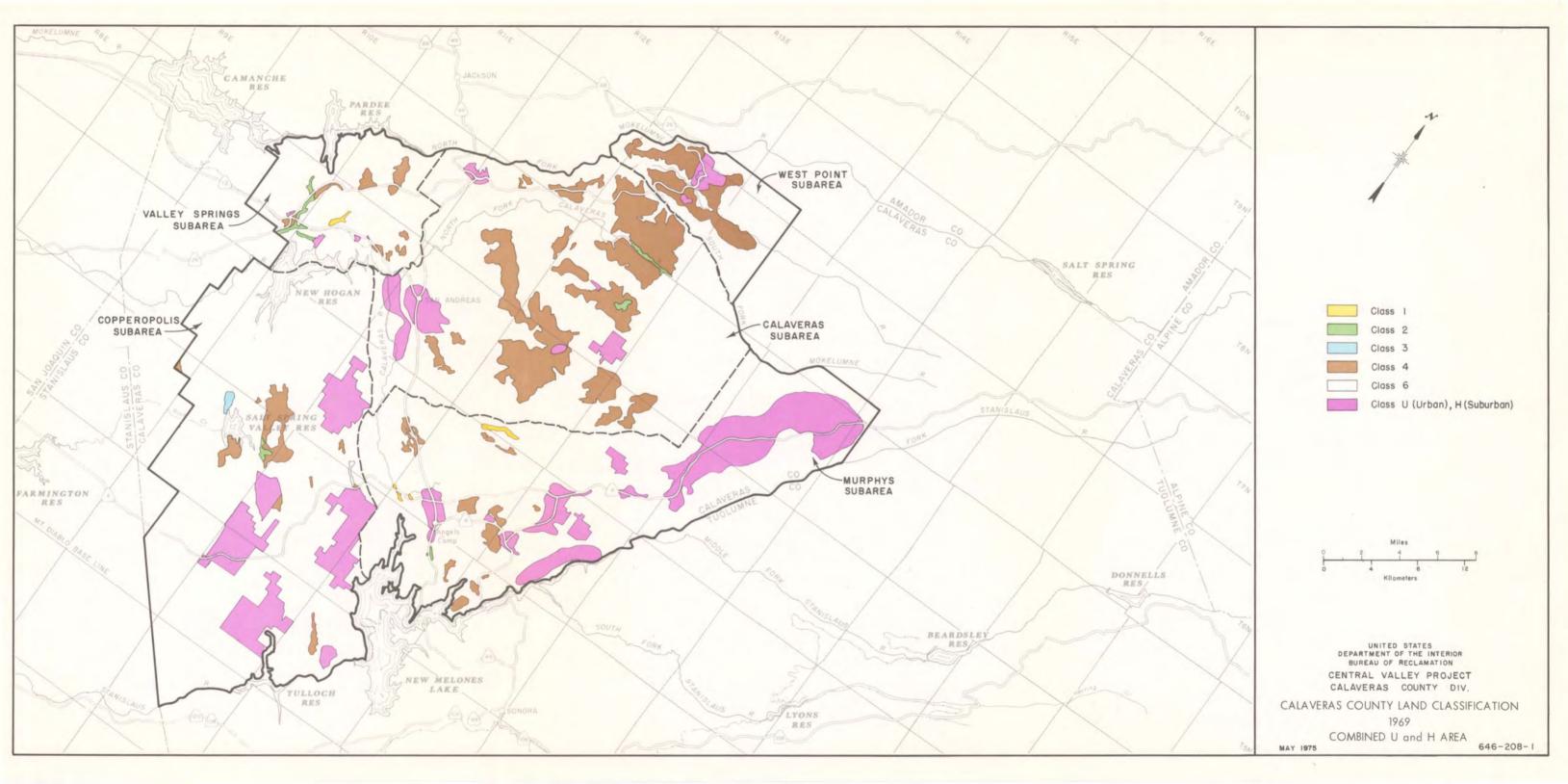
	Farm delivery demand (acre-feet)						
County	1975	_1980_	2000	2020	<u>Ultimate</u>		
Stanislaus (Montpelier							
subarea)	28,811	30,822	58,337	77,627	103,522		
Calaveras	2,902	3,704	6,015	7,602	9,704		
Merced	62,422	62,037	69,100	91,538	114,866		
Totals	94,135	96,563	133,452	176,767	228,092		

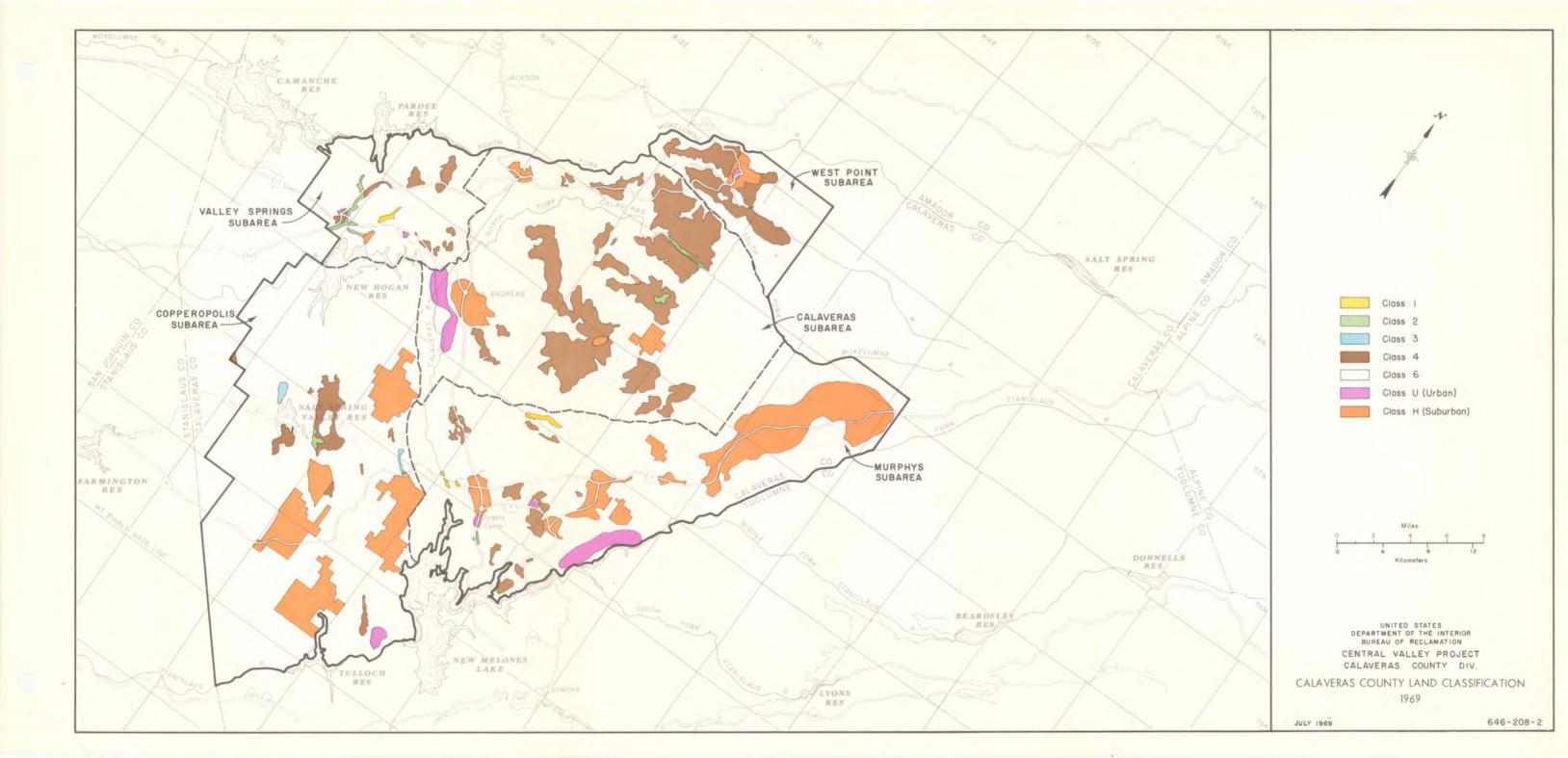
Areas adjacent to Stanislaus River Basin area

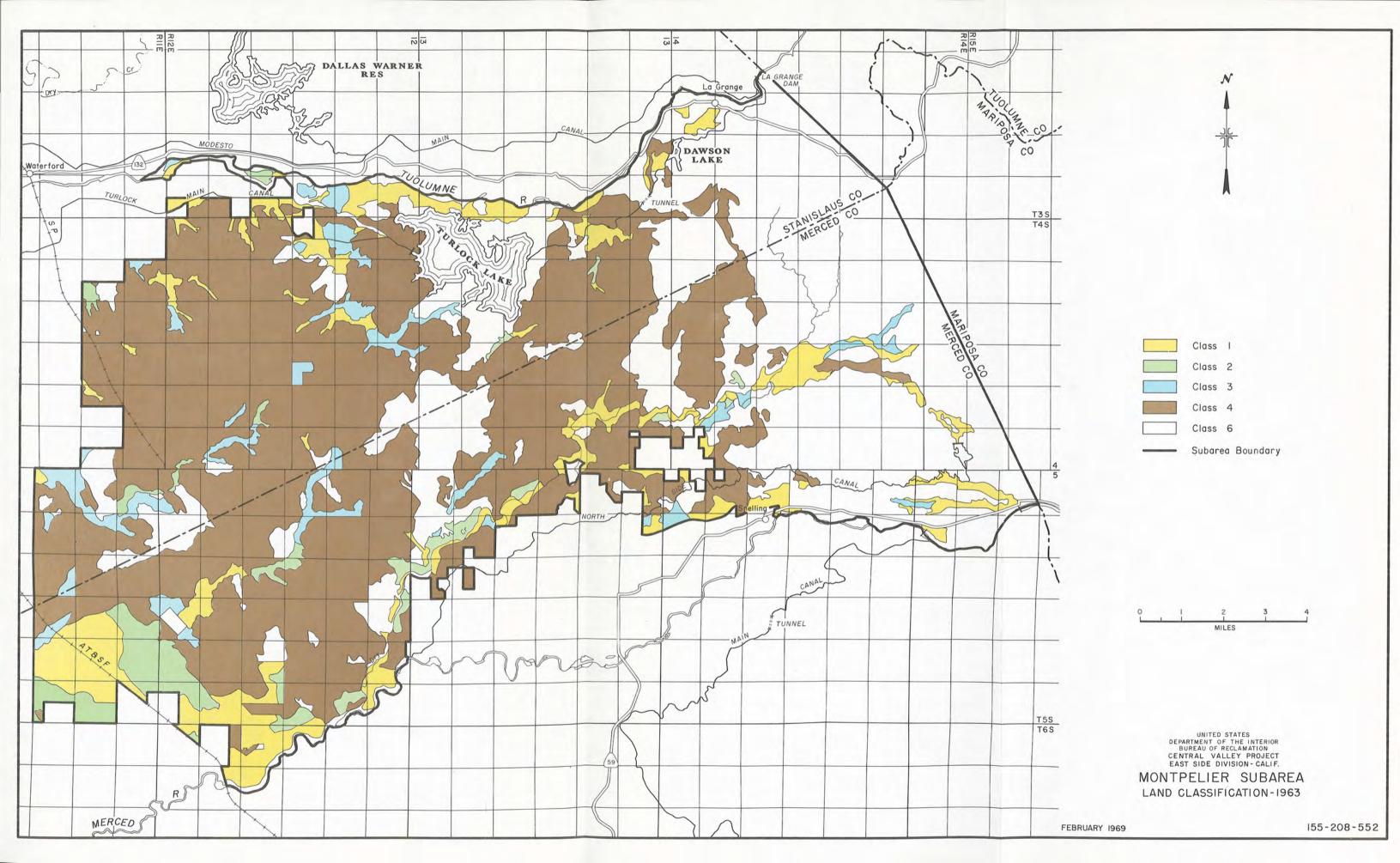
* Includes rural water requirement.

Stanislaus River Basin indicated that all of the total productive area would not be developed by the year 2020. The review evaluated each county based upon the relative position of lands with respect to logical and probable future water service to those lands. In effect, and on a judgmental basis, the more scattered and smaller parcels of productive land in each county were estimated as not being supplied water by the year 2020. The reductions made in such a manner were than totaled and shown on Tables 11, 13 and 15. The percentages of productive land estimated for each county as not being irrigated by year 2020 is estimated as follows: Calaveras County 18%; Stanislaus and Merced Counties 25%. Also shown on the same tables are the total productive areas of each county estimated to be developed in a particular time frame. Under ultimate conditions it is estimated that the entire productive area as mapped by the Bureau of Reclamation will be fully developed.

LAND CLASSIFICATION AND RELATED MAPS -- A map showing Calaveras County Land Classification combined with U and H areas is shown on Drawing No. 646-208-1. A land classification map of Calaveras County is shown on Drawing No. 646-208-2. Land Classification of Stanislaus County and Merced County from the Tuolumne River to the Merced River is shown on G.P.O. Drawing No. 155-208-552.







APPENDIX C

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Page

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION MID-PACIFIC REGION SACRAMENTO, CALIFORNIA

BEFORE THE

STATE WATER RESOURCES CONTROL BOARD OF THE STATE OF CALIFORNIA

In the Matter of Applications 14858,) 14859, 19303 and 19304 --) UNITED STATES BUREAU OF RECLAMATION) Applicant - Petitioner)

AGREEMENT AND

STIPULATION

AGREEMENT AND STIPULATION

THIS AGREEMENT AND STIPULATION, made by and between the United States of America, by and through the United States Department of the Interior, Bureau of Reclamation, Mid-Pacific Region, hereinafter referred to as the "United States", and the Oakdale Irrigation District and South San Joaquin Irrigation District, hereinafter referred to as "Districts".

WITNESSETH:

WHEREAS, the United States is now constructing the New Melones Dam and Reservoir which will be operated by the Bureau of Reclamation and which will inundate the existing Melones Dam and Reservoir of Districts, and the parties wish to agree upon the yield for consumptive purposes of the Districts' water rights on the Stanislaus River;

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

After completion of New Melones Dam and Reservoir, the United States, in recognition of the water rights of Districts, will deliver each year to Districts for diversion at Goodwin Diversion Dam the following quantities of water:

1. 200,000 acre-feet from New Melones storage,

2. 36,000 acre-feet for storage in Woodward Reservoir, and

3. That portion of the New Melones Reservoir inflow required to meet the Districts' direct diversion requirements but not to exceed 1,816.6 cubic feet per second.

Subject to the following limitation:

The maximum quantity of water delivered each year is limited to 654,000 acre-feet or the total quantity of New Melones Reservoir inflow during the water year (October 1 of one year through September 30 of the succeeding year), whichever is the smaller.

In consideration of the foregoing, the protests filed by the Districts against the assignment and approval of Applications 14858 and 14859 to the Bureau of Reclamation are hereby withdrawn and any objections to the issuance of permits on Applications 19303 and 19304 are waived.

Districts have rights under water right applications 12614, 12873 and 13310, and permits and licenses issued thereon, to use water for power generation purposes at Tulloch Power Plant. This agreement shall not be deemed to limit or diminish the Districts' rights, entitlements or yields thereunder. The parties intend to negotiate and endeavor to reach agreement on this subject.

This agreement shall not have any effect upon the Districts' claim for compensation for the taking of Districts' property and loss of power revenues arising out of the construction of New Melones Dam and Reservoir.

The foregoing agreement shall also be considered as a stipulation in the above entitled proceeding and it shall be filed in said proceeding and the State Water Resources Control Board is requested to include it as a condition in each permit issued on Applications 14858 and 14859 upon being assigned to the United States Bureau of Reclamation and in each permit issued on Applications 19303 and 19304.

Dated as of this 24th day of October,

UNITED STATES OF AMERICA by and through the United States Department of the Interior, Bureau of Reclamation, Mid-Pacific Region

Acting Regional Director

OAKDALE IRRIGATION DISTRICT By esident herman Secretary

1972.

OFFICE OF THE BOARD OF DIRECTORS OF THE OAKDALE IRRIGATION DISTRICT

I hereby certify that the attached Agreement and Stipulation was duly approved by resolution of the Board of Directors of the Oakdale Irrigation District at said Board's regular adjourned meeting of October 24, 1972, and that the President and Secretary were authorized to execute said Agreement and Stipulation for and in behalf of the Oakdale Irrigation District.

Attest: iman

Secretary

Manteca, California October 24, 1972

OFFICE OF THE BOARD OF DIRECTORS OF THE SOUTH SAN JOAQUIN IRRIGATION DISTRICT

I hereby certify that the attached Agreement and Stipulation was authorized to be executed by the Vice-President and Secretary of the Board of Directors of the South San Joaquin Irrigation District at their meeting held October 24, 1972, and as recorded in Permanent Records of the said District in Volume 18 at Page 303.

ATTEST:

N. A. Negley, Jr., Secretary South San Joaquin Irrigation District

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION NEW MELONES UNIT CENTRAL VALLY PROJECT, CALIFORNIA AGREEMENT ON DIVERSION OF WATER FROM THE STANISLAUS RIVER

THIS AGREEMENT, made this 2^{9} day of *Morember* 1972, in pursuance generally of the Act of Congress approved June 17, 1902 (32 Stat. 388), and all acts of Congress amendatory thereof or supplementary thereto, all of which are commonly known and referred to as the Federal Reclamation Laws, between THE UNITED STATES OF AMERICA, hereinafter referred to as the "United States," represented by the officer executing this agreement, and TUOLUMNE COUNTY WATER DISTRICT NO. 2, hereinafter referred to as "T.C.W.D. #2,"

WITNESSETH THAT:

WHEREAS, the United States is constructing a dam and reservoir in and across the Stanislaus River immediately below the Melones Dam in Calaveras and Tuolumne Counties, and will operate said dam and reservoir and their related works for the diversion and storage of water of the Stanislaus River as an integral part of its Central Valley Project primarily for flood control, domestic, municipal, industrial, irrigation, water quality, fish and wildlife protection and enhancement, and recreational purposes; and the generation of electric engergy, said dam to be known as New Melones Dam and the reservoir created thereby to be known as New Melones Reservoir; and

WHEREAS, the United States has filed certain applications and has requested the assignment of other applications filed pursuant to Division 6, Part 2 of the California Water Code and is seeking to obtain permits to appropriate and apply to beneficial use certain waters of the Stanislaus River in connection with the operation of the New Melones Dam and Reservoir; such applications being designated in the files of the California State Water Resources Control Board as Nos. 14858, 14859, 19303, and 19304; and

WHEREAS, in acting upon the requests for the assignment of Applications Nos. 14858 and 14859 to the United States, the State Water Resources Control Board is required to comply with Section 10505 of the Water Code, which provides that:

"No priority under this part shall be released nor assignment made of any application that will, in the judgment of the board, deprive the county in which the water covered by the application originates of any water necessary for the development of the county;" and

WHEREAS, the construction of the New Melones Unit by the United States was authorized by the Flood Control Act of December 22, 1944, Public Law 534, 78th Congress, Second Session, as modified by Public Law 87-874, 87th Congress, Second Session, enacted October 23, 1962, which further provides that:

"...before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined...."

WHEREAS, the State of California filed Applications 5648 and 5649 on the Stanislaus River and its major tributaries in 1927 to reserve water for future needs within portions of T.C.W.D. #2; and

WHEREAS, approximately the northwesterly half of T.C.W.D. #2 lies within the Stanislaus River Basin, and approximately the southeasterly half lies in the Tuolumne River Basin; and

WHEREAS, large portions of the Tuolumne River have been developed by the Turlock and Modesto Irrigation Districts and by the city of San Francisco under old rights for use by the lands and inhabitants of those entities, leaving only small quantities available for appropriation and making any development thereof for use in Tuolumne County a difficult and expensive undertaking; and

WHEREAS, a large portion of the area within T.C.W.D. #2 has relied upon the South Fork Stanislaus River for its historical water supply, and said area, including the communities of Sonora, Twain Harte, Jamestown, Tuolumne, and Columbia, must rely upon this source of supply for present and future needs; and

WHEREAS, the United States is agreeable to recognize a reservation of Stanislaus River water for such uses as may be needed for future development in T.C.W.D. #2.

NOW, THEREFORE, THE UNITED STATES AND TUOLUMNE COUNTY WATER DISTRICT NO. 2 (T.C.W.D. #2) AGREE AS FOLLOWS:

1. The United States agrees that any person, district, agency, corporation, utility or entity, including T.C.W.D. #2 may divert and/or impound water from the Stanislaus or any tributary thereto for the reasonable and beneficial use within the T.C.W.D. #2 service area delineated on Exhibit A, attached hereto and made a part hereof, or anywhere else within the Stanislaus River Basin; and that the right to do so, whenever initiated, shall be prior and superior to any rights of the United States to divert or impound any of the waters of the Stanislaus River. It is recognized that use within T.C.W.D. #2 service area may be supplied in part by water from Tuolumne River Basin and to that extent need for Stanislaus River water would be decreased correspondingly.

2. The United States further agrees that in the event T.C.W.D. #2 or any user within T.C.W.D. #2 should desire to purchase water impounded by the United States in New Melones Reservoir, for release as replacement water in order to satisfy other prior rights downstream from New Melones Dam, or for other reasonable and beneficial purposes, that the United States will sell such water to such user or T.C.W.D. #2 at prices not exceeding those applicable for such water to other New Melones Unit customers for the use to which T.C.W.D. #2's water will be put.

3. The United States consents to and will not object to the assignment of all or any portion of State Applications 5648 and 5649 to any person or entity for use within T.C.W.D. #2.

4. The United States further agrees that any permits issued to it for the diversion or storage of water at New Melones shall be subordinate and junior to any present or future appropriation or use of water out of the Stanislaus River or any of its tributaries for the generation of hydroelectric power, which will aid in financing and the construction of any works to provide water for beneficial uses within T.C.W.D. #2. Such present or future appropriation or use of water shall not include export, unless returned to the Stamislaus River above New Melones, of any water from the Stanislaus River Basin solely for the production of power, except to the extent that the right to do so exists on the date of this agreement in T.C.W.D. #2 or any other entity.

Nothing in this paragraph, however, shall prohibit the district or any person or entity from filing applications to appropriate water for any purpose whatsoever.

5. The United States shall have no obligation to protect or defend the rights of T.C.W.D. #2 to divert water from the Stanislaus River and its tributaries against challenges of others than the United States.

6. Within the limitations of available funds and authority, the United States will undertake further studies, taking into account those already performed for the Sonora-Keystone Unit and the lower Tuolumne area, to provide: an appraisal of the water requirement for the entire county; the available water supplies from all sources - Stanislaus, Tuolumne, Merced Rivers, and the proposed East Side Division of the Central Valley Project; and a desirable plan for meeting those requirements and shall further cooperate fully with T.C.W.D. #2 and any entities within Tuolumne County in efforts to meet such water requirements.

7. T.C W D. #2 agrees to withdraw its protests to Applications 19303 and 19304, and its objections to the request for assignment of Applications 14858 and 14859. The United States and T.C.W D. #2 agree that the substance of paragraphs 1, 2, and 4 shall be included by way of reference or otherwise in any permit or license issued by the State Water Resources Control Board pursuant to Applications 14858, 14859, 19303, and 19304.

8. This agreement shall be binding upon and inure to the benefit of the successors in interest and legal representatives of the respective parties.

9. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this agreement if made with a corporation or company for its general benefit.

10. a. Any notice authorized or required to be given to the United States shall be deemed to have been given when mailed, postage prepaid, or delivered to the Regional Director, Mid-Pacific Region, Bureau of Reclamation, 2800 Cottage Way, Sacramento, California 95825. Any notice authorized or required to be given to the T.C.W.D. #2 shall be deemed to have been given when mailed in a postage prepaid or franked envelope or delivered to T.C.W.D. #2.

b. The designation of the addressees or the addresses given above may be changed by notice given in the same general manner as provided in this article for other notices.

c. This article shall not preclude the effective service of any such notice or announcement by other means.

11. The T.C.W.D. #2 warrants that it has not employed any person to solicit or secure this agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the T.C.W.D. #2 for the purpose of securing business. For breach or violation of this warranty the United States shall have the right to annul this agreement without liability.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

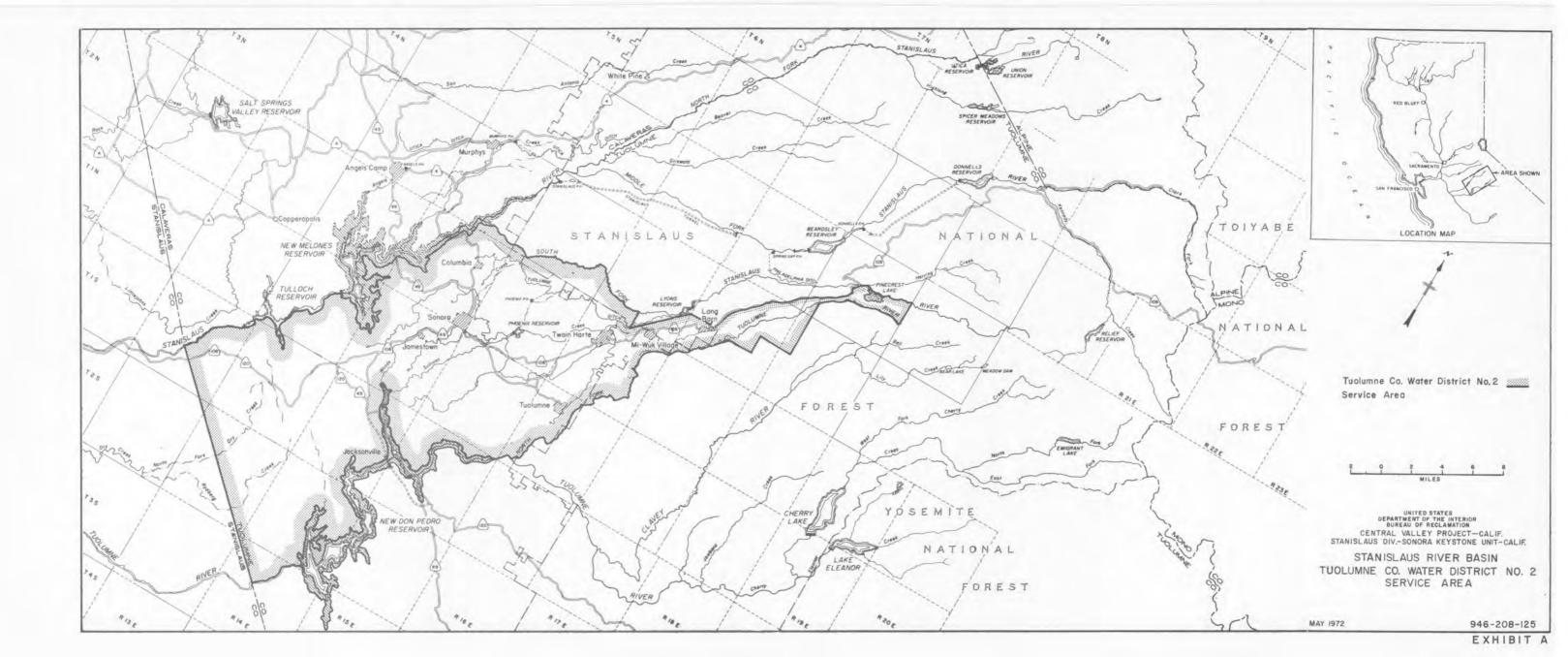
THE UNITED STATES OF AMERICA

Mid-Pacific Region Director, Bureau of Reclamation

TUOLUMNE COUNTY WATER DISTRICT NO. 2

By Margaret K. Dylva

archa Kichl



Contract No. 14-06-200-7001A

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION NEW MELONES PROJECT, CALIFORNIA

AGREEMENT ON DIVERSION OF WATER FROM THE STANISLAUS RIVER

THIS AGREEMENT, made this *3/st* day of July 1972, in pursuance generally of the Act of Congress approved June 17, 1902 (32 Stat. 388), and all acts of Congress amendatory thereof or supplementary thereto, all of which are commonly known and referred to as the Federal Reclamation Laws, between THE UNITED STATES OF AMERICA, hereinafter referred to as the "United States," represented by the officer executing this agreement, and CALAVERAS COUNTY WATER DISTRICT, hereinafter referred to as "Calaveras,"

WITNESSETH THAT:

WHEREAS, the United States is constructing a dam and reservoir in and across the Stanislaus River immediately below the Melones Dam in Calaveras and Tuolumne Counties, and will operate said dam and reservoir and their related works for the diversion and storage of water of the Stanislaus River as an integral part of its Central Valley Project primarily for flood control, domestic, municipal, industrial, irrigation, water quality, fish and wildlife protection and enhancement, and recreational purposes; and the generation of electric energy, said dam to be known as New Melones Dam and the reservoir created thereby to be known as New Melones Reservoir; and

WHEREAS, the United States has filed certain applications and has requested the assignment of other applications filed pursuant to Division 6, Part 2 of the California Water Code and is seeking to obtain permits to appropriate and apply to beneficial use certain waters of the Stanislaus River in connection with the operation of the New Melones Dam and Reservoir; such applications being designated in the files of the California State Water Resources Control Board as Nos. 14858, 14859, 19303 and 19304; and

WHEREAS, in acting upon the requests for the assignment of Applications Nos. 14858 and 14859 to the United States, the State Water Resources Control Board is required to comply with Section 10505 of the Water Code, which provides that:

"No priority under this part shall be released nor assignment made of any application that will, in the judgment of the board, deprive the county in which the water covered by the application originates of any water necessary for the development of the county;" and

WHEREAS, the construction of the New Melones Project by the United States was authorized by the Flood Control Act of December 22, 1944, Public Law 534, 78th Congress, Second Session, as modified by Public Law 87-874, 87th Congress, Second Session, enacted October 23, 1962, which further provides that:

"...before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined...," and



WHEREAS, the State of California filed Applications 5648 and 5649 on the Stanislaus River and its major tributaries in 1927 to reserve water for future needs within portions of Calaveras County; and

WHEREAS, the former State Water Rights Board has purusuant to its Decision D 1114 as amended by Decision D 1226 issued permits on Applications Nos. 11792, 12537, 12910, 12911, 12912, 13091, 13092, 13093, 18727, 18728, 19148, and 19149 authorizing Calaveras to appropriate and apply to beneficial use water for the operation of projects in the Upper Stanislaus River Basin; and

WHEREAS, the southern portion of Calaveras County lies within the Calaveras River Basin, and the northerly portion of the county lies within the Calaveras and Mokelumne River Basins; and

WHEREAS, large portions of the Calaveras and Mokelumne Rivers have been developed by the United States and the East Bay Municipal Utility District under water rights for use on lands and inhabitants of areas outside of Calaveras County, leaving only small quantities of water available for appropriation and making the development of additional water supplies for use in Calaveras County a difficult and expensive undertaking.

NOW, THEREFORE, the parties hereto agree as follows:

1. The United States agrees to recognize the priority of the water rights of Calaveras upon the Stanislaus River including the priority Calaveras has obtained through permits

granted by the former California State Water Rights Board in Decision D 1114 and as amended by Decision D 1226.

2. The United States agrees to recognize the priority of State Water Right Applications 5647 and 5648 as they pertain to the Stanislaus River, the North Fork of the Stanislaus River and its tributaries for diversion into Calaveras County.

3. The United States further agrees that within the limitations of permits that may be issued on Applications 14858 and 19304, to determine the quantities of water ultimately required for the reasonable and beneficial uses of those areas shown on Exhibit A attached hereto within Calaveras County that can be economically supplied from New Melones Reservoir; and to, within the limitations of Federal Reclamation Laws, negotiate primarily a contract with Calaveras or secondarily, contracts with any appropriate governmental agency for the purchase of water from New Melones Reservoir for use on this area.

4. Within the limitations of available funds and authority, the United States will undertake studies to provide an appraisal of the water requirements for the entire county, the available water supplies from all sources - Calaveras, Mokelumne, and Stanislaus Rivers, and the proposed East Side Division of the Central Valley Project and a desirable plan for meeting those requirements.

5. Calaveras agrees to withdraw its protests against the approval of Applications 19303 and 19304, and its

objections to the assignment of State Applications 14858 and 14859 to the United States.

6. This agreement shall be binding upon and inure to the benefit of the successors in interest and legal representatives of the respective parties.

7. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this agreement if made with a corporation or company for its general benefit.

8. a. Any notice authorized or required to be given to the United States shall be deemed to have been given when mailed, postage prepaid, or delivered to the Regional Director, Region 2, Bureau of Reclamation, 2800 Cottage Way, Sacramento, California 95825. Any notice authorized or requested to be given to Calaveras shall be deemed to have been given when mailed in a postage prepaid or franked envelope or delivered to the Calaveras County Water District, P. 0. Box 846, San Andreas, California 95249.

b. The designation of the addressees or the addresses given above may be changed by notice given in the same general manner as provided in this article for other notices.

c. This article shall not preclude the effective service of any such notice of announcement by other means.

9. Calaveras warrants that they have not employed any person to solicit or secure this agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by Calaveras for the purpose of securing business. For breach or violation of this warranty the United States shall have the right to annul this agreement without liability.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

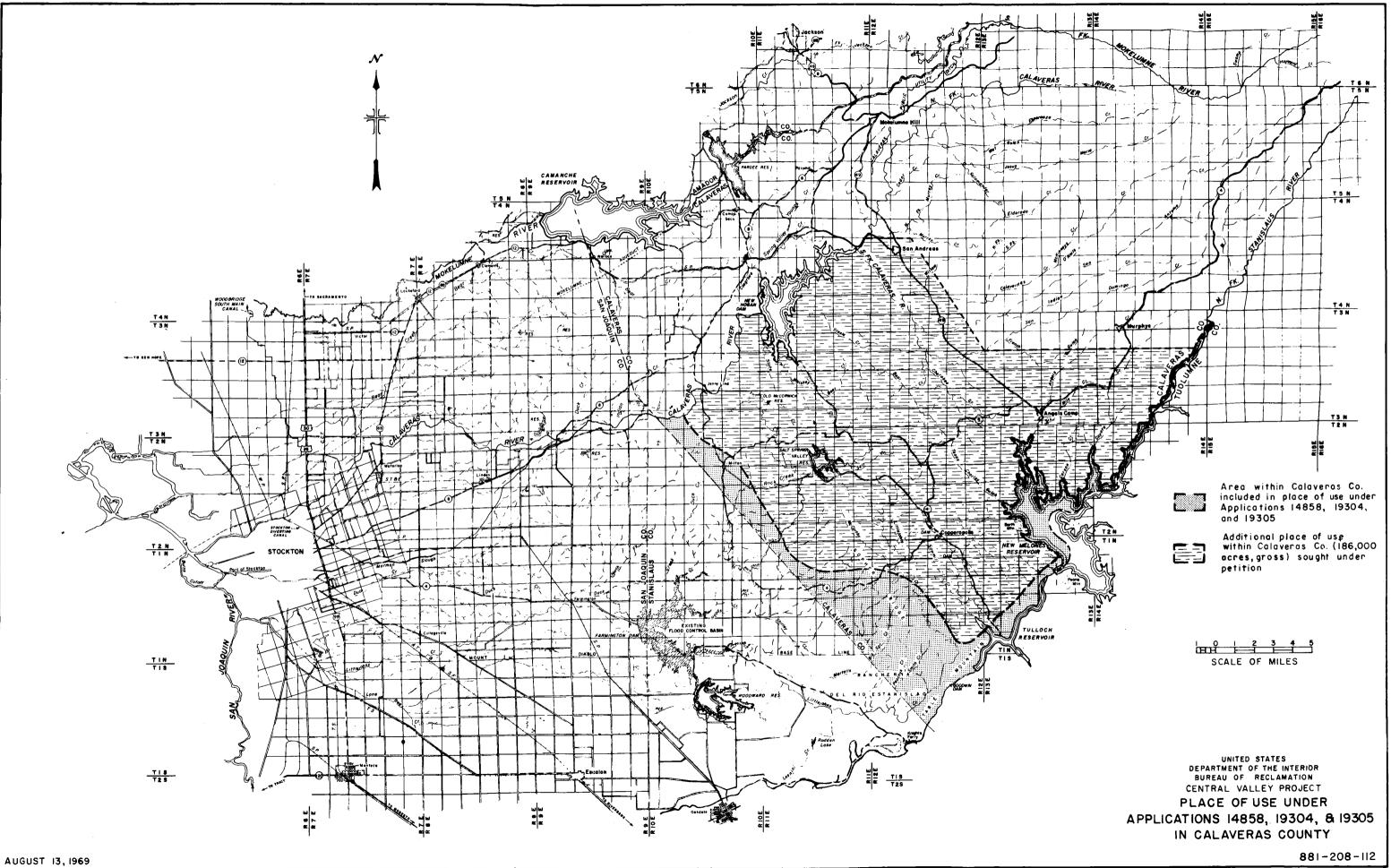
THE UNITED STATES OF AMERICA

Acting Director, Region Bureau of Reclamation

CALAVERAS COUNTY WATER DISTRICT

By Elliott In " Combo

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THE UNITED STATES OF AMERICA AND CALAVERAS COUNTY WATER DISTRICT ON DIVERSION OF WATER FROM THE STANISLAUS RIVER

WHEREAS, there has been submitted to the Board of Directors of CALAVERAS COUNTY WATER DISTRICT for its consideration and approval a draft of an agreement with the United States of America entitled: "AGREEMENT ON DIVERSION OF WATER FROM THE STANISLAUS RIVER," and designated R. O. Draft 6/9/72; and

WHEREAS, said agreement was duly considered by the aforesaid Board of Directors at a regular meeting thereof, duly called for said purpose, and held at the office of the District in San Andreas, California, on the 5th day of July, 1972.

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT that the aforesaid draft of agreement between the United States of America and said District, designated as R. O. Draft 6/9/72, is hereby approved by said District and this Board does nereby declare that the same is in all respects acceptable to said District.

PASSED AND ADOPTED this 5th day of July, 1972 by the following vote:

AYES:Directors Tanner, Erz, Turner and McCombsNOES:NoneABSENT:Director Mitchell

(Seal)

CALAVERAS COUNTY WATER DISTRICT

Elliott F. T. & Could

ATTEST:

Secretary

I hereby certify that the foregoing is a true a correct copy of a Resolution duly adopted at a regular meeting of the Board of Directors of CALAVERAS COUNTY WATER DISTRICT duly called and held at the office of the District on the 5th day of July, 1972. .

County water Dis'

Contract No.14-06-200-7011A

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION NEW MELONES PROJECT, CALIFORNIA

AGREEMENT ON DIVERSION OF WATER FROM THE STANISLAUS RIVER

THIS AGREEMENT, made this 24 day of July

1972, in pursuance generally of the Act of Congress approved June 17, 1902 (32 Stat. 388), and all acts of Congress amendatory thereof or supplementary thereto, all of which are commonly known and referred to as the Federal Reclamation Laws, between THE UNITED STATES OF AMERICA, hereinafter referred to as the "United States," represented by the officer executing this agreement, and CALAVERAS COUNTY, hereinafter referred to as "Calaveras,"

WITNESSETH THAT:

WHEREAS, the United States is constructing a dam and reservoir in and across the Stanislaus River immediately below the Melones Dam in Calaveras and Tuolumne Counties, and will operate said dam and reservoir and their related works for the diversion and storage of water of the Stanislaus River as an integral part of its Central Valley Project primarily for flood control, domestic, irrigation, water quality, fish and wildlife protection and enhancement, and recreational purposes; and the generation of electric energy, said dam to be known as New Melones Dam and the reservoir created thereby to be known as New Melones Reservoir; and

WHEREAS, the United States has filed certain applications and has requested the assignment of other applications filed pursuant to Division 6, Part 2 of the California Water Code and is seeking to obtain permits to appropriate and apply to beneficial use certain waters of the Stanislaus River in connection with the operation of the New Melones Dam and Reservoir; such applications being designated in the files of the California State Water Resources Control Board as Nos. 14858, 14859, 19303 and 19304; and

WHEREAS, in acting upon the requests for the assignment of Applications Nos. 14858 and 14859 to the United States, the State Water Resources Control Board is required to comply with Section 10505 of the Water Code, which provides that:

"No priority under this part shall be released nor assignment made of any application that will, in the judgment of the board, deprive the county in which the water covered by the application originates of any water necessary for the development of the county"; and

WHEREAS, the construction of the New Melones Project by the United States was authorized by the Flood Control Act of December 22, 1944, Public Law 534, 78th Congress, Second Session, as modified by Public Law 87-874, 87th Congress, Second Session, enacted October 23, 1962, which further provides that:

". . . before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined."

WHEREAS, the State of California filed Applications 5648 and 5649 on the Stanislaus River and its major tributaries in 1927 to reserve water for future needs within portions of Calaveras County; and

WHEREAS, the former State Water Rights Board has pursuant to its Decision D 1114 as amended by Decision D 1226 issued permits on Applications Nos. 11792, 12537, 12910, 12911, 12912, 13091, 13092, 13093, 18727, 18728, 19148, and 19149 authorizing the Calaveras County Water District to appropriate and apply to beneficial use water for the operation of projects in the Upper Stanislaus River Basin; and

WHEREAS, the southern portion of Calaveras County lies within the Calaveras River Basin, and the northerly portion of the county lies within the Calaveras and Mokelumne River Basins; and

WHEREAS, large portions of the Calaveras and Mokelumne Rivers have been developed by the United States and the East Bay Municipal Utility District under water rights for use on lands and inhabitants of areas outside of Calaveras County, leaving only small quantities of water available for appropriation and making the development of additional water supplies for use in Calaveras County a difficult and expensive undertaking.

NOW, THEREFORE, the parties hereto agree as follows:

1. The United States agrees to recognize the priority of the water rights of Calaveras County Water District upon the Stanislaus River as obtained through permits granted by the

former California State Water Rights Board in Decision D 1114 and as amended by Decision D 1226.

2. The United States agrees to recognize the priority of State Water Right Applications 5647 and 5648 as they pertain to the Stanislaus River, the North Fork of the Stanislaus River and its tributaries for diversion of water into Calaveras County.

3. The United States further agrees that within the limitations of permits that may be issued on Applications 14858 and 19304, to determine the quantities of water ultimately required for the reasonable and beneficial uses of those areas shown on Exhibit A attached hereto within Calaveras County that can be economically supplied from New Melones Reservoir; and to, within the limitations of Federal Reclamation Laws, negotiate a contract or contracts with Calaveras or any appropriate governmental agency for the purchase of water from New Melones Reservoir for use on this area.

4. Within the limitations of available funds and authority, the United States will undertake studies to provide an appraisal of the water requirements for the entire county, the available water supplies from all sources - Calaveras, Mokelumne, and Stanislaus Rivers, and the proposed East Side Division of the Central Valley Project and a desirable plan for meeting those requirements.

5. Calaveras agrees to withdraw its protests against the approval of Applications 19303 and 19304, and its objections to the assignment of State Applications 14858 and 14859 to the United States.

6. This agreement shall be binding upon and inure to the benefit of the successors in interest and legal representatives of the respective parties.

7. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this agreement if made with a corporation or company for its general benefit.

8. a. Any notice authorized or required to be given to the United States shall be deemed to have been given when mailed, postage prepaid, or delivered to the Regional Director, Region 2, Bureau of Reclamation, 2800 Cottage Way, Sacramento, California 95825. Any notice authorized or requested to be given to Calaveras shall be deemed to have been given when mailed in a postage prepaid or franked envelope or delivered to Calaveras.

b. The designation of the addressees or the addresses given above may be changed by notice given in the same general manner as provided in this article for other notices.

c. This article shall not preclude the effective service of any such notice of announcement by other means.

9. Calaveras warrants that they have not employed any person to solicit or secure this agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by Calaveras for the purpose of securing business. For breach or violation of this warranty the United States shall have the right to annual this agreement without liability.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

THE UNITED STATES OF AMERICA

Acting Director, Region

Bureau of Reclamation

CALAVERAS COUNTY

HOWARD BJORKMAN

Duller Deputy Clerk

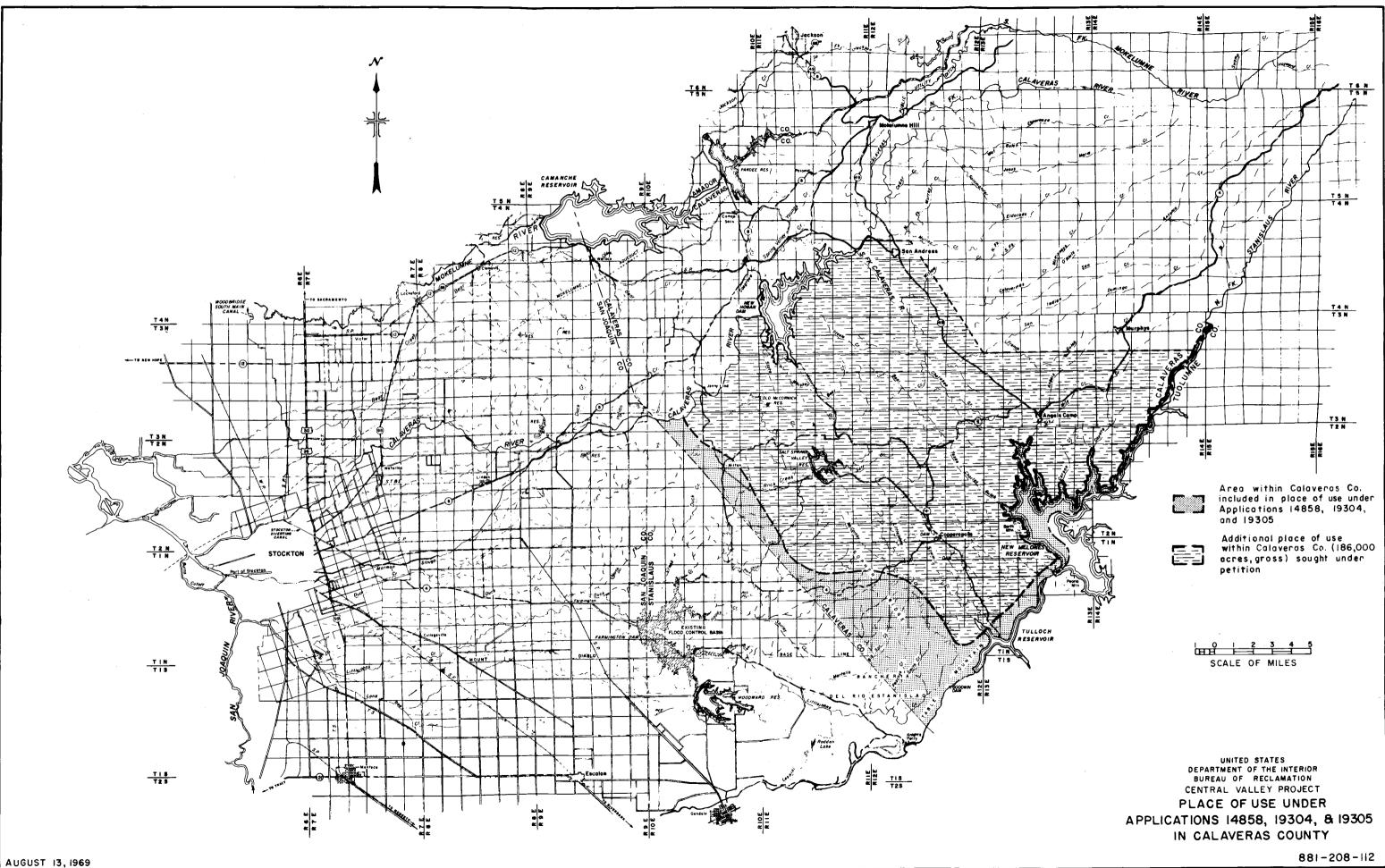


EXHIBIT A

RESOLUTION	NO.	72-232

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2 BE IT RESOLVED by the Board of Supervisors of the 3 County of Calaveras that the Chairman and the Clerk are hereby 4 authorized to execute an agreement with the United States of 5 America concerning the diversion of water from the Stanislaus 6 River. 7 The foregoing Resolution was duly passed and adopted 8 this 24th. day of July, 1972, by the following vote: 9 AYES: Supervisors Cuneo, Smith, Wistos, Fischer and 10 Bernasconi. NOES: None. 11 ABSENT: None. 12 13 /s/ Ernest F. Bernasconi 14 Chairman of the Board of Supervisors of the County of Calaveras 15 ATTEST: 16 17 /s/ Howard Bjorkman 18 County Clerk and Ex-officio Clerk of the Board of Supervisors of 19 the County of Calaveras. 20 I, HOWARD BJORKMAN, County Clerk and Ex-officio Clerk of 21 the Board of Supervisors of the County of Calaveras, a political 22

subdivision of the State of California, hereby certify the foregoing to be a full, true and correct copy of a Resolution passed by the Board of Supervisors of Calaveras County on the 24th. day of July, 1972.

HOWARD BJORKMAN, Clerk

Butler Deputy Clerk

FUTURE PROSPECTIVE AGREEMENTS WITH HOLDERS OF RIPARIAN, APPROPRIATIVE, AND ADJUDICATED WATER RIGHTS DOWNSTREAM FROM GOODWIN DAM

Agreements have not been made as yet with the individuals or other interests having riparian, adjudicated, and appropriative water rights along Stanislaus River below Goodwin Dam and within the "Stanislaus River Basin" as considered in the report to which this Appendix is attached. Agreements when made will be in accordance with Federal law and policy and will recognize all water rights vested under State law. The areas and associated rights are discussed briefly in the following paragraphs:

Lands adjacent to and presently using Stanislaus River water below Goodwin Dam and not within Oakdale and South San Joaquin Irrigation Districts consists of about 16,920 acres of irrigable land, of which 5,200 acres are within Reclamation District 2064, 2990 acres in Reclamation District 2075, 465 acres in Modesto Irrigation District, and 8265 acres are not within any District. During the 1969-1970 water year, a total of about 50,000 acrefeet were diverted from the Stanislaus River for use on these areas.

The existing and inchoate rights to the use of Stanislaus River water below the New Melones Damsite generally fall into the following 12 priority groups:

Priority	Priority	
group	dates	Description
1		Discrice 1 - 1

Riparian lands adjacent to Stanislaus River

Priority group	Priority dates	Description
2	1853 - 1909	Adjudicated direct diversion rights (1,816.6 ft ³ /s)-O&SSJID
3	1914	Individual adjudicated rights (2.0 ft ³ /s)
4	1918	Appropriative storage rights in Melones Reservoir (96,195 acre- feet) O&SSJID
5	1920	Individual direct diversion rights (0.8 ft ³ /s)
6	1921 - 1922	Appropriative storage rights at Woodward and Melones Reservoir (46,754 acft.) O&SSJID
7	1923-1926	Appropriative direct diversion rights including RD2064 and 2075 (123.6 ft ³ /s)
8	1927	Appropriative storage rights at Beardsley and Donnells Reservoirs (60,000 ac. ft.) O&SSJID
9	1931 - 1943	Appropriative direct diversion rights of individuals and Oakdale I.D. (20.61 ft ³ /s)
10	1945 - 1948	Appropriative storage rights at Tulloch, Melones, Beardsley and Donnells Reservoirs (285,000 ac. ft.) O&SSJID
11	1949 - 1952	Appropriative and other direct diversion rights of individuals
12	1952-1960	Appropriative storage and direct diversion rights - New Melones - USBR

The estimated ultimate water requirements, present use, and classification of water rights of the irrigable lands below Goodwin

Dam adjacent to and presently using water from the Stanislaus River not within Oakdale and South San Joaquin Irrigation Districts are given in the following tabulation:

Water rights classifi- cation of land	Irrigable area (acres)	Ultimate water requirements _(acre-feet)	Present Irrigated area _(acres)
Assumed ripairan rights Adjudicated rights Appropriative rights Other water rights	5,835 80 9,135 1,870	26,200 330 39,030 _8,940	4,270 80 9,000 1,870
Total	16,920	74,500	15,220

Of the 4,270 acres of assumed irrigable ripairan land outside Oakdale and South San Joaquin Irrigation Districts which are presently irrigated, about 2,500 acres obtain their water supply from sources other than by direct diversion from the Stanislaus River. If these riparian lands continue to be supplied from their present sources, the ultimate assumed riparian Stanislaus River requirement would be about 14,400 acre-feet annually.

In addition to the 5,835 acres of assumed riparian land outside of the Oakdale and South San Joaquin Irrigation Districts boundaries, there are 2,344 acres of assumed irrigable ripairan land within the two irrigation districts. The total area of assumed riparian land adjacent to the Stanislaus River between Goodwin Dam and the mouth is 8,179 acres.

The following information relates specifically to the two Reclamation Districts No. 2064 and 2075: Reclamation District 2064 (River Junction).--Reclamation District 2064 was formed April 3, 1923, under the reclamation district laws. It is located in San Joaquin County at the junction of the San Joaquin and Stanislaus Rivers. The district presently contains about 5,396 acres of land of which 4,970 acres are irrigable. Irrigation water for lands within the district is obtained from the Stanislaus and San Joaquin Rivers, Red Bridge Slough, and wells. Acreages within the district receiving water from various sources are given in the following tabulation:

IRRIGATION SOURCES - RECLAMATION DISTRICT 2064 (from April 1969 survey) Acres

	ACTES
Stanislaus River	2,505
Stanislaus River	
supplemented by wells	321
San Joaquin River	1,186
San Joaquin River supplemented	
by Red Bridge Slough	130
Red Bridge Slough	261
Wells	
Not irrigated	576
Total	5,396

Reclamation District 2064 holds water rights Application 4460 which was filed February 19, 1968, License 8697 was issued on the application on July 19, 1968. The place of use under the license is 5,200 acres within a gross area of 5,623 acres (an area slightly larger than the present district). The licensed diversion is 72.29 ft³/s which can be taken from four points of diversion on the San Joaquin River and four points along the Stanislaus River.

In addition to the appropriative rights held by the district, about 500 acres of land within the district are apparently riparian to the Stanislaus River and 1,140 acres riparian to the San Joaquin River. Also, one of the landowners within the district (Emmett A. Tassi) holds Application 12963 (License 4333) for the direct diversion of 4.6 ft³/s from the San Joaquin River for use on 385.4 acres of land. In water year 1970, the district diverted 10,460 acre-feet from the Stanislaus River.

<u>Reclamation District 2075 (McMullin)</u>.--Reclamation District 2075 was formed March 21, 1927. It is located in San Joaquin County on the east bank of the San Joaquin River within portions of T. 2 S., R. 6 and 7 E., and portions of T. 3 S., R. 7 E., MDB&M; containing a gross area of 6,146 acres of which 5,624 are irrigable.

The district lands obtain their water supply from the Stanislaus and San Joaquin Rivers, Walthall Slough, and wells. The source of the irrigation supply for various areas of the district are given in the following tabulation:

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IRRIGATION SOURCES - RECLAMATION DISTRICT 2075 (from April 1969 survey)

	Acres
Stanislaus River supplemented by wells	3,177
San Joaquin River	1,964
San Joaquin River supplemented by Walthall Slough	268
Walthall Slough	413
Not irrigated	324
Total	6,146

There are about 1,490 acres of district land that appear to be physically riparian to the San Joaquin River. The non-riparian

lands are covered by a variety of appropriative rights. The district holds two applications to appropriate water from the Stanislaus River and individuals within the district hold 13 applications to divert water from the San Joaquin River, Walthall Slough, and unnamed drains. The total quantity of direct diversion of Stanislaus River water under the district's applications numbers 5316 (License 4912) and 17966 (Permit 14674) is 75.54 ft³/s, and the total direct diversion rate of individual applications for San Joaquin River and Walthall Slough water is 48.9 ft³/s. In water year 1970, a total of 17,160 acre-feet was diverted from the Stanislaus River under the districts permit and license. APPENDIX D

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CALAVERAS COUNTY

HP-721

FEB 2 5 1975

Kr. Lloyd Coffeit Calaveras County Water District P. O. Box 846 San Andreas, Californis \$5249

Dear Mr. Coffeit:

In reply to your letter of January 29, 1975, we will be glad to meet with you to discuss estimated water needs in Calaveras County and prospective methods of service. Recently, we have talked very briefly and generally about these matters with your District's Consultant, Mr. J. B. Gilbert, and could discuss them further with him in more detail, if you so desire, prior to meeting with you.

Our agreement with your District of July 1972 provides for an appraisal study to be made by the Bureau when funds for that - purpose were made available by Congress. To date, such funds have not been obtained, but our efforts in this regard have continued with the possibility of them becoming available perhaps in FY 1976, but more probably in FY 1977. That study, as proposed, was to appraise the water needs of the entire County. analyze the possibilities of meeting those meeds from all water sources available, estimate what reservoir storage and other developments along the Hokelumne, Calsveras, or Stanislaus Rivers might assist in preting those needs, as well as possibly serving other functions, and also estimate the associated accomplishments, costs, benefits, and environmental effects. In view of the work that your District is doing, the question of whether the need and desire for this prospective study still remains should be considered further and discussed with you soon.

As you are sware, New Melones authorization requires the Secretary of the Interior to make his determination of the quantity of water required to meet existing and anticipated future meeds within the "Stamislaus River Basin" before diverting any water from that Basin in connection with the operation of the Central Valley Project. You and other representatives of your District have been attending the Policy Advisory Committee meetings for



the Alternative Studies on Folsom South and Lover American River. One of the important alternative plans which requires consideration in those studies is the potential use of some portion of New Melones yield within Folsom South area. The projected need for water in "Stanislous River Basin" for incorporation in the required Secretarial finding, therefore, becomes an important matter which needs early resolution in relation to the current alternative studies.

In view of the urgency for completing the Alternative Lower American River-Folsom South Studies, the required analyses of your District's projected water needs, together with those of other "Stanislaus River Basin" counties need to be completed soon. We appreciate your District's expressed readiness to discuss water needs and related developments for your area.

We suggest that you contact Mr. John Norgsz, of this office, to arrange a mutually satisfactory time to meet. As previously indicated, if you believe it would be advantageous, we would be glad to meet initially with your Consultant, Mr. J. B. Gilbert, for preliminary discussions prior to meeting with you.

Sincerely yours,

(sgd) B. E. Martin Regional Director

CALAVERASSMUNICATION COUNTY

BOARD OF DIRECTORS KENNETH R. MITCHELL, PRESIDENT JACK A. ERZ, VICE-PRESIDENT IRVIN L. TANNER ELLIOTT L. McCOMBS RON TREAT

LLOYD C. COFFELT, SECRETARY-MANAGER

BUSINESS OFFICE 427 E. ST. CHARLES STREET P. O. BOX 846 SAN ANDREAS, CALIFORNIA 95249 754-3543 - Area Code 209 Oanuary 29, 1975

WATER

DISTRICT

Mr. Edward Horton U. S. Department of the Inter Bureau of Reclamation Mid-Pacific Regional Office 2800 Cottage Way Sacramento, California 95825

Re: Calaveras County Water Needs

Dear Mr. Horton:

Calaveras County Water District has since 1971 tried to get the Bureau of Reclamation to update our Master Plan. It was our belief per the 1972 Agreement that you would provide this update. The District continues to believe that it is appropriate to consider <u>all</u> of the County's needs including the Mokelumne watershed in its Master Plans. The District has recently completed an update of our Master Plan and no longer look to the Bureau of Reclamation for assistance in this matter.

The District stands ready to meet with you to discuss our recent calculations of water needs; please refer to our report submitted previously. We are progressing rapidly on the formulation of a definitive hydroelectric water resources project and are planning to submit a report to the Federal Power Commission by midyear.

Regarding resolution of the present conflicts toward the Folsom South Canal, little real headway is apparent. The five alternatives now being considered do not provide for sensitivity analysis to further compliance with D-1400. In addition, it is difficult for us to believe that the area of influence will require 980,000 acre-feet per year to meet the water requirements. Have you analized this requirement? You propose to review the District requirements. The State Board's decision D-1400 does have dry year criteria and certain minimum flows will occur anyway due to the upstream flow releases unrelated to the project operations of the Bureau of Reclamation. At this time, the Hood-Clay alternative is both environmentally feasible and practical and has the full Calaveras County Water District support. Mr. Edward Horton Bureau of Reclamation January 29, 1975 Page Two

It is not reasonable to separate the Folsom South service area study from the overall water management study which is directly related to the future of the Peripheral Canal, the proposed Mid Valley Canal, New Melones completion, and many other variables. For our next meeting, we urge you to formulate the alternatives so that they can be easily compared in terms of capital cost, annual cost, and in terms of compliance with overall State planning including D-1400 as well as ability to meet the projected consumptive needs. It would be helpful to all of the policy committee to develop a list of alternative project criteria including needs, environmental factors, and conjunctive operation of surface and groundwater supplies utilizing available State data.

The District is interested in your review of our New Melones alternative in our Master Plan. We feel the cost of pumping, excluding the conservation yield purchase, to be prohibitive, unless it is subsidized as part of the Central Valley Project. Before we can discuss the environmental aspects of our definitive plan we feel you should reply to our master plan water requirements.

Calaveras County Water District looks forward to the Bureau's leadership in resolving the problems of the Folsom South Canal. Though our project is not large, we feel the same pains you do from the aware environmentalist.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT

felt

General Manager



AND AND

LAW OFFICES OF

ALBERT E. SHEETS

7ELEPHONE 442-585:

635 FORUH HULDING BRCAANENTO, CHIFQANCARARIANI JUL 7 LUE

October 2, 1974

Hon. James J. G^{*}Brien Acting Commissioner of Reclamation Department of the Interior Washington, D.C. 20420

Dear Mr. G'Brien:

Thank you for your letter of August 9 in response to Mr. Coffeit's letter of June 28, 1974 to Secretary Morton. Mr. Coffeit has asked me as General Counsel to the Calaveras County Water District, to make further reply.

We were gratified with your emphasis that the water rights of the District will continue to be recognized fully by the the United States. The priority of the District's rights upon the Stanislaus River, as both you and Mr. Coffelt note, are specifically recognized in the 1972 Contract between the District and the United States. Mr. Coffelt's letter to Secretary Morton refers to the documentation of those rights and emphasizes the District's intention to utilize these rights, over time, to their full extent.

The District as you know is now actively pursuing its pending application before the Federal Power Commission for a license for Project 2409, the North Fork Stanislaus River Development, which project will provide a water yield which may be sold by the District within the area of use prescribed in the water rights permits, pending the further development of need within the County. This project is a significant part of the District's master plan, referred to by Mr. Coffeit in that part of the letter to the Secretary discussing the District's water rights in relation to the New Melones project.

I take your strong affirmation of the District's prior rights to mean that the Bureau would not act in any way in LAN WARLES OF ALBERT & SHEETS

Hon. James J. O'Brien Page Two October 2, 1974

its operation of the New Melones project, including any water marketing program to be associated with that project, to interfere with the District's prior rights to develop water, and to sell such water within the area of use under its permits, as it proposes to do under its master plan. It is most important to the District that this be entirely clear. Accordingly, it would be appreciated if you could confirm this to me at your earliest opportunity.

With thanks for your attention to this matter.

Sincerely,

ALBERT E.

1**P-721** 832.

SEP 2 0 1974

Mr. Toby Wimberly, Chairman Board of Supervisors Calaveras County P. O. Box 845 San Andrees, California 95249

Dear Hr. Wimberly:

The enclosed news article from the San Andreas paper of August 29, 1974, concerns statements reported to have been made to your Board by Mr. Lloyd Coffelt, Secretary-Manager, Calaveras County Water District. Certain statements attributed to him in the article, pertaining to the Bureau of Reclamation, are not factual. We wish to assure you, in particular, that Calaveras County water rights will not be affected edversely by New Helones Dam.

The Bureau of Reclamation entered into identical agreements with Calaveras County and Calaveras County Water District (Contract Ho. 14-05-200-7011A, dated July 24, 1972, and Contract No. 14-05-200-7001A, dated July 31, 1972, respectively) regarding diversion of water from Stanislaus River.

Those contracts speak clearly for themselves in regards to the water rights protection provided for Calaveras County. By letter dated August 5, 1974, in response to Hr. Lloyd Coffeit's letter of June 28, 1974, the Acting Commissioner of Reclamation reiterated the intent of those contracts by stating: "Ne wish to emphasize that all prior rights of the district will continue to be recognized fully by the United States." This is clearly stated in Contract No. 14-C5-200-7001A of July 3, 1972, between the District and the United States, entitled, "Agreement on Diversion of Water from the Statislaus River." A copy of that letter is enclosed for your information. It is clearly evident that there is no disagreement with either Calaveras County or Calaveras County Water District over water rights as Mr. Coffeit claimed.

D-8

The future requirements for water within Calaveras County and how fast those requirements may develop, however, are matters which are under continuing discussion with the District. Under the Congressional Act (P.L. 87-874) which modified the authorization of New Melones Project, the Secretary of the Interior is required to take the following action:

"That before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that Basin and the diversions shall at all times be subordinate to the quantities so determined."

We have actively pursued evaluations to serve in making the determination required of the Secretary as to future water requirements within the four counties lying adjacent to Stanislaus River. In informal discussions with Calaveras County Water District representatives during the past year on this matter, some differences of opinion have been evidenced relating to total future requirements, but, more particularly, as to the buildup of those requirements over the next 50 years. We will have further and more-thorough discussions of these matters with the District during the next few months. The objective of these discussions will be for the Buresu and the District to reach agreement on these requirements and their estimated buildup during the next 50 years, or to clarify our differences. The results of our joint evaluations will be used in our future studies relating to New Melones Reservoir. If, in the future, the ectual water requirements for Caleveras County prove to be different from the estimates derived, the increase or decrease in actual needs could be net from the several water sources available to the County including supplies developed under its rights on the Stanislaus River and other streams.

Sincerely yours,

(sgd) B. E. Martin Regional Director Copy to: Mr. Eenneth R. Mitchell, President Eoard of Directors Calaveras County Water District P. O. Box 846 San Andreas, California 95249 (w/enclosures) Mr. Lloyd Coffelt, Secretary-Manager Calaveras County Water District P. O. Box 846

San Andreas, California 95249 (w/enclosures)

cc:

Commissioner, Washington, D. C. (w/enclosures)

D-10

7-1596 11 au of Reclamation

CALAVERAS PROSPECT San Andreas, California

August 29,1974

OFFICIAL FILE COPY Date Surname Code

Board votes hedged motion half against Proposition 17 Coffelt also explained that

In spite of the fact that they vere told that such an action night endanger the County's ights to water from the Stanisaus river, the board of superrisors Monday afternoon took a position on Proposition 17 by a redictable vote of 4 to 1.

Milton Smith of Murphys was he sole dissenting vote.

Before the vote was taken, a lea for delay was made at some ength by Lloyd Coffelt, manaier of Calaveras County water listrict.

_Coffelt contended that the County's rights to water are as irm as can be as far as the state of California is concerned, but hat the federal bureau of recamation, the agency pushing :onstruction of Melones Dam, 's hedging on its contract with CCWD over water rights.

Although the bureau signed 1 contract with CCWD promising

to honor all CCWD's rights, it has continuously tried to lower the amount of those rights from over 160,000 acre feet per year to about 54,000, Coffelt said.

nation has raped every small county it could ever since the be started," Coffelt warned even as big as the low one first the supervisors. "You appear to proposed." be intent on playing right into their hands".

his position on Melones is not the same as that held by the advocates of Proposition 17. In fact, he said, envirnmental concerns already exercise unreasonable restraints on CCWD, and if Proposition 17 passes, the restrictions will become even more severe.

"We have had to spend over \$300,000 this year already on an envirnmental impact assessment, and it has delayed other work we think more important, " Coffelt told the board.

His position, he said, is that Calaveras County must use every means at its disposal to force the federal agencies involved to keep faith with their own contracts. This includes getting at least a clarification from the bureau of reclamation before taking a position on their side of a political question.

"This is no six-week, nickel and dime deal," Coffelt said. "It's the bulk of the water we hold rights to because we have proved we need it. The bureau knows that if it really honors our rights -- as it said it would "The federal bureau of recla- in the contract --it wouldn't have enough water to kustify the costs of constructing a dam

The bureau wants to gain con trol of the water to ship it outside the County, Coffelt said. In that respect, it doesn't care

what the supervisors, or anyone else in a small county, says or feels -- or even needs.

In the end, the supervisors amended their stand of outright opposition to Proposition 17 by an amendment to the effect that its opposition is contingent on the bureau's recognition of all CCWD rights.

As was pointed out, such an amendment made the action sort of meaningless, since it can be (and probably will be) used by both sides of the Proposition 17 argument.

Coffelt also pointed out that a number of figures used by Middleton are in error.

"We have sent you a report which contains the correct and documented figures," Coffelt said. "I can justify them. I cannot justify your figures because they are fictions you have just made up out of your head".

Coffelt similarly objected to a number of Wimberly's opinions. which he said were not based on facts.

"CCWD will pay your way to a meeting in Washington in which the true facts will be discussed," he offered. "This is not a matter in which anyone, in a few weeks, can become an instant expert."

D-11

CALAVERAS PROSPECT San Andreas, California August 29, 1974

Wimberly told Coffelt that he'll be happy to take the trip --but later voted for the motion anyhow.

In an answer to a question by Fischer, Coffelt said that the approval by the voters of the state of Proposition 17 will not have any effect on CCWD's plan to develop the upper reaches of the river. Proposition 17 concerns only the portion of the river between Camp Nine and the Parrot's Ferry bridge --an area that will become part of Melones Reservoir if the proposed high dam is built.

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BUREAU OF RECLAMATION WASHINGTON, D.C. 20

IN REPLY PETER TO: 736 834.-

AUG 9 1974

Mr. Lloyd C. Coffelt Secretary-Manager Calaveras County Water District P.O. Box 846 San Andreas, California 95249

Dear Mr. Coffelt:

Secretary Morton has asked us to respond to your letter of June 28 which enclosed a report on the master plan for the Calaveras County Water District.

We have been informed that representatives of our Sacramento Regional Office already have discussed your letter and certain aspects of the report with you. That discussion included consideration of the work novunderway to determine the extent of the area comprising the Stanislaus River Basin and associated water requirements. The Regional Director and his staff will work closely with you in preparing the water require estimates which pertain to Calaveras County.

We wish to emphasize that all prior water rights of the district will continue to be recognized fully by the United States. This is clearly stated in Contract No. 14-06-200-7001A of July 31, 1972, between the dis and the United States, entitled "Agreement on Diversion of Water From the Stanislaus River."

Your letter alludes to the possibility that the district might want to purchase water from the United States, and inquires about the price and other terms which would apply. In reply thereto, we can only respond to a limited extent. Our comments are as follows:

1. In setting water rates, the New Melones Reservoir would be considered a feature of the Central Valley Project (CVP). The water-pricing policies for the CVP are currently being revised, so we are unable to respond further at this time as to rates for New Melones Reservoir water.

CONSERVE MERICA'S ENERGY

SS 19170

D-13

Save Energy and You Serve America!

2. Water rates for the portion of the supply for the district which might be provided from possible additional upstream Federal facilities would be established after feasibility studies are made and congressional authorization obtained for construction. Item 4 of the aforementioned contract No. 14-06-200-7001A relates to the Bureau's expressed intent to undertake future studies when funds are made available. As yet, funds have not been appropriated for that purpose.

3. Any portion of the supply for the district for agricultural purposes would be subject to the 160-acre limitation in accordance with Reclamation laws.

Sincerely yours,

(SGD) JAMES J. O'BRIEN

ACTING Commissioner

i bcc:

Regional Director, Sacramento, California (w/o incoming) Chief, Division of Planning Coordination, E&R Center (w/c of incoming) CALAVERAS COUNTY

WATER DISTRICT

BOARD OF DIRECTORS KENNETH R. MITCHELL, PRESIDENT JACK A. ERZ, VICE-PRESIDENT IRVIN L. TANNER ELLIOTT L. McCOMBS RON TREAT

LLOYD C. COFFELT, SECRETARY-MANAGER

BUSINESS OFFICE

427 E. ST. CHARLES STREET P. O. BOX 846 SAN ANDREAS, CALIFORNIA 75249 754-3543 -- Area Code 209

June 28, 1974

The Honorable Roger C. B. Morton Secretary of Interior Department of Interior 18th and C Streets Washington, D.C. 20240

> Re: Intended extent of the "Stanislaus River" Basin" as used in Public Law 87-874 -October, 1962.

Dear Mr. Secretary:

The United States Department of the Interior, Bureau of Reclamation, Sacramento Cated, has requested the thinking of Calaveras County Water District regarding the intended extent of the "Stanislaus River Basin" as that term is used in Public Law 87-874 of October 1962.

In any consideration of the waters that are to be impounded in New Melones Reservoir and the disposition thereof it is first necessary to recognize and respect the water rights of C.C.W.D. These rights are set forth in the following laws or official documents:

- (a) Decision D1114 as amended by Decision D1226 issued by the State Water Resources Control Board of the State of California,
- (b) Section 10505 of the Water Code of the State of California giving priority to county of origin,
- (c) Applications 5648 and 5649 filed by the State of California, reserving water from the Stanislaus River for the use of the future needs of designated areas.

The United States has in its past conduct recognized these prior rights and indicated that it intended to respect them in the operation of New Melones Dam and Reservoir; furthermore, it has, by its duly executed contract with C.C.W.D. agreed to do so. The Secretary of t Interior June 28, 1974 Page 2

The "Agreement on Diversion of Water From the Stanislaus River," dated July 31, 1972, (U.S.B.R. Contract No. 14-06-200-7001A) between the Department of Interior, Bureau of Reclamation and C.C.W.D. concerning the New Melones Project, specifically refers to the foregoing items and agrees to recognize the priorities thereof.

To give meaning to C.C.W.D.'s water rights and the agreement of the Department of Interior to recognize such rights, the water thus set aside must be available whenever C.C.W.D. is ready to use it in accordance with its permits. Many manhours and a great deal of money have been, and are being spent by C.C.W.D. in a diligent effort to complete its master water plan and to put the permitted water to beneficial use. It is the position of C.C.W.D. that the permitted water necessary to take care of its rights as tabulated above is not water subject to the ultimate control or regulation by the Secretary of Interior or the New Melones Dam and Reservoir. It is recognized that C.C.W.D. will not make immediate use of all the water covered by its rights. Until it does, some of the water comprising those rights will be impounded in the New Melones Reservoir. This will be water that is available in the New Melones Reservoir for a limited time and must be considered by the operators of New Melones Dam to be there only on a season to season basis.

Giving due consideration to the foregoing, the Secretary of the Interior in his determination of the extent of the area comprising the Stanislaus River Basin and the water needs of that area must recognize and acknowledge that he is not dealing, and may not deal, with any water covered by the established water rights of C.C.W.D. and that as to such water, it will be available to C.C.W.D. at any time C.C.W.D. is ready to divert it for the uses specified in its permits.

In your contract with this district is contained in: Paragraph I and II thereof, the solemn promise by the United States to recognize the priority of the above water rights of this district; and, in Paragraphs III and IV thereof, the solemn promise by the United States to undertake studies of the water requirements of Calaveras County and of other specified areas. As consideration for, and to obtain those promises, this district withdrew, surrendered and gave up in favor of the applications of the United States Bureau of Reclamation for assignment of State Application Numbers 14858 and 14859.

Should your decision disregard the above water rights by this district and those solemn obligations by the United States under its contract, the progress and orderly development of our project would be most substantially and adversely effected. The Secretary of t Interior June 28, 1974 Page 4

Gene Sullivan Harry Dunlap Richard G. Ericsen J. W. Carniglia Daniel Gallery Leroy Kennedy James C. Hanson Helen M. Smith J. F. Sorensen James Dixon Richard W. Dickenson A. N. Murray J. C. Jones Thomas J. Shephard

- Galt Irrigation District
- El Dorado Irrigation District
- Modesto Irrigation District
- Sacramento Municipal Utility District
- Tuolumne County Water District #2
- Turlock Irrigation District
- Woodbridge Irrigation District
- League of Women Voters
- N. San Joaquin Water Conservation Dist.
- Sacramento County
- San Joaquin County Flood Control and
 - Water Conservation District
- Save The American River
- Stockton-East Water District

ine /

The Secretary the Interior June 28, 1974 Page 3

Should you make such a decision, or should this district for any reason decide not to build the project contemplated by it at the present time in accordance with its permits named above, at what price and other terms will you be agreeable to furnish this district with its water requirements? For your review is an update report of our project.

C.C.W.D. holds the U.S. Government to the decisions and agreements stated herein and note to you at this time that any delay in a determination by you as to the foregoing questions will prevent detail planning of our project until such determinations have been made. Your prompt decisions with respect thereto and advice as to when those decisions may be expected will be greatly appreciated.

Awaiting your reply, we are most respectfully,

Yours truly,

CALAVERAS COUNTY WATER DISTRICT

LLOYD/ COFFELT ι.

Secretary-Manager

LCC:aw Enclosure cc:_B. E. MARTIN Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825 BILL DENDY, EXECUTIVE OFFICER State Water Resources Control Board 2125 19th Street Sacramento, California 95814 **RICHARD L. ROSENBURGER** Acting Chief **Division** of Water Rights State Water Resources Control Board 2125 19th Street Sacramento, California 95814 Albert E. Sheets - Counsel for C.C.W.D. David Willer - Tudor Engineering Company J. B. Gilbert - Special Consultant

CALAVERAS COUNTY

BOARD OF DIRECTORS KENNETH R. MITCHELL, PRESIDENT JACK A. ERZ, VICE-PRESIDENT IRVIN L. TANNER ELLIOTT L. McCOMBS RON TREAT

LLOYD C. COFFELT, SECRETARY-MANAGER

WATER DISTRICT

BUSINESS OFFICE

427 E. ST. CHARLES STREET P. O. BOX 846 SAN ANDREAS, CALIFORNIA 95249 754-3543 - Area Code 209

April 30, 1974

Mr. Bill Dendy Executive Officer State Water Resources Control Board 1416 Ninth Street Sacramento, California 95814

Dear Mr. Dendy:

Following our presentation at your Board's hearing on March 26, 1974, we would like to present additional information in response to Mr. Walt Pettit's question at the hearing on the relationship between our permits and the proposed New Melones Project. Our material, specifically Exhibit "D" -Water Master Plan page 4, shows our intended diversion by source for various conditions. We agree we should have spent more time with these points in our discussion, but we can only argue that we were nervous and inexperienced in presenting such material to a State Board.

Concerning this matter further, we have reviewed available background material; ie, engineering reports and prior testimony to the State Board. Our January 1961 County Water Development Report showed a maximum use similar to that today. It proposed that 75,000 acre feet annually be diverted into the Calaveras watershed in the second stage. At this time our plan included Cedar Dam, Forks Dam and San Andreas Dam, in addition to those proposed presently. As you are aware, the applications to appropriate water from the aforementioned reservoirs was denied by the State Board in order to permit the U. S. Government to proceed with a large dam at New Hogan.

In a statement to the State Board on revisions in the plan in November 1964 by A. R. Reitter of Tudor, it was indicated that the diversion into the Calaveras River water shed would be 79,000 acre feet annually for irrigation and 10,000 acre feet annually for domestic. Furthermore, the amount so stated was Mr. Bill Dendy Page Two April 30, 1974

a lower limit and all further amounts would cause a reduction in future years of available water for hydroelectric generation. In all cases of record we reserved the right to reach our upper limit to projected water use after the bond payoff period. The total projected water requirements were at this time still quite close of the 1961 report and were the background for the State Board's decision to issue CCWD the present water rights.

Our water requirements are being reviewed and will be printed in our update report as soon as the changes recommended by our special consultants are made. As we promised, this report will be forwarded as available. Please note that in our draft report as submitted, the lower limit is now 56,900 acre feet annually and our upper limit is 171,000 acre feet annually.

The difference in the upper and lower projected water requirements is great. As we stated in our report for the lower limit we assumed that only 50 per cent of the orchard and rural estate land and none of the pasture land in most of the service area would use water for irrigation. The lower demand is very likely to be reached. We believe a figure in between the upper and lower is practical and wish to wait for the environmental impact statement's analysis to make the final decision on this matter.

The upper limit in 1961 was prepared using an agricultural needs survey by Dr. Nelson. Today our update report will utilize the Bureau of Reclamation's soil information as being most current. The upper limits are still reasonably the same. The greatest differences occur in our assumptions concerning water conservation and reuse.

Our previous and current estimates of maximum potential water use in the District's service area coincides closely with the maximum yield available from the North Fork Stanislaus River. We have attached for your information our current operating studies for a consumptive use of 102,800 acre feet. In order to reach a higher limit, Big Trees Reservoir would be added in the second phase. Big Trees Reservoir, with a capacity of 162,000 acre feet, will increase the yield by about 60,000 acre feet. It should be emphasized that CCWD believes its needs should be considered when the Board acts on any request by the Bureau of Reclamation to approve a permit for storage and diversion to use from the conservation yield of the New Melones Project.

It is obvious that future demands within our County will change. If use is made of New Melones conservation storage, it must be subject to whatever actual future demands develop in Calaveras County. We urge the Board to consider all factors and demands in the service area of the New Melones Project and Mr. Bill Dendy Page Three April 30, 1974

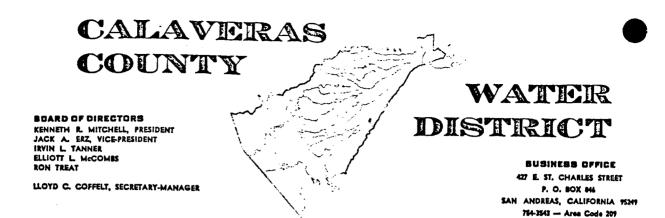
Calaveras County, and in fact, all related areas each time it proposes to place a portion of the yield of that project to beneficial use. Appropriate management of our State's resources requires a comprehensive review of needs of all users and not just the project-by-project approval. For this reason, CCWD continues to have grave reservations concerning the appropriateness of developing conservation yield at the New Melones Reservoir.

Should you have further questions feel free to call Dave Willer, (415) 982-8338, or myself at any time.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT

Secretary-Manager



Mr. L. B. Christiansen Acting Regional Planning Officer United States Department of the Interior Bureau of Reclamation Mid-Pacific Regional Office 2800 Cottage Way Sacramento, California 95825

Dear Mr. Christiansen:

This will acknowledge your letter to me dated December 5, 1973, in respect to our further <u>studies on possible</u> <u>methods of meeting future water requirements</u> in this County, more especially in respect to statments included in our recent correspondence.

January 14, 1974

This District presently has a water plan. It was presented to the Water Rights Board, State of California, and decision no. Dlll4, as amended, was issued by that body. This decision sets forth our water rights and the intended uses of the water, places of diversion, and amount of diversions. The District presently holds permits in accordance with that decision. The District has been, and is, working to implement the water plan contemplated by these permits. You have all the details of the plan. The District has experienced some delays in the implementation of this plan, because of the uncertainty as to the purchaser for the power to be produced and the terms of such purchase. There is indication, however, that such problems will be solved in the near future.

To be safe, the District has been conducting continual investigations to establish an alternate plan or plans, should the present plan be in whole or in part impractical to complete. Our prior correspondence and figures were given to you to keep you abreast of our alternate plans, Mr. L. B. Christiansen Page 2 January 14, 1974

as they developed. Any studies you are making in connection with the operation of the New Melones Reservoir, should be made on the assumption that Calaveras County Water District will use its water rights and water exactly as provided for in its present permits. Just as this District has alternate plans, it has been assumed that you have alternate operation schedules. We have provided you with information concerning our alternate plans, so that you, too, may if you wish, synchronize your alternate plans with ours.

Some persons and organizations appear to have preceded on the theory that our water permits do not exist, or that the project for which they were issued has been abandoned. The District assures you that such is not the case. Anyone dealing with the water covered by those permits, should precede on the basis that they are in full force and effect and the District is preceding to make full use of such permits.

The Board of Directors is desirous of keeping the Bureau fully informed as to our alternate studies and would be pleased to have an informal meeting with your representatives to answer any and all questions you might have. We, thus, suggest that this meeting take place here in our office in San Andreas, some time this month, the exact date and hour to be arranged by phone.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT

Secretary-Manager

LCC:aw

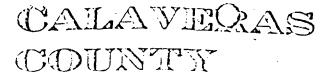
cc: Bureau of Reclamation Attention: Mr. John Morgan

> Dept. of Water Resources Attention: Mr. Guy Fairchild

Tuolumne County Water District No. 2 Attention: Mr. Dan Gallery

Mr. Albert E. Sheets

Tudor Engineering Company Attention: Mr. Dave Willer



COARD OF DIRECTORS LUGTT L. MCCOMES, PRESIDENT WIN L. TANNER, VICE-PRESIDENT ACK A. ERZ ENNETH R. MITCHELL LIVER Q. TURNER

OYD C. COFFELT, SECRETARY-MANAGER

WATER DISTRICT

DUSINESS DEFICE 427 ST. CHARLES STREET P. O. EOX 644 SAN ANDREAS, CALIFORNIA 15249 754-2543 — Area Code 209

December 5, 1973

Mr. John Morgan Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Morgan:

Reference is made to Alternative Studies - Lower American River and Folsom South Canal and the letter from Calaveras County Water District dated July 14, 1972. The letter was in reply to your request of the District's estimate of their ultimate water requirements from the Stanislaus River. The District has recently completed a draft of an update of our water master plan and found out that several fallacies occurred in the July 1972 letter provided previously. We recently made a copy of this update draft conservation and power potential at New Melones Project, we wish to point out the fallacies to you. We request that your new studies will reflect our current plan. The following comments letter.

- The attachment does not include the need for supplemental water from the North Fork of the Stanislaus River for the Mokelumne River watershed within Calaveras County. The need is estimated to be about 18,700 acre-feet. The District has certain rights and agreements for Mokelumne River water as well as Stanislaus River water for use in this watershed.
- 2. For the central Calaveras area, Scotts, O'Neil, Jesus Maria, Esperanza and McCartys on the Calaveras River may ultimately be required to maximize this watershed. The District is planning on developing water from the North Fork for this area also. Again this is under Our present rights and agreements.

Page 1wo Décember 5, 1973

> 3. Several alternatives have been investigated to determine how the District might obtain some of its water needs from New Melones Reservoir. We find that the cost of pumping water from the reservoir and construction of the necessary facilities more costly than diverting water at a higher elevation and allowing the water to flow by gravity to the westerly areas of Calaveras County. Because of this, we believe that your studies should reflect that the District will divert all of its water requirements from the North Fork of the Stanislaus River above New Melones Reservoir. For your studies we believe that the ultimate amount will be between 90,000 acre-feet and 170,000 acre-feet, depending upon a lower and higher range of growth in Calaveras County.

In summary, the Calaveras County Water District has certain permits to obtain water from the North Fork of the Stanislaus River. These permits will allow the diversion of about 170,000 acre-feet of water to Calaveras County and we believe that your studies should show that depletion. Since most of the water would be used outside of the Stanislaus River drainage basin, but within the applied for point of use, we do not believe that the return flows will be significant.

Sincerely,

CALAVERAS COUNTY WATER DISTRICT

CLloyd C. Coffelt Secretary-Manager

CALAVERAS COUNTY

BOARD OF DIRECTORS ELLIOTT L. McCOMBS, PRESIDENT IRVIN L. TANNER, VICE-PRESIDENT WILLIAM D. HART KENNETH R. MITCHELL OLIVER Q. TURNER

T. STANLEY EDWARDS, SECRETARY-MANAGER

WATER DISTRICT

BUSINEGS DFFICE HAIGHT & WEATHERBY BUILDING ST. CHARLES STREET P. O. BOX 846 SAN, ANDREAS, CALIFORNIA 15249 (754-3543 - Area Code 209

August 1, 1972

Mr. John Morgan Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Morgan:

Enclosed please find revised General Study for Water Requirements from Stanislaus River. This revision is dated July 21, 1972, and has been discussed with Mr. Jim Denny of your department.

If we can be of further assistance, please let us know.

Very truly yours,

CALAVERAS COUNTY WATER DISTRICT

Utila Stanley

Secretary - Manager

enclosure 🖌

6/28/72 GENERAL STUDY FOR WATER REQUIREMENTS FROM STANISLAUS RIVER, EW Rev 7/21/7 EW CALAVERAS SUBAREA A. +5%losses IRRIGABLE ACRES "(20,060 Ac.)@ 2.56 AF/Ac . 51,400 54000 MUNICIPICAL Sheep Ranch 500 5200 :1500 1600 3200 802 AF Other . TO TAL 52,900 55600 YIELD FROM PROPOSED RESERVOIRS Scotts 20,000 AF MAI 6,700 13 5,300AF ONEIL JESUS MARIA TT, 100 AF Irr- 6,800 ESPERANZA 6600 AF 2200 AF MCARTYS 13,500 (13,500) 51,200 AF . TOTAL BALANCE FROM STANISLAUS 47,100 E 1/2 6 40 100 100 100 وموجع للمراجب والمناج Specie JENNY LIND SUBAREA B. Jenny Lind Report indicates that thegon Water is adequate to meet the needs of the 1210 for the foreseeable future (pge IV-10\$ 14-11) 13 See USBR operations study for Hogon None for SE & Cal agreement dated Bug. 1968 13 Storage 11,120 . 11 See Tudor Report -Plate I-2 @ 3150 @ 5010 @ 4320 @ 21,24000 Use 2.56 AF/Ac For apples - see Toble III -9 Zone II 1/4 Remaining area to come From Hokelumne D-27

6/21/7Z EW C. HIGHWAY & ABOVE ERRETTS Par IMPROVEMENT DISTRICT 6.4 summer 2.8 winter MUNICIPAL Lake Alpine IO AF 52,000 visitor days BearValley 9600 part time 1000 400 " 45 " Tamarac k 5 * 9000 visitor days BigMeadow 6 * 52,000 Div of Hurss 20 permanent, Cottoge Springs 200 porttime + 400 vd. A. F. P. (Future) 1000 Ac. G. CS/Ac/Yr 10 " 80 44 Mise. & Losses 600 TOTAL EBBETTS PASS IMPROVEMENT DISTRICT MUNICIPAL Terdor 2 35,000 x 0.28 Bulletin 97 2 13,500 x 0.28 = 9800 A.F. = 3800 A.F. * 4000 H & W Report (1968) (+0 1980) • ZZ00 -Irrigation Bulletin 91/ 1470Ac @ 2.58AFAc . 3800AF * 4000 Tudor (Didnot consider) * TOTAL (HAR) 500AF MURPHYS - ANGELS AREA E. Irr. TUDOR¹³ GZOO' AC. 16,000 AF * 16,800 1000 AF# 25,000 AF PG &E (4× 1967 rate) 1800 AF* 1050 1850 9700AF * Pretensibility Study Phase I- Stage A dated Feb 70 13 Turbor Report plate I-Z @ 3450 @ 1000 @ 1750 @ 2.72 M/4. 12' Colaveros Area Investigation dated at 1963 Assumed 50% w/i 5Pib (Murphys - Angels District) 2/4 L' 6500 AC × 2 ductings /Ac × 2? parsons folucit × 0.28 AF/A /parsons Che voras County Letter Dir 161 I Pre III -41

1/5/72 ĖΝ COPPEROPOLIS AREA MUNICIPAL : COPPER Core LAKE TULLOCH 2600AF 2500 AF +5% 1000" 1000 - +5% 550 " OTHER 500 - +5 4200~ Subtotal IRRIGATION 4800AF BULLETIN 97 (Toble 23 - Bear Manntain) Tudor (Mitton Arca) (Est. 2000 Act) @2.72+5% 5700AF Subtotal 10,500 14,700-TOTAL 29252 JUL 17 1972 3/4 D-29

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CET.T. NA.

VWATHER

BUSINESS OFFICE

HAIGHT & WEATHERBY BUILDING ST. CHARLES STREET

P. O. BOX 846 SAN ANDREAS, CALIFORNIA 15241 754-3543 -- Area Code 209

July 14, 1972

IDISTRICT

CALAVE RAS

BDARD OF DIRECTORS ELLIOTT L. McCOMBS, PRESIDENT IRVIN L. TANNER, VICE-PRESIDENT WILLIAM D. HART KENNETH R. MITCHELL OLIVER Q. TURNER

T. STANLEY EDWARDS, SECRETARY-MANAGER

Mr. John Morgan Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Morgan:

You have asked what we believe, our ultimate water requirements would be from the Stanislaus River. We are enclosing our report which indicates the ultimate water needs from the Stanislaus River for the area which could be served from both the stream and from New Melones Reservoir.

This data has been compiled for us by our engineer, Eugene Weatherby, and is taken from the various studies that have been developed for Calaveras County and Calaveras County Water District.

I believe that the enclosures are self-explanatory.

The District urgently requests the early completion of the New Melones project, as it would make water immediately available for diversion to the Copperopolis and Murphys-Angels Camp service areas. The sooner that New Melones is constructed, the more that this District can do to satisfy the increasing water needs of the above mentioned areas. The present water supply is limited, and is nil in the Copperopolis area.

We also look forward to your appraisal of the water requirements for the entire county and your proposed plan for meeting these requirements.

If you have any questions or desire further information, please let me know.

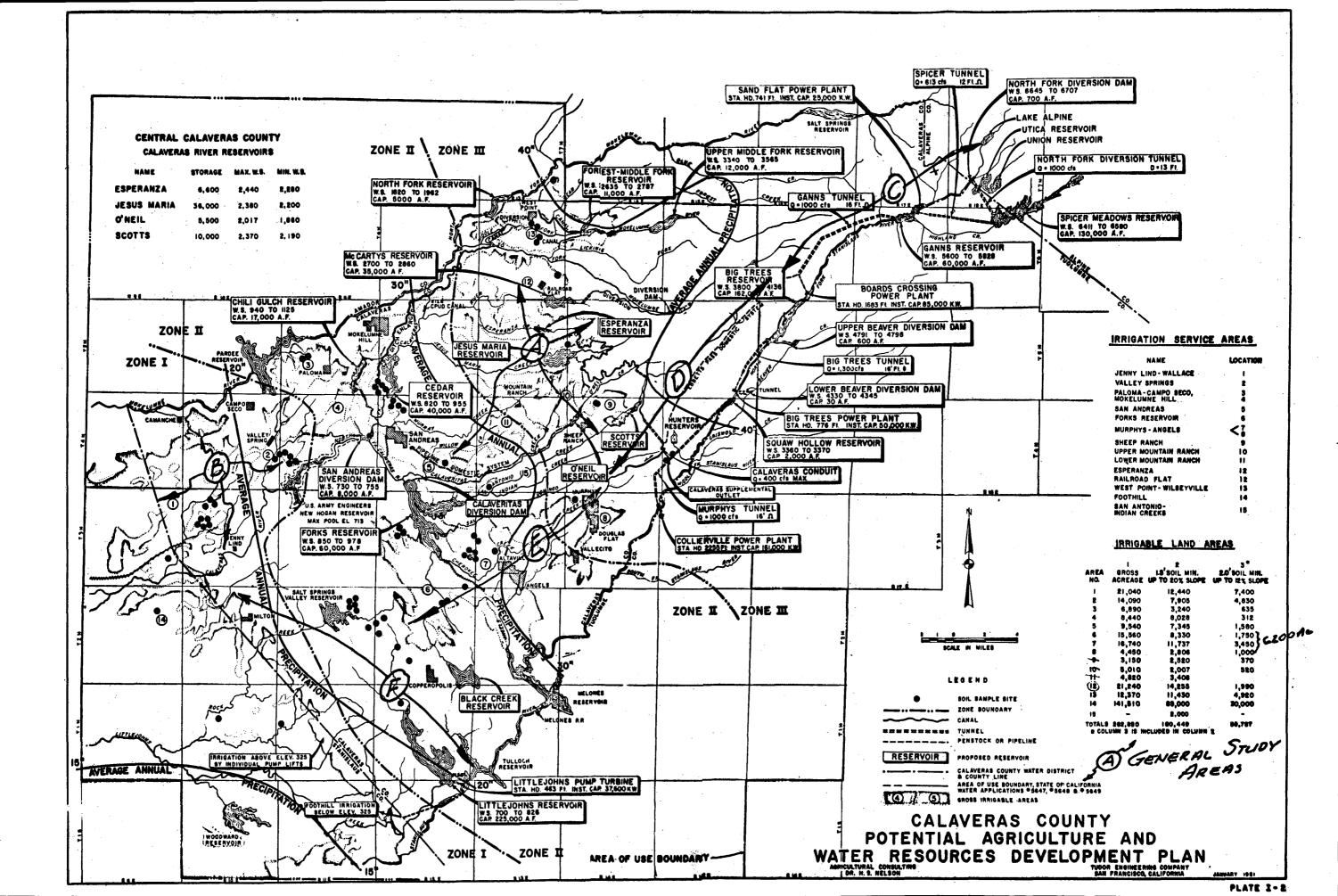
Very truly yours,

CALAVERAS COUNTY WATER DISTRICT

TSE: 1h enclosures

D-31

T. Stanley Edwards Secretary-Mono----



6/28/12 GENERAL STUDY FOR WATER REQUIREMENTS FROM STANISLAUS RIVER EW A. CALAVERAS SUBAREA +5%losses IRRIGABLE ACRES " (20,060 Ac.)@ 2.56 AF/AL . 51,400 54000 MUNICIPICAL Sheep Ranch 500 3200 : 1500 1600 Mountain Ranch 1500 5200 : 1500 1600 Other 3200 GOZIAN TOTAL 52,900 55600 YIELD FROM PROPOSED RESERVOIRS LE Scotts 20,000 AF O'NEIL 5,300 AF (MAI G700 13 JESUS MARIA IT,100 AF (IFF- 6,800 ESPERANZA 6600 AF MCARTYS 2200 A F 13,500 (13,500) 51,200 AF 1 TOTAL BALANCE FROM STANISLAUS 42.100 5 (n. **6**-1) (n. 1 ر می است از این است. روی است از این است. روی است از این است است. مرد است از این است است. 4.64 45.19 51. B. JENNY LIND SUBAREA Jenny Lind Report indicates that theyon Water is adequate to meet the meeds of the JLID for the preseeable future (pge IV-10 & IV-11) 13 See USBR operations study for Hogon done for SE & Cal agreement dated Aug. 1968 13 Storage " See Tidor Report -Plate I-2 @ 3150 @ 5010 @ 420 @ 21,240" 43 Lise 2.56 AF/A: For apples - see Toble II-9 Zone II 1/4 Remaining and to come From Hokelumne D-92

6/23/72 EW Ċ. HIGHWAY & ABOVE ERRETTS Pace IMPROVEMENT DISTRICT 2.8 winter 6.4 summer MUNICIPAL Lake Aloinc 52,000 visitor days IO AF Bear Valley 9600 part-time 1000 100 " 45 " 5 * 9000 visitor days BigMegdow 52,000 Div of Hurs 6 7 Div of Hurs 20 permanent. Cottoge Springs 200 partime + 400 vd. 10 " A. F. P. (Future) 1000 AC. G. OS/AC/Yr 20 Mise. & Losses 44 600 TOTAL EBBETTS PASS IMPROVEMENT DISTRICT MUNICIPAL Tudor L' 35,000 × 0.28 Bulletin 97^{L2} 13,500 × 0.28 H & W Report (1968) (to 1980) = 9800 A.F. = 3800 A.F. * 4000 • ZZ00 -Irrigation Bulletin 97/ 1470Ac @ 2.58AFAc . 3800AF * 4000 Tudor (Did not consider) * TOTAL (MAR) SCOAF MURPHYS - ANGELS AREA MAI E. - אייד. TUDOR¹³ GLOO AC. 16,000 AF * 16,800 1000 AF # 25,000AF PG &E (4× 1967 rate) 1800 AF* 1050 1850 * Total (15% / 10 min 9700AF 292 Lª Pretensibility Study Phase I - Stage A dated Feb 70 13 Tudor Report plate I-Z @ 3450 @ 1000 @ 1750 @ 2.72. M/4. 12' Chavens: Area Investigation dated at 1963 Assured 50% and 5Pib (Morphy, - Angels District) " 6500 AC × 2 duckings /Ac × 2? pursons placed × 0.28 AF/A /parson Chaveres County water Die 16/ I poe III-41 2/4 D-33

7/5/72 EW COPPEROPOLIS AREA MUNICIPAL : COAPER Come LAKE TULLOCH 2500 AF +5% ZGOOAF 1000" 1000 -+5% 550 " OTHER 500 45 Subtotal 4700 ~ TRRIGATION BULLETIN 97 (Toble 23 - Bear Mountain) Tudor (Mitton Ana) (Est. 2000 Act) @ 2.72+5% 4800AF STOOAF Subtotel 10,500 14,700" TOTAL 29252 JUL <u>4</u> 3/4 .D-34

RECAP MEI IRR (OTHER SOURCES) NET. AREA A 1600 54000 42,100 13,500 B 30,000 30,000 -0-C 600 -0--0-600 D 4000 4000 8,000 -0-E 2900 15,800 19,700 -0-٦ 4200 10,500 14,700 - 0 -TOTAL REQUIREMENTS 85,100 L' Sources other than Stanislaus River 29252 III 17 1977 & Net Requirements from Stanikus River Summary as stated over plane from Weatherby MiJ Total Agr. From New Melones 23,900 4200 28,100 Upstream from New Melones 49,500 7500 57,000 73, 400 11,700 85,100

D-35

MERCED COUNTY

MP-721

DEC 24 1974

Mr. Ernest Lohman, President Board of Directors Ballico-Cortes Water District 10565 El Capitan Ballico, California 95303

Dear Mr. Lohman:

We appreciate receiving your letter of November 26, 1974, again reiterating Ballico-Cortez Water District's interest in obtaining a supplemental agricultural water supply from the New Melones Project on the Stanislaus River. This matter and our activities concerning use of water from the New Melones Project was previously discussed in our letter of June 10, 1974 to your District.

The Bureau's Regional Office has subsequently recommended the area of reservation for water use from New Melones Reservoir and the Stanislaus River in accordance with Fublic Law 87-874. We are currently evaluating the supplemental water needs within this recommended area as compared to the available supply from the Stanislaus River including New Melones Reservoir. We anticipate completing these evaluations by about April 1, 1975 and forwarding our recommendation on the determination and reservation of water to meet the needs from the Stanislaus River Basin as required in the authorizing act.

Consequently, as previously indicated to your District, it is presently premature to state whether a supplemental supply is available for your District from the Stanislaus River. We agree that most economical and most practical means for serving your area appears to be essentially through a gravity system from the Stanislaus River or by possible exchanges with the Modesto and Turlock Irrigation Districts provided there is an available supply from New Melones Reservoir for this purpose.

We will keep you informed as to the status and findings of the Secretary of the Interior regarding the reservation of water for use to meet the needs from the Stanislaus River and the New Malones Project. You may be assured in this regard that full consideration will be given to the water needs of your District.

Sincerely yours,

Signed J. Robert Hammond Assistant Regional Director

BALLICO, CALIFORNIA 95

November 26, 1974

B. E. Martin Regional Director Mid-Pacific Region Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Dear Mr. Martin:

Our Ballico-Cortez Water District previously has expressed its interest in a supplemental water supply from the Central Valley Project. Now that Proposition 17 has been defeated and construction will proceed on the New Melones Project we wish again to call our needs to your attention.

Our District, comprising 6,800 acres, was formed in 1970 in anticipation that the proposed East Side Canal Project would be built to supply us and other areas. With that project now unlikely to be built, if indeed it is ever built, we believe the New Melones Project will provide our only practical source of water. We are aware that large demands exist in Stanislaus and San Joaquin Counties which could be met from the Stanislaus River. However, the needs of lands in San Joaquin, which are at relatively low elevations, could be met from the Folsom-South Canal or by pumping from the Delta. This would leave the New Melones Project water, at a relatively high elevation, to serve the high elevation lands in eastern Stanislaus and Merced Counties. Further, we understand the large unorganized area to the north and east of our District is planning to form a water district to purchase New Melones Project water. This, of course, will greatly enhance the feasibility of constructing works to bring water to our District.

We respectfully request that as you plan for allocation of the New Melones Project water you give consideration to our needs.

Very truly yours,

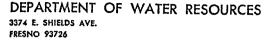
Ernest Johnan

ERNEST LOHMAN, President Board of Directors

D-39

STATE OF CALIFORNIA-RESOURCES AGENCY

RONALD REAGAN, Governor





July 26, 1974

Mr. Ernest Lohman, President Ballico-Cortez Water District 10565 El Capitan Ballico, CA 95303

Dear Mr. Lohman:

This is in reply to your letter dated July 8, 1974, which discusses your District's water needs and requests our assistance in finding means to meet these needs.

Your letter mentions two potential sources of supplemental water supply which might serve your District. One is a canal across the Valley extending from the Delta-Mendota Canal or the California Aqueduct to the east side of the Valley. The other is the New Melones Project on the Stanislaus River.

Our Department is currently involved in a joint study with the U. S. Bureau of Reclamation to evaluate the feasibility of constructing a "Mid-Valley Canal" to deliver federal water from the Delta, via the California Aqueduct, to the east side of the Valley. We view this proposed project primarily as an interim means to alleviate ground water overdraft on the east side. The canal alignment which is proposed at this time includes a northern branch canal which terminates at Deadman Creek just east of State Highway 99 in southern Merced County (see attached map). It does not appear feasible to extend this branch canal an additional 25 to 30 miles, through an area with a sufficient water supply, to serve your area. As you mentioned in your letter, however, exchanges of water with Turlock or Merced Irrigation Districts might be a means of providing service.

We discussed your letter with the Bureau of Reclamation regional office in Sacramento to determine whether the New Melones Project could serve your area. The Bureau indicated that it had recently advised you by letter of the status of efforts to allocate the water supply from the New Melones Project and would keep you informed of future findings regarding these efforts.

Mr. Ernest Lohman

-2-

We recognize that your District and adjacent waterdeficient irrigable lands need a supplemental water supply, and we will bear this in mind in conducting our planning programs. In the meantime, we can only suggest that you continue working with the Bureau of Reclamation toward obtaining a supplemental water supply.

Sincerely yours,

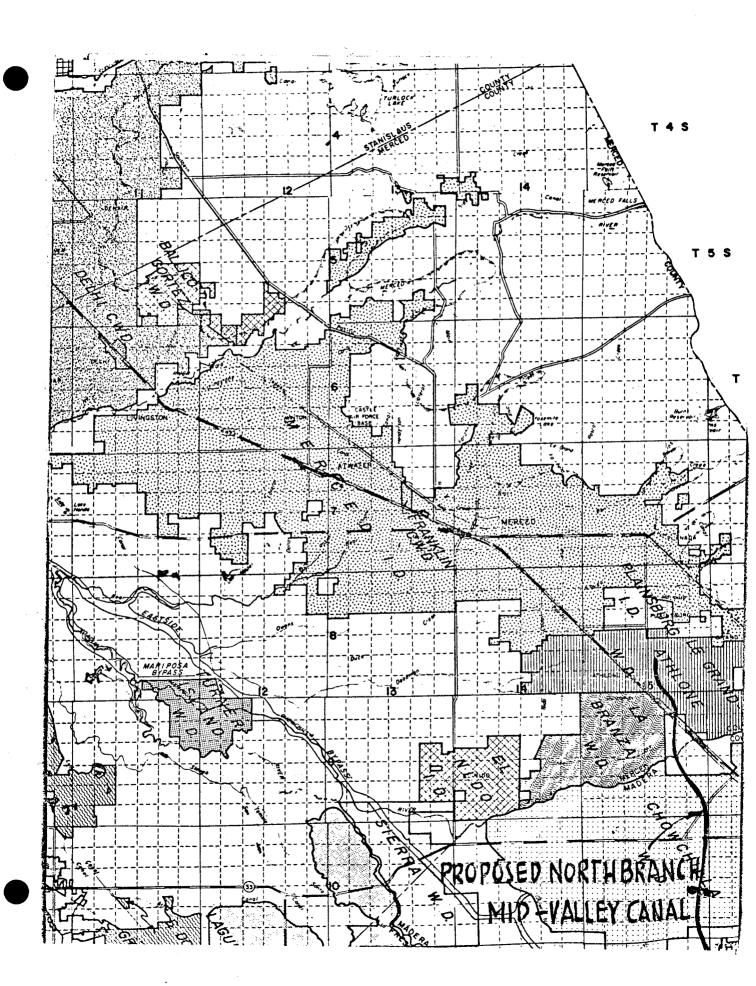
Garlo. Statson

Carl L. Stetson District Engineer San Joaquin District

Attachment

cc: Mr. Billy E. Martin√
Regional Director
Mid-Pacific Regional Office
U. S. Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

(10



10565 EL CAPITAN

BALLICO, CALIFORN IA 95303 July 8, 1974

Mr. John Teerink, Director Department of Water Resources 1416 9th Street Sacramento, California 95814

Dear Mr. Teerink:

The Ballico-Cortez Water District in northern Merced County was formed in 1970 to enable the landowners to obtain water from the then proposed East Side Canal of the Central Valley Project. The District contains 6,800 acres and is fully developed with mostly tree and vine crops. The water supply is derived entirely from groundwater. As pumping continues in our District and adjacent areas the water levels are dropping severely and it is apparent we will need a supplemental supply soon.

We observe that a number of circumstances have acted in recent years to delay if not eliminate the East Side Canal Plan as a prospective source of water for us. Opposition of conservation groups to new water projects and a lack of support by the Federal Administration for irrigation have combined to make early development of the East Side Canal extremely unlikely. Hence we feel we must seek other means of obtaining a supplemental water supply for our lands.

We see two schemes which may have promise for us.

1. The New Melones Project on Stanislaus River, which will yield over 200,000 acre feet of new water annually, could serve eastern Stanislaus County and our area. Service might be through new canals and or by exchange with districts using Tuolumne River water.

2. Some version of a cross-valley canal plan that would transfer water from the Delta-Mendota Canal or State Aqueduct to the east side of the Valley. Exchanges of water with Turlock and or Merced Irrigation Districts might be a means of providing service.

Our District lies within an area of 85,000 acres of irrigable land bounded on the north by the Tuolumne River, on the west by the Turlock District and on the south by the Merced District. This area now is nearly 50% irrigated and additional lands are being developed rapidly. Groundwater, the sole source of water, is inadequate and will need to be supplemented soon.

In your planning for the future water needs of the Central Valley we hope consideration will be given to our District and adjacent areas. We fear our needs will become acute before plans to bring water to us can be implemented. Our Directors stand ready to assist and our engineer, Marshall Jones of Sacramento, is available to discuss our problems with you at any time.

We feel confident means can be developed to meet our water needs, and look forward to assistance from your Department.

Very truly yours, ERNEST LOHMAN, President Ballico-Cortez Water District



BOARD OF SUPERVISORS Post Office Box 2008 COUNTY COURTS BUILDING. COURT HOUSE SQUARE TELEPHONE (CODE AREA 209) 722-7411 MERCED, CALIFORNIA 95340 JULY 9, 1974

ALBERT E. GOMAN FOURTH DISTRICT GUNTINE CHARMAN

JOHNNIE J. RAMONDINI FIRST DISTRICT MERCED

E. G. NORDMAN SECOND DISTRICT MERCED

FRED WACK THURD DISTRICT ATWATER

DANNY E. COZZI FIFTH DISTRICT DOS PALOS

CLARK

Bureau of Reclamation 2800 Cottage Way Sacramento, California

Re: Resolution No. 74-97

Gentlemen:

We enclose a copy of Resolution No. 74-97 adopted by the Board of Supervisors requesting allocation of a portion of the New Melones Project Water to Merced County lands.

Yours very truly

KENNETH L. RANDOL, Clerk Board of Supervisors By Barunir

Deputy

bs enc. /

BEFORE THE BOARD OF SUPERVISORS

OF THE COUNTY OF MERCED, STATE OF CALIFORNIA

In the Matter of

URGING THE BUREAU OF RECLAMATION TO ALLOCATE A PORTION OF THE NEW MELONES PROJECT WATER TO MERCED COUNTY LANDS

Resolution No. 74-97

WHEREAS, the Corps of Engineers is engaged in construction of the New Melones Project on Stanislaus River; and

WHEREAS, the project will make available in excess of 200,000 acre feet of new conserved water annually; which, water will be marketed by the Bureau of Reclamation through Central Valley Project facilities; and

WHEREAS, there are located in northern Merced County some 44,000 acres of good agricultural land susceptible to service with irrigation water from New Melones Project; and

WHEREAS, the said agricultural lands are wholly dependent upon groundwater supplies which are inadequate,

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Merced County does urge the Bureau of Reclamation to give consideration to allocating a portion of the New Melones Project water to the Merced County Lands and study means of conveying the water to the places of use.

I, KENNETH L. RANDOL, County Clerk of Merced County and Ex-Officio Clerk of the Board of Supervisors of said County do hereby certify that the foregoing resolution was regularly introduced, passed, and adopted by said Board at a regular meeting hereof held on June 25, 1974 by the following vote:

AYES:

Supervisors: Al Goman, Johnnie J. Ramondini, E. G. Nordman, Fred Wack, Danny E. Cozzi

NOES: None

ABSENT: None

Witness my hand and the Seal of this Board this 9 (W) day of ______, 1974.

KENNETH L. RANDOL, Clerk

JUN 1 0 1974

Mr. Eroest Lohnan, President Benico-Cortes Veter District 10365 El Capitan Ballico, CA 95303

Dear Mr. Lobusa:

We appreciate receiving your letter of April 22, 1974, reiterating Ballico-Corter Water District's interest in obtaining a supplemental agricultural water supply. Your letter states two possible plans or projects that appear to have marit at this time to provide water service to your area. These are the New Malones Project on the Stanislaus River and a mid-walley canel plan that involves use of the Delta Hendota Canal or State Aquadust for delivering water to the east side of the San Jonquin Valley.

Regarding the New Melones Project, the Bureau of Recimetion has the responsibility for marketing the water supply from this source which will be operated as an integral part of the Central Velley Project. The authorizing legislation required that before initiating diversions of water from the Stanislaus River Basin the Secretary of the Interior shall determine the quantity of water required to satisfy all emisting and satisfyabed future media within that basin. The Bureau has recently not with representatives of the local emitties including Stanislaus County regarding the determination of the area of reservation boundary.

The Sureau's Regional Office plans to recommend the area boundary for this reparention to the Commissioner. The Commissioner then will forward his recommendation to the Secretary of the Interior for his determination as required. The water needs within this area and the available supply with New Melones Reservoir would then be evaluated. Consequently at this time it is premature to state whether a supplemental supply is available for your District from the Stanislams River. As you mentioned in your letter one



possible means of providing water service is through an exchange with Turlook and Hodesto Irrigation Districts provided there is an available supply from New Melones for this purpose.

The prospect of serving your District from some add-valley canal facility (version of a cross-valley canal) does not appear to be vary good. Present plans envision a mid-valley canal transferring water from near the forebay of the Dos Andgos Pumping Plant on the California Aquaduct to Paoples Weir on the Kings River sear highway 99. A northern branch canal would run from the Mendote pool to Desdman Greek near highway 99. However, it does not appear fessible to extend the possible north branch canal to service your area. Such an extension would have to traverse too great a distance through an area with a sufficient water supply to reach your District. The cost of the extension would be great in comparison to the area served.

The East Side Canal Plan is probably the best means of servicing your District, but your analysis of its status is, unfortunately, probably correct.

We will keep you informed as to the status and findings of the Secretary of the Interior relating to the area of reservation and needs from the Stanisians River and the New Melonse Project.

Sincerely yours,

A.E. Horton

H. E. Horton Acting Regional Director

BALLICO - CORTEZ WATER DISTRICT

10565 EL CAPITAN

BALLICO, CALIFORNIA 95303

April 22, 1974

Mr. B. E. Martin, Director Bureau of Reclamation Mid-Pacific Region 2800 Cottage Way Sacramento, California 95825

Dear Mr. Martin:

The Ballico-Cortez Water District in northern Merced County was formed in 1970 to enable the landowners to obtain water from the then proposed East Side Canal of the Central Valley Projec The District contains 6,800 acres and is fully developed with mostly trees and vines. The water supply is derived entirely from groundwater. As pumping continues in our District and adjacent areas water levels are dropping severely and it is apparent we will need a supplemental supply soon.

We observe that a number of circumstances have acted in recent years to delay if not eliminate the East Side Canal Pla as a prospective source of water for us. Opposition of conser vation groups to new water projects and lack of support for irrigation by the Administration have combined to make early development of the East Side Canal extremely unlikely. Hence, we feel we must seek other means of obtaining a supplemental water supply for our lands.

We see two schemes which have promise for us.

1. The New Melones Project on Stanislaus River, which wi yield a little over 200,000 acre-feet annually of new water, could provide for the agricultural needs in eastern Stanislaus County, our District and adjacent areas in northern Merced County. Service might be directly through canals or by exchange with the districts using Tuolumne River water.

2. Some version of a cross-valley canal plan that would transfer water from Delta Mendota Canal or the State Aqueduct to the east side of the valley. Service to our District might be accomplished through some exchange with the Turlock and or Merced Irrigation Districts.

Our District lies within an area of 85,000 acres of irrigable land bounded on the morth by the Tuolumne River, on the west by Turlock Irrigation District and on the south by Merced Irrigation District. This area is nearly 50% irrigated now and additional lands are being developed rapidly. Groundwater, the sole source of water, is inadequate and will need to be supplemented soon.

Mr. B. E. Martin - April 22, 1974

As your engineers plan for the future water needs of the Central Valley we hope consideration will be given to our District and adjacent areas. We fear our needs will become acute before facilities can be developed to bring water to us. Our Directors stand ready to assist and our engineer, Marshall Jones of Sacramento, is available to discuss our problems with you at any time.

We appreciate the assistance your staff has given us in the past and feel confident means can be developed to meet our needs for water.

Very truly yours,

Ernest Lohmon

Ernest Lohman, President Board of Directors

Page 2.

STANISLAUS COUNTY

832.

MAY 21 1975

Messrs. Robert L. Issac and Cecil O. Hensley Oakdels Irrigation District P. O. Box 188 Oakdele, California 95361

Dear Messrs, Isaac and Hensley:

In reply to your latter of May 13, 1975, we will be glad to work with Oakdale and Waterford Irrigation Districts in studying plans for providing possible annexations to your Districts with a water supply. Whenever you consider it desirable, we will be available to meet with you for further discussion of this matter. We would suggest, however, that such a discussion might be more meaningful if it were held a few months from now.

For your information, we are enclosing the following copies of recent correspondence which generally pertain to the areas and matters in which you are interested:

Letter of April 1, 1975 from Measrs. Louie Lagorrio and John B. Grohl, Jr., Co-chairman, Eastern Stanislaus County Water Users Association, and our reply dated April 30, 1975.

Letter of April 8, 1975 from Mr. George Gaekle, Chief Administrative Officer, Stanislaus County, together with our reply of April 30, 1975.

Sincerely yours,

Signed L. B. Christiansen Acting Regional Planning Officer

Enclosures

832

APR 3 0 1975

lir. Louie Lagorrio 15866 28 Mile Road Oakdale, California 95361

Dear Mr. Lagorrio:

We appreciate receiving your letter of April 1, 1975, indicating the interest of the Stanislaus County landowners in the areas outside the organized districts bounded generally on the west by Oakdale Irrigation District and on the south by Waterford Irrigation District in obtaining a supplemental agricultural water supply from New Melones Reservoir on the Stanislaus River.

New Melones Unit will be operated as an integral part of the Central Valley Project. The authorizing legislation requires that before initiating diversions of water from the "Stanislauc River Basin," the Secretary of the Interior shall determine and reserve the quantity of water required to satisfy all existing and future needs within that Basin.

As a basic part of the determination of the srea, which the "Stanislaus River Basin" was intended to include, the Bureau met with representatives of the local entities to obtain their input in this regard. Stanislaus County was one of the entities included in those meetings. Evaluations are now underway on estimating future water requirements and the svailable supply to meet the needs for the areas which are being considered on a tentative basis as being within the Basin.

The Europu's Regional Office plans to submit its preliminary evaluation of water needs for the tentative reservation arca to the Commissioner's office in Washington within the next two months. This matter will be reviewed by that office prior to further meetings with entities within the affected counties, to receive any additional comments and information relative to the reservation area and water needs from the Stanislaus River and the New Melones Project.

Sincerely yours,

A.E. Forton

H. E. Horton Assistant Regional Director

Copy to: George Gackle Chief Administrative Officer Stanislaus County P. O. Box 3404 Modesto, Ca. 95353

Identical Letter to:

John B. Grohl, Jr. 235 School Street Oakdale, Ca. 95361 B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Dear Mr. Martin:

With construction of New Melones Dam proceding and completion scheduled for 1979 the owners of irrigable lands in eastern Stanislaus County are working toward formation of water districts that would enable them to purchase irrigation water to be made available by the Project. A series of recent meetings of landowners in eastern Stanislaus County in the area bounded generally on the west by Oakdale Irrigation District and on the south by Waterford Irrigation District have revealed a widespread interest in seeking a surface water supply to supplement the very limited groundwater sources. The area encompasses some 35 to 40,000 acres of land classified as irrigable by your office. A study by Stanislaus County shows that some 110,000 to 125,000 acre feet of water will be needed in the area.

This is to inform you of our plans for development of irrigation in the now unorganized areas and to ask that you allocate water to this area as you make your plans for utilization of the New Melones Project water.

Very truly yours

LOUIE LAGORRIO 15866 28 Mile Road Oakdale, California 95361

ohn B. Droh

JOHN B. GROHL, JR. 235 School Street Oakdale, California 95361 COCHAIRMEN EASTERN STANISLAUS COUNTY WATER USERS ASSOCIATION

832.

APR 3 0 1975

hir. George Gaekle Chief Administrative Officer Stanislaus County P. O. Box 3404 Modesto, California 95353

Dear Mr. Gaekle:

This is in reply to your letter of April 8, 1975, requesting information relative to advance planning and construction of facilities to distribute CVP agricultural water supplies from New Melones Reservoir to Stanislaus County areas.

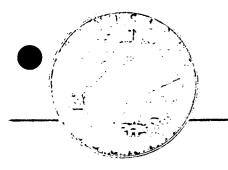
Funds will be available in FY 1976 for initiation of studies pertaining to possible distribution facilities for New Melones water for prospective uses within your county and other adjacent counties which may obtain water from that source. We contemplate that such a study would take at least two years to complete.

Based on the findings of that study, we would then be in a position to recommend further actions that would be necessary regarding possible construction of facilities for meeting the water needs in your area of interest within Stanislaus County.

Sincerely yours,

A.E. Horton

H. E. Hurton Assistant Regional Diructor



CHIEF ADMINISTRATIVE OFFICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 526-6333

April 8, 1975

Mr. B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Martin:

As you know Stanislaus County has started negotiations with your office for a water service contract to supply New Melones Project water to users in the County. Most of the water will be used for irrigation in eastern Stanislaus County on lands not now organized in water districts to contract for water under reclamation laws. During the past few months we have held a number of meetings of landowners interested in getting water and find considerable interest in formation of districts which could contract for water.

Your recent letter informed us you have established rates for project water of \$3.50 per acre-foot for agricultural water and \$9.00 per acre-foot for municipal and industrial water at the outlet of New Melones Dam. We understand the rates are established at the reservoir, since no works are authorized to divert water from the river, and convey it to the point where the water-user districts would take delivery.

We note that all units of the Central Valley Project have included main line conveyance facilities to deliver water to the user agencies. Since the New Melones Project, upon completion, will become a part of the overall Central Valley Project we believe that the conveyance works should be constructed in a like manner.

Will you please tell us what steps should be taken to accomplish planning and construction of the works necessary to serve New Melones Project water to the areas of need in our County?

Cordially. Jun Sacela

George Galkle Chief Administrative Officer D-55

832

MAY 1 1975

Mr. Joel Hall, Chairman Steering Committee for Proposed Easteide Water District 23979 Lake Road La Grange, California 95329

Dear Mr. Hall:

We appreciate receiving your letter indicating the interest of the Stanislaus County Landowners in the areas outside the organized districts between the Tuolumne River and Merced River within Stanislaus County in obtaining a supplemental agricultural water supply from the New Melones Reservoir on the Stanislaus River.

New Melones Unit will be operated as an integral part of the Central Valley Project. The authorizing legislation requires that before initiating diversions of water from the "Stanislaus River Basin," the Secretary of the Interior shall determine and reserve the quantity of water required to satisfy all existing and future needs within that Basin.

As a basic part of the determination of the area, which the "Stanialaus River Basin" was intended to include, the Bureau met with representatives of the local entities to obtain their input in this regard. Stanialaus County was one of the entities included in those meetings. Evaluations are now underway on estimating future water requirements and the available supply to meet the needs for the areas which are being considered on a tentstive basis as being within the Basin.

The Bureau's Regional Office plans to submit its preliminary evaluation of water needs for the tentative reservation area to the Commissioner's office in Washington within the next two months. This matter will be reviewed by that office prior to further meetings with entities within the affected counties, to receive any additional comments and information relative to the reservation area and water needs from the Stanislaus River and the New Melones Project.

Sincerely yours,

H.E. Horton

H. E. Horton Assistant Regional Director

Copy to: George Gaekle Chief Administrative Officer Stanislaus County P. O. Box 3404 Modesto, Ca. 95353

832.

APR 3 0 1975

Mr. George Gaskie Chief Administrative Officer Stanislaus County P. O. Box 3404 Hodgeto, California 95353

Dear Mr. Gaekle:

This is in reply to your letter of April 8, 1975, requesting information relative to advance planning and construction of facilities to distribute CVP agricultural water supplies from New Melones Reservoir to Stanislaus County argas.

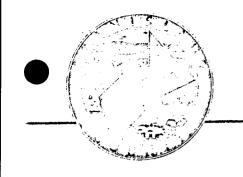
Funds will be available in FY 1976 for initiation of studies pertaining to possible distribution facilities for New Melones water for prospective uses within your county and other adjacent counties which may obtain water from that source. We contemplate that such a study would take at least two years to complete.

Based on the findings of that study, we would then be in a position to recommend further actions that would be necessary regarding possible construction of facilities for meeting the water needs in your area of interest within Stanislaus County.

Sincerely yours,

A.E. Horton

H. E. Horton Assistant Regional Director



CHIEF ADMINISTRATIVE OFFICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 525-6333

April 8, 1975

Mr. B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California

AGREEL TAKEN, M. C.I. and Dear Mr. Martin: As you know Stanislaus County has started negotiations with your office for a water service contract to supply New Melones Project water to users in the County. Most of the water will be used for irrigation in eastern Stanislaus County on lands not now organized in water districts to contract for water under reclamation laws. During the past few months we have held a number of meetings of landowners interested in getting water and find considerable interest in formation of districts which could contract for water.

Your recent letter informed us you have established rates for project water of \$3.50 per acre-foot for agricultural water and \$9.00 per acre-foot for municipal and industrial water at the outlet of New Melones Dam. We understand the rates are established at the reservoir, since no works are authorized to divert water from the river, and convey it to the point where the water-user districts would take delivery.

We note that all units of the Central Valley Project have included main line conveyance facilities to deliver water to the user agencies. Since the New Melones Project, upon completion, will become a part of the overall Central Valley Project we believe that the conveyance works should be constructed in a like manner.

Will you please tell us what steps should be taken to accomplish planning and construction of the works necessary to serve New Melones Project water to the areas of need in our County?

Cordially, Lam Gaele

George Gaekle Chief Administrative Officer

832

Mr. Louie Lagorrio 15865 28 Mile Road Oakdale, California 95361

Dear Mr. Legorrio:

We appreciate receiving your latter of April 1, 1975, indicating the interest of the Stamislaus County landowners in the areas outside the organized districts bounded generally on the west by Oshdale Irrigation District and on the south by Waterford Irrigation District in obtaining a supplemental agricultural water supply from New Melones Reservoir on the Stamislaus River.

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As a basic part of the determination of the area, which the "Stanialaus River Basin" was intended to include, the Bureau met with representatives of the local entities to obtain their input in this regard. Stanialaus County was one of the entities included in those meetings. Evaluations are now underway on estimating future water requirements and the available supply to meet the meeds for the areas which are being considered on a tentative basis as being within the Basin.

The Bureau's Regional Office plane to submit its preliminary evaluation of water needs for the tentative reservation area to the Commissioner's office in Washington within the next two wonths. This matter will be reviewed by that office prior to further meetings with entities within the affected counties, to receive any additional comments and information relative to the reservation area and water needs from the Stanialaus River and the New Melones Project.

Sincerely yours,

H.E. Horton.

H. E. Horton Assistant Regional Director

D-60

Copy to: George Gaekle Chief Administrative Officer Stanislaus County P. O. Box 3404 Modesto, Ca. 95353

Identical Letter to:

John B. Grohl, Jr. 235 School Street Oakdale, Ca. 95361

,

April 1, 1975

B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Dear Mr. Martin:

With construction of New Melones Dam proceding and completion scheduled for 1979 the owners of irrigable lands in eastern Stanislaus County are working toward formation of water districts that would enable them to purchase irrigation water to be made available by the Project. A series of recent meetings of landowners in eastern Stanislaus County in the area bounded generally on the west by Dakdale Irrigation District and on the south by Waterford Irrigation District have revealed a widespread interest in seeking a surface water supply to supplement the very limited groundwater sources. The area encompasses some 35 to 40,000 acres of land classified as irrigable by your office. A study by Stanislaus County shows that some 110,000 to 125,000 acre feet of water will be needed in the area.

This is to inform you of our plans for development of irrigation in the now unorganized areas and to ask that you allocate water to this area as you make your plans for utilization of the New Melones Project water.

Very truly yours

LOUIE LAGORRIO 15866 28 Mile Road

Bakdale, California 95361

ohn B. Drohl

JOHN B. GROHL, JR. 235 School Street Dakdale, California 95361 COCHAIRMEN EASIERN STANISLAUS COUNTY WATER USERS ASSOCIATION

Received April 11, 1975

B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California 95925

Dear Mr. Martin:

Now that Proposition 17 has been defeated and it appears that construction of New Melones Dam will proceed on schedule the landowners in eastern Stanislaus and Merced Counties wish to inform you of their interest in obtaining a water supply from the Stanislaus River. The landowners in the area bounded on the north by the Tuolumne River; on the west by the Turlock Irrigation District; on the south by the Merced River and Merced Irrigation District; and on the east by the La Grange-Snelling Road are starting action to form a water district which could deal with your Bureau for Central Valley Project water. The area includes about 75,000 acres of irrigable land.

The irrigable lands now are about 50% developed and are wholly dependent upon groundwater. Pumpino lifts in wells are increasing and it is obvious that a supplemental surface supply will be needed. An engineering study conducted by Stanislaus County indicates that about 175,000 acre-feet of supplemental water will be needed ultimately. In the absence of the proposed East Side Canal, which now appears indefinitely postponed, if indeed it is ever built, the New Melones Project appears to be our only practical source of water. We recognize that large demands exist in Stanislaus and San Joaquin Counties, through which the Stanislaus River flows. However, with construction of the Folsom-South Canal into San Joaquin County imminent we feel that needs of the lower valley lands can be met from that source and the needs of our higher foothill lands can therefore be met with New Melones Project water which already is at even a higher elevation.

We respectfully ask you to consider the needs of our area in your development of plans for marketing of the New Melones Project water supply.

Very truly yours,

W. Joul Hall

W. JOEL HALL, Chairman Steering Committee for Organization of the Proposed Eastside Water District

832.

MAR 1 9 1975

Chief Administrative Officer Stanislaus County P. O. Box 3404 Modesto, California 93353

Dear Sir:

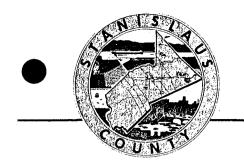
The New Melones Project has been authorized for inclusion into the Federal Central Valley Project (CVP). The water will be contracted for on the same basis as other project water except some quantity may be reserved for Stanislaus River Basin needs. The water price will be established on the basis of the pricing policy of the CVP. The current price of water would be \$9 per acre-foot for municipal and industrial water and the CVP minimum charge of \$3.50 for irrigation water. Both prices are assumed to be at the River and are subject to revision every five years beginning in 1980. Additional costs of transporting the water from the River to the place of use would be borne by the users. This conveyance could be provided by edditional Congressional authorization, small project losn funds, or other District financing.

The quantity of water available for contract both within and outside the Stanislaus River Basin will not be known until studies, currently underway, determining the in-basin needs are complete. We currently expect completion of these studies in August 1973.

Sincerely yours,

A.E. Horton

H. E. Horton Acting Regional Director



CHIEF ADMINISTRATIVE OFFICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 526-6333

February 11, 1975

Mr. B. E. Martin Regional Director Mid-Pacific Region Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Martin:

Re: New Melones Project--Draft of Water Service Contract

This is in reference to the subject draft of water service contract, dated October 8, 1974, submitted to this County.

Landowners in eastern Stanislaus County now are actively considering formation of water districts which could contract for and distribute irrigation water. It would be most helpful if the cost of water were known. Could you give us at least a preliminary price for water which the landowners could expect to pay? We will appreciate any information you can furnish to us.

Sincerely yours,

MAOU. D

Thomas A. Bright Assistant Chief Administrative Officer MARSHALL JONES

Ronsulting Civil Engineer

2116 LDTH STREET SACRAMENTO, CALIFORNIA 95825 Telephone: 488-5031

March 1, 1975

Mr. B. E. Martin Regional Director Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Dear Mr. Martin:

Re Your MP-721

This is in response to your letter of February 12, 1975 regarding alternate plans being studied to provide water service to the Folsom-South Canal service area. Comments on behalf of the Stanislaus County Board of Supervisors are offered as follows:

In the reference letter and in the summary of the December 11, 1974 meeting of the Policy Advisory Committee Alternates 4 and 5 propose possible use of water from the New Melones Project. It is indicated that about 100,000 acre-feet from that source is being considered in the Folsom-South area.

Studies by Stanislaus County indicate needs for agriculture, municipal and recreational uses of nearly 200,000 acre-feet in the eastern portion of the County by the year 1995. Additionally some 50,000 acre-feet may be needed for cooling at a nuclear power generating plant being considered. Also needs in northeastern Merced County are estimated to reach about 60 to 70,000 acre-feet by 1995. The places of use for all of these needs are at relatively high elevations which would make them logical places to use the New Melones Project water. Water in New Melones Reservoir will be about elevation 1,100 and with only a relatively low pumping lift to divert from the river water could be served by gravity to places of use. Logically, the high elevation water from New Melones should be served to users at high elevations.

In view of the foregoing we unge that your studies, when contemplating use of New Melones water in the Folsom-South area, do so on the basis of it being an interim sypply until needed upstmeam in eastern Stanislaus and Merced Counties. The long-term supply should come from Sacramento Valley sources.

Very truly yours,

Marshall JONES



Urited States Department of the Interior

CETICE OF THE SECRETARY WASHINGTON, D.C. 20240

Received: March 3, 1975

Mrs. Claire T. Dedrick Secretary for Resources The Resources Agency of California 1416 Ninth Street Sacramento, California 95814

Dear Mrs. Dedrick:

Thank you for your letter of February 4 expressing your concern about the availability of water from the <u>Stanislaus River Basin</u> for the purposes of irrigation, water quality control, and fish and wildlife preservation.

In order for the Bureau of Reclamation to proceed with an analysis of the existing and future water needs in the Stanislaus River Basin, as provided by Public Law 87-874, it is first necessary to identify the area to be studied. A basic issue is whether or not only those lands within the hydrologic boundary of the river basin were intended to be considered. We have concluded from the legislative history that the area-of-use reservation was meant to cover some areas adjacent to the Stanislaus River which were outside the hydrologic boundary. On the basis of that determination, the Bureau plans to proceed with a study of an area encompassing portions of Alpine, Calaveras, San Joaquin, Stanislaus, and Tuolumne Counties.

The legislation (Public Law 87-874) relative to New Melones Dam also provides for the preservation and propagation of fish and wildlife in the New Melones Project, and that consideration be given to the inclusion of storage for the purpose of downstream water quality control. We do not envision that the Bureau's study will preclude (1) irrigation of lands outside the study area involving prior water rights, (2) maintenance of the fishery resource, or (3) water quality control.

Sincerely yours,

(SGD) DONALD G. WALDON

Secretary of the Interior

Deputy Assistant



SS-12082

Save Energy and You Serve America!

TRE T. DEDRICK

SECRETARY

ment of Conservation ment of Fish and Gama ment of Navigation and c. Development Trent of Parks and Peceation ment of Walsz Pesources EDMUND G. BROWN JR.

GOVI RNOR OF CALIFORNIA



OFFICE OF THE SECRETARY RESOURCES BUILDING 1416 NINTH STREET 95814

Air Resources Board Colorodo River Board San Francisco Bay Conservation and Development Commission Solid Waste Management Board State Londs Commission State Reclamation Board State Reclamation Board State Water Resources Control Board Pegional Water Quality Control Board

THE RESOURCES AGENCY OF CALIFORNIA SACRAMENTO, CALIFORNIA

FEB - 4 1975

Honorable Rogers Morton Secretary of the Interior Interior Building Washington, D. C.

Dear Secretary Morton:

As you know Public Law 87-874, authorizing the New Melones Project, provides "...that before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined....". We understand that the Bureau of Reclamation is considering recommending to you that the "Stanislaus River Basin" be defined to include areas adjacent to, but not within, the Stanislaus River Hydrologic Basin. These proposed areas are upstream from the junction of the Stanislaus and San Joaquin Rivers.

Such an expansion of the definition of the "Stanislaus River Basin" might result in a determination that a potential demand exists for the full yield of the project within this larger "Basin". That could preclude allocating a portion of the yield for high priority uses downstream from the mouth of the Stanislaus River. Such uses include maintenance of fishery resources and irrigation of farmland. Both of these beneficial uses are now experiencing detrimental effects from inadequate water quality and quantity, and the 70,000 acre feet allocated from New Melones for water quality in this reach may be inadequate for correcting these deficiencies. The Stanislaus River appears to be the only practical source of water for some fishery purposes.

I consider protection of these uses to be important and urge you not to make any determination under Public Law 87-874 which would preclude allocating part of the yield from New Melones to beneficial uses in the San Joaquin River below the mouth of the Stanislaus River.

Sincerely,

Secretary for Resources



CHIEF ADMINISTRATIVE OFFICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 526-6333

February 11, 1975

Mr. B. E. Martin Regional Director Mid-Pacific Region Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Martin:

Re: New Melones Project--Draft of Water Service Contract

This is in reference to the subject draft of water service contract, dated October 8, 1974, submitted to this County.

Landowners in eastern Stanislaus County now are actively considering formation of water districts which could contract for and distribute irrigation water. It would be most helpful if the cost of water were known. Could you give us at least a preliminary price for water which the landowners could expect to pay? We will appreciate any information you can furnish to us.

Sincerely yours,

Thomas A. Bright Assistant Chief Administrative Officer



United States Department of the Interior

BUREAU OF RECLAMATION WASHINGTON, D.C. 20240

IN REPLY 736 REFER TO: 500.-

JAN 3 1975

Honorable John J. McFall House of Representatives Washington, D.C.

Dear Mr. McFall:

This is in response to your letter of December 6, 1974, which enclosed a copy of a letter from your constituent, Mr. George Gaekle, Chief Administrative Officer, Stanislaus County, regarding the designation of the area-of-use for water from the Stanislaus River Basin.

Public Law 87-874, which modifies the 1944 authorization of the New Melones Project, contains the following provision: "That before initiating any diversions of water from the Stanislaus River Basin in connection with the operation of the Central Valley Project, the Secretary of the Interior shall determine the quantity of water required to satisfy all existing and anticipated future needs within that basin and the diversions shall at all times be subordinate to the quantities so determined. . . ."

In order to proceed with an analysis of the water needs in the basin, it is first necessary to identify the area to be studied. The question is whether or not only those lands within the hydrologic boundary of the river basin were intended to be considered. We have concluded that the area-of-use reservation was meant to cover those areas adjacent to the Stanislaus River which now or in the future need to rely on that source of supply to meet all or some portion of their water needs.

We plan to proceed with a study of an area which encompasses portions of Alpine, Calaveras, San Joaquin, Stanislaus, and Tuolumne Counties.

With regard to the Folsom South Canal, a decision on construction of reaches 3, 4, and 5 is being delayed to provide time for additional studies on the lower American River to resolve issues concerning

CONSERVE AMERICA'S ENERGY

D-70

LBR-02052

Save Energy and You Serve America!

minimum flow, and time to consider alternative plans for meeting the authorized water supply commitments. That study is expected to be completed this fiscal year.

Sincerely yours,

G. G. STAMM

Commissioner

JOHN J. MCFALL 1916 DISTRICT, CALIFORNIA

COMMITTEE ON APPRCPRIATIONS

SURCOMMITTEES: CHAIRMAN-TRANSPORTATION DEFENSE

MAJORITY WHIP

Congress of the United States House of Representatives Mashington, D.C. 20515

RAYMOND F. (RAY) BARNES ADMINISTRATIVE ASSISTANT

SAMUEL A. MABRY

WARHINGTON OFFICE

2346 RAYBURN BUILDING DISTRICT ASSISTANTS:

JOHN OLHASSO MARY ALBERTSEN KEN WING

DISTRICT OFFICE: 145 N. GRANT STREET MANTECA, CALIFORNIA 95336

December 6, 1974

Honorable Gilbert Stamm Commissioner of Reclamation Department of the Interior Washington, D.C. 20240

Dear Gil:

I am enclosing a letter from Mr. George Gaekle, Chief Administrative Officer of Stanislaus County, California, with respect to use of water developed by the New Melones Dam project.

It would be appreciated if a study cound be made of the suggestions presented by Mr. Gaekle, as they may relate to the current effort within the Bureau of Reclamation to establish a definition of the Stanislaus River Basin in relation to the New Melones authorizing legislation.

I would appreciate receiving your comments on this matter upon completion of such a study.

Rest wishes,

John J. McFall Member of Congress

JJMcF/RB/rmr Enclosure





CILLE ADMINISTRATIVE CAPICEL

F. C. BOX 3414

MODECTUL CALLER 255 Y 100312 - FHOME 12 12 126 6323

November 25, 1974

Representative John J. McFall Rayburn House Office Building Room 2346 Washington, D. C.

Dear John:

As you know the legislation authorizing the New Melones Project provided for needs within the Stanislaus River Basin to have first call on the water to be developed. This was reinforced by the State Water Resources Board in its Decision 1422 which granted water rights to the Bureau of Reclamation for operation of the project.

Actually Decision 1422 broadened the area of use to the four counties of Calaveras, Tuolumne, Stanislaus and San Joaquin which is a greater area than the river basin. We understand the matter of defining the boundaries of the basin and therefore the area which can receive water is now before the Secretary of Interior who has responsibility for this determination.

Our engineering study of water needs in Stanislaus County which could be served by the New Melones Project indicates agricultural needs of 120,000 acre feet by 1985 and ultimate needs of 221,600 acre feet. The areas of these needs all are in the eastern part of the county and at relatively high elevations. This makes these areas logical places for the New Melones water to be used.

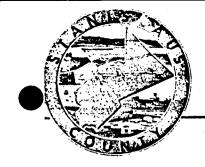
We understand from the Bureau of Reclamation that about 225,000 acre feet of new water will be available from New Melones for needs in Stanislaus and San Joaquin Counties if it is operated in accordance with terms of Decision 1422. This, of course, will fall short of the total needs in the two counties. We believe, however, that when the authorized and partially-constructed Folsom-South Canal is completed, full service to the needs of both counties can be made. It has seemed logical to us that the waters of the New Melones Project, already at a relatively high elevation, should be used in eastern Stanislaus County and possibly in northeastern Merced County. Then the Folsom-South Canal could meet the full needs of San Joaquin County with supplemental pumping from the Delta, if necessary. Representative John J. McFall--Page 2--November 25, 1974

Our immediate concern is that the area of use for New Melones Project water be defined to include all the agricultural lands in eastern Stanislaus County. Of equal importance is our concern that construction of the Folsom-South Canal proceed as soon as possible so that all needs in Stanislaus and San Joaquin Counties can be met in a timely fashion.

We appreciate very much the strong support you gave to our opposition to Proposition 17. The substantial margin of defeat for the proposition was encouraging to the people who have worked long and hard for the New Melones Project. We now look forward to implementation of the project with your good assistance.

Cordially,

George Gaekle Chief Administrative Officer



CHILI ADMINISTRATIVE OF ICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 526-6333

November 25, 1974

Representative John J. McFall Rayburn House Office Building Room 2346 Washington, D. C.

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Cordially,

George Gaekle Chief Administrative Officer



United S ates Department of the Incerior

BUREAU OF RECLAMATION WASHINGTON, D.C. 20240

IN REPLY REFER TO: 440 832.C.V.P.

1914

Honorable John J. McFall House of Representatives Washington, D.C.

Dear Mr. McFall:

This is in response to your letter of March 27, 1974, regarding a newspaper article prepared by the Oakdale Irrigation District which was published March 20, 1974. As you point out, the article indicates that upon completion of construction, the Oakdale and South San Joaquin Irrigation Districts will not benefit to any extent from the increased storage capacity of the New Melones Reservoir.

As far as we are concerned, there has been no change from the position outlined in our letter of May 26, 1972, in this regard. We then stated that if the districts need more water than will be furnished as a replacement supply, such water can be furnished from the New Melones Reservoir. However, additional water probably will not be needed unless the districts expand. If additional areas are annexed, New Melones water could be purchased by the districts within reasonable limits.

In addition to the normal marketing for water, there are three possible occurrences that could affect the New Melones Reservoir's available water supply.

1. Decision 1422 was issued by the California Water Resources Control Board. That decision portends to put the board in control of the water quantity which could be stored at any time in the New Melones Reservoir. That decision is now in litigation in Federal Court.

2. We are holding meetings with the California Department of Fish and Game to discuss that department's request for large Stanislaus River flows below the reservoir during the spring months. At this time we have agreed only to make cooperative studies.

LBR-01450



3. The Modesto and Turlock Irrigation Districts have been making a study for the Pacific Gas and Electric Company to locate a source of cooling water for one of the company's proposed nuclear powerplants. This particular plant may be located in the same general area as the New Melones Reservoir. The district's preliminary report indicates that the best source of cooling water is the New Melones Reservoir.

If we may be of further assistance, please notify us and we will be pleased to comply.

> Sincerely yours, E. F. Sullivan

ACTING Commissioner



1231 eleventh street • p.o. box 4060 • modesto, california 95352 • phone (209) 524-4061

February 19, 1974

Mr. H. E. Horton Acting Regional Director U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Dear Mr. Horton:

Re: MP-721 510.

This will acknowledge your letter of January 25th to our Consultant together with a copy of the contract between the United States and the Sacramento Municipal Utility District providing for water service to the District from the Federal Central Valley Project. This material was supplied pursuant to discussions in your office on January 11th with representatives of our Districts.

It is noted from your letter that the U.S.B.R. is willing to begin preliminary discussions for possible water service from New Melones Reservoir. We note, however, that certain provisions of the water supply contract are under consideration for possible modification and that other contract provisions would need to be tailored to the Turlock and Modesto Irrigation Districts. Among these uncertainties are the rates to apply to the sale of M & I water from such a facility, the article relating to apportionment and water shortage, whether or not conveyance will be provided from the Stanislaus River, operation dates of the reservoir for yield purposes, the reservation area to be accorded priority under the federal authorization, estimated yield of the reservoir, and perhaps other matters.

We should like to proceed with further discussions relating to a water supply from the Federal New Melones Project. We would appreciate your views as to the timing of such discussions in view of the above mentioned uncertainties and also which subjects you believe we could profitably confer on at an early date. May we hear from you soon.

Very Truly Yours,

TURLOCK IRRIGATION DISTRICT

President

MODESTO IRRIGATION





CHEF ADMINISTRATIVE OFFICER

P. O. BOX 3404

MODESTO, CALIFORNIA 95353

PHONE (209) 526-6333

September 13, 1973

Route SURNAME, DATE Action Τ. and REMARKS 108 IIO71 ACTION TAKEN WANE and DATE:

Mr. Edward Horton Acting¹⁰Regional Director Mid-Pacific Region Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Horton:

Subject: Draft of water service contract for New Melones water

As I wrote on June 20, 1973, Stanislaus County is conducting a study of water needs in the county that could be met from the New Melones project supplies. We expect to complete our study later this year.

Although our studies are incomplete at this time, the preliminary indication is that a substantial amount of water will be needed in Stanislaus County. We believe the needs for water in our county will be urgent by the time new supplies are made available. We say this considering the time which will be required for completion of New Melones Dam to the stage where water can be made available and considering the probable delays in development of the Folsom-South Canal and its later stage the East Side Canal.

Accordingly the Stanislaus County Board of Supervisors has instructed me to request you to furnish to us a form of water service contract for purchase of New Melones project water. It is the intention of the Board to negotiate the contract on behalf of the county and then assign water to the appropriate agencies as they are formed and require water. In some cases existing water serving agencies are expected to require water. Mr. Edward Horton--Page 2--September 13, 1973

A copy of our Board's resolution authorizing this action is enclosed.

If you need further action or information from us, please contact me or Marshall Jones, our water resources consultant, 2116 Edith Street, Sacramento.

Cordially, 4 onle

George Glekle Chief Administrative Officer

Enclosure

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS STATE OF CALIFORNIA

IN RE: Date: September 4, 1973 AUTHORIZING NEGOTIATIONS FOR NEW MELONES WATER CONTRACTS

Upon motion by Supervisor Ulm, seconded by Supervisor Arakelian, it is ordered by unanimous vote of this Board that County staff and the County's water consultant be, and hereby are, authorized and directed to commence negotiations for water contracts for the future use of water from the New Melones Dam at such time as it may be required.



CITY OF RIVERBANK

6707 THIRD STREET . RIVERBANK, CALIFORNIA 95367 . AREA CODE 209 . 869-2561

August 14, 1972

U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Attention: Mr. John Morgan San Joaquin Branch

Gentlemen:

On July 21, 1972, I was advised by Mr. Martin L. Schueller, Director of the Stanislaus County Planning Commission, to inform you of the City of Riverbank's total future demand for water needs from the New Melones Water System. Our City Engineer recommends that the City of Riverbank's total future water demand is 25,000 gallons per minute (55 secondfeet.).

Please include this amount in the information you are gathering.

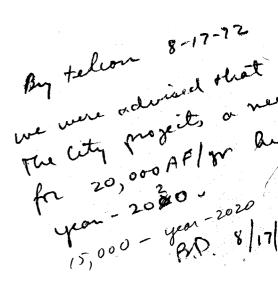
Yours very truly,

John 111. Bingham

JOHN M. BINGHAM City Administrator

JMB:djh

cc: Martin L. Schueller



12-721

510.

JUL 81 1972

 Nr. James J. Frenzer, Chairman Board of Supervisors
 Stanislous County
 1100 Tye Street -- Room 123 / Modesto, California 95354

Dear Mr. Fransen:

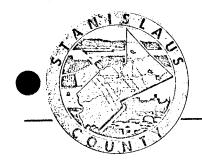
We appreciate receiving your letter of July 25, 1972, expressing your interest in obtaining vater from the New Maloves Project for Stanislaus County.

We will contact you soon to arrange an early meeting to further discuss your future needs and initiation of negotiations for a possible water service contract with the Bureau of Reclamation for water from New Mclones Reservoir.

Sincerely,

R. B. Correctionen

Acting Regional Planning Officer For the Regional Director



BWARD OF SUPERVISOR'S

1100 EYE STREET - ROOM 123

July 25, 1972

MODESTO, CALIFORNIA 95354

ROBERT W. FAHEY, 1ST DISTRICT JOASH PAUL, 2ND DISTRICT JOHN E. THURMAN, JR., 3RD DISTRICT RICHARD VANDER WALL, 4TH DISTRICT VICE CHAIRMAN

JAMES J. FRANZEN, 5TH DISTRICT CHAIRMAN

LLOYD R. BROU!LLARD CLERK, BOARD OF SUPERVISORS

U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Att'n: Mr. John Morgan, San Joaquin Branch

Gentlemen:

The Stanislaus County Board of Supervisors wishes to file the following statement of water needs as requested by you on July 19, 1972, at a conference held in Modesto. All of this water would come from the New Melones Project and would be used in the Stanislaus River Basin:

EUGENE AREA, north of Oakdale, 23,000 acres of dry range which will be converted to forage and field crops requiring 3.5 acre feet per acre or a total of 80,500 acre feet per year.

CASHMAN AREA, southeast of Oakdale, 27,000 acres of dry range which will be converted to forage and irrigated pasture requiring 4.0 acre feet per acre per year or 108,000 acre feet per year.

TUTLOCK LAKE AREA, east of the City of Turlock and east of the Turlock Irrigation District, 90,000 acres of dry range, to be converted to forage crops and irrigated pasture requiring 3.0 acre feet per acre per year or 270,000 acre feet total.

WOODWARD RESERVOIR, 20,000 acre feet per year to be purchased by Stanislaus County for maintenance of a summer water level suitable for this major county operated recreational area.

Very truly yours,

1.21 Chairman anzen, Vames

Enc.

City of Oakdale

PHONE 847-3031

248 NORTH THIRD AVE. P. D. BOX 305 OAKDALE, CALIFORNIA 95361

July 21, 1972

U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Attn: Mr. John Morgan San Joaquin Branch

Gentlemen:

The City of Oakdale wishes to be considered for possible future water withdrawals from the Stanislaus River for domestic purposes.

At the present time, the city is served by a system of five deep wells providing sufficient potable water for our foreseeable needs within the next ten years. However, should our growth rate of an annual average of 3.5% continue, we will be sustaining a population of approximately 9,100 persons by the year 1982, and 13,500 by the year 2,000. With this approximate increase in growth it is anticipated that our domestic water supply will have to be augmented in 1982 by withdrawals from the Stanislaus River of 1.3 cubic feet per second, and by 3.1 cubic feet per second in the year 2,000. However, should our present well system fail for any reason prior to that time, our demands would be on the order of 4.4 cubic feet per second within the next 10 years and 6.2 cubic feet per second by the year 2,000.

Your consideration of our future needs is indeed appreciated.

Very truly yours,

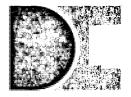
WARREN B. SPACY, City Administrator/ Director of Public Works

- 2 -

TUOLUMNE COUNTY

July 21, 1972

Mr. Robert Pafford Mid Pacific Regional Director United States Department of the Interior Bureau of Reclamation 2800 Cottage Way Sacramento, California



DAYHARSH ENTERPRISES, INC. Land Investment and Development

21864 AMBAR DRIVE WOODLAND HILLS, CALIFORNIA 91364

(213) 884-1828

Dear Mr. Pafford:

Mr. Jim Denny, of your office, and I have had two telephone_____ conversations this week regarding the future use of water from the New Melones Reservoir for domestic purposes in the_____ Tuolumne County Water District No. 2 service area... Mr. Denny has suggested that I direct this letter to you for proper dissemination within the Bureau.

Dayharsh Enterprises manages approximately 15,000 acres along the western shore of Don Pedro Lake, ten miles to the south of the New Melones Reservoir site. We have obtained tentative commitments from the City and County of San Francisco to provide us with 20,000 acre feet of water for domestic purposes from their Hetch Hetchy Aqueduct which passes through our property. This ten year supply would be contingent upon our obtaining a future supply in perpetuity after the ten year period. We have discussed this matter with Mr. Daniel F. Gallery attorney for TCWD #2, and are aware of the Bureau of Reclamation's proposed agreement with TCWD #2, dated June 20, 1972, in which the Bureau offers to reserve an annual gross diversion of 50,100 acre feet of Stanislaus River water for use within the TCWD #2 service area. This service area would include the 15,000 acres that we are planning to develop into a new community near the Lake.

A major consideration in our development costs is the transportation of New Melones water to our property ten miles to the south. As discussed with Mr. Denny this week, we would like an indication from your office as to the feasibility of taking approximately 20,000 acre feet per year from the New Melones Reservoir after 1982 to be contracted through

Mr. Robert Pafford July 21, 1972 Page 2

TCWD #2 and piped one mile southeast across Table Mountain and discharged into either Woods or Slate Creek which would then flow into Don Pedro Reservoir. Pending approval of an allocation of storage space of 20,000 acre feet from the Modesto Irrigation District and the Turlock Irrigation District, we would then propose to extract this stored water from Don Pedro Lake at the site of our development. This would obviously be a considerable saving in our engineering costs for a pipe line to transport this water over ten miles to the site.

We very much appreciate your attention to this matter and hope that this method of transporting domestic water from the New Melones Reservoir will meet with your approval.

Sincerely yours,

Tel Sayharch

Theodore J. Dayharsh, President Dayharsh Enterprises, Inc.

TUOLUMAL COUNTY WATER DISTRICT No. 2

July 12, 1972

DIRECTORS MARGARET R. SYLVA Presidence EARL PURDY JAMES MILFORD EDWARD M. JASPER JOHN R. WISE

183 W. EKADLORD 7.4 P. O. BCX 728 SONORA, CALIFORI 95370 Telephone (207) 532-7942

U. S. Department of the Interior Bureau of Beclamation Regional Office, Region Two Post Office Box 15011 Sacramento, California 95813

Dear Sir:

Please find enclosed Resolution No. 202, which was passed and adopted on July 10, 1972 by the Board of Directors of the Tuolumne County Water District No. 2.

Sincerely,

enc. 1

the Diche Secretary

Resolution No. 2022 of Tuolumne County Water District #2 Regarding New Melones Project

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF TUOLUMME COUNTY WATER DISTRICT #2, AS FOLLOWS:

This District hereby expresses its Section 1. support of the New Melones Dam and Reservoir, currently under construction on the Stanislaus River, inasmuch as the same will provide a needed supplemental water supply to western Tuolumne County; provided, however, that this support is subject to an adequate reservation of water being made from the tributaries of the Stanislaus River, and from New Melones Reservoir itself, for the future water requirements of the lands and inhabitants within Tuolumne County Water District #2.

The Secretary is directed to transmit Section 2. a copy hereof to the United States Bureau of Reclamation. PASSED AND ADOPTED this 10th day of July, 1972 by the following vote: Ayes: Directors Sylva, Purdy and Milford Noes: None

Absent: Directors Wise and Jasper

Margaret K. Svlva, Procident

ATTEST:

I, the undersigned, do hereby certify that the foregoing is a true and correct copy of a Resolution made, passed and adopted by the Board of Directors of the Tuolumne County Water District No. 2.

D-92 Secretary

SAN JOAQUIN COUNTY

WILSON AND HOSLETT

GOG CALIFORNIA BUILDING STOCKTON, CALIFORNIA 95202

JOHN A. WILSON AL WARREN HOSLETT THOMAS M. HARPINGTON

May 13, 1975

United States Department of Interior Office of the Solicitor Sacramento Region 2800 Cottage Way Room 3 - 2753 Sacramento, CA 95825

> Attention: Richard J. Dauber, Assistant Regional Solicitor - Sacramento Region

Re: South Delta Water Agency

Dear Mr. Dauber:

This will acknowledge the receipt of your letter of April 24, 1975, to which the Board of Directors of the South Delta Water Agency (SDWA) have asked that I respond.

The SDWA Board was very surprised, and greatly regrets, that anyone gained the impression that the SDWA Board or any of its representatives questioned the integrity of any of the representatives of the Bureau of Reclamation at any time. Such an impression was both unfortunate and erroneous, and the SDWA requests that the representatives of the Bureau be informed that neither the Board nor its representatives question the integrity of the representatives of the Bureau.

However, the SDWA Board was disappointed by the apparent lack of candor which resulted in the SDWA learning through the press, rather than from representatives of the Bureau, that the Regional Office of the Bureau was recommending a definition of the Basin area relative to the New Melones Project which did not include the area within SDWA. The SDWA Board is not aware of ever being offered an opportunity to present fully or formally its views on the question which is of great importance to the southern Delta nor does the Board have any knowledge of the extent to which its views on this subject, that have been expressed during negotiations with the Bureau and the Department of Water Resources, have been conveyed to those officials of the Bureau charged with responsibility of developing the definition of the Basin to be recommended. When you May 13, 1975

cc:

informed the representatives of SDWA during a recent meeting of the negotiating committees in Sacramento that, in your opinion, it would be premature for the SDWA to direct letters on the Basin question to the Bureau and other appropriate officials, the SDWA representatives believed that your remarks implied that no Regional recommendation had as yet been developed. It did not seem reasonable for SDWA to assume that it would be denied an opportunity to make a direct statement of its position and the reasons therefore until after the recommendation of the Regional Office had been approved by the Commissioner.

The SDWA appreciated receiving from you copies of the correspondence initiated by Mrs. Dedrick and has forwarded to the Bureau copies of its correspondence relative thereto.

Regarding the nature of the subject matter of the negotiations of SDWA with the Bureau and the Department of Water Resources, I was perhaps in error in referring to a possible lack of understanding of the unique problem on the part of Bureau representatives. This I regret. However, the other representatives of SDWA and I have at times during our negotiations gained the impression that the representatives of the Bureau were of the opinion that the subject matter of the negotiations should be treated as a rather routine water purchase contract and that their authority to negotiate was limited to the guidelines and regulations relating to such contracted

It is the strong opinion of SDWA that the subject matter of the contract now under negotiation is unique and complex and that a satisfactory contract which will provide a solution to water problems of the southern Delta cannot be negotiated within the framework of the regulations and guidelines relating to water contracts generally.

All members of the negotiating committee of SDWA have enjoyed and appreciated the courtesous, friendly and cooperative attitude of the representatives of both the Bureau and the Department of Water The SDWA Board and I trust that this will clarify an Resources. unfortunate impression, and that all the parties to the negotiations will be able to diligently proceed with their efforts to solve the difficult task at hand.

Yours very truly, WILSON AND HOSLETT By Attorneys for SOUTH DELTA WATER AGENCY JAW:sr Persons on attached list.

Page 3 May 2, 1975

cc: Mr. Robert Ferguson 7436 Meadow Avenue Stockton, California

> Mr. Albert Muller 4354 W. Undine Road Stockton, California

Mr. Alfred A. Souza P.O. Box 1129 Tracy, California

Mr. Joseph Tiago P.O. Box 36 Banta, California

Mr. Alex Hildebrand 23443 S. Hays Road Manteca, California

Department of Water Resources Attention: George Deatherage and Russell Kletzing P.O. Box 9137 Sacramento, California 95816

Regional Director, Bureau of Reclamation Attention: MP-440 and MP-724 2800 Cottage Way Sacramento, California 95825

Dr. Gerald T. Orlob 34 Van Tassel Lane Orinda, California 94563

OFFICE MEMORANDUM

TO:	Kr.	Russ	Kletzing
	Room	111	8-20

DATE: April 10, 1975 SUBJECT: SDWA Negotiation

PROM: George W. Deatherage, Chief Water Contracts Management Delta Branch, Central District

John Wilson reported that he and the Directors of the South Delta Water Agency have met with Congressman McFall to discuss the Agency's water problems. First, the Directors informed McFall that they had been advised that the Delta would not be included in the "Stanislaus Basin". McFall checked this out and found out that the Regional Office had so recommended, but that the recommendation had been returned to the Regional Office to be reevaluated and to be heard in public meetings. (Steve reports they have not received it yet.) The Directors questioned the Bureau representatives' integrity since this is not the story that they received in our meetings.

The Directors informed McFall they feel that the Bureau representatives do not have sufficient leeway in the negotiations, and they would like to see a higher level of participation. Wilson feels that the negotiations should be ready for some highlevel decisions on July 1 requiring someone higher than present personnel. I don't know exactly what John means because it appears to me that most of the decisions will have to be made by Congress.

Wilson is writing a letter to Mrs. Dedrick requesting her support in making the SDWA part of the Stanislaus Basin with carbon copies to McFall, DWR and USBR. Mr. Russ Kletzing

April 10, 1975

Wilson is sending a letter to McFall concerning the negotiations' timetable, the Stanislaus Basin question, with carbon copies to DWR and USBR.

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Wilson is sending a second letter to McFall discussing the elements to be considered in developing annual costs for the Agency's contract citing such things as CVP degradation of San Joaquin River quality and quantity, multipurpose use of water, the environment, salinity control, downstream flows, CVP obligation and Alex's hangup on the transportation costs, DMC verses New Melones.

McFall expressed to the Agency a need to move in haste because McFall's friends in Congress such as Bizz Johnson may not be in much longer (Mrs. Johnson has discussed moving back to California), and the knowledgeable people in Interior such as George Stamm and Ed Sullivan, etc., may not be there much longer either.

Wilson wants to go ahead with the full meeting on April 24th first to get as far as he can before he reports back to McFall, and second to discuss the question holding full meetings only when required.

WILSON AND HOSLETT

ATTORNEYS AT LAW II SOUTH SAN JOAQUIN STREET 606 CALIFORNIA BUILDING STOCKTON, CALIFORNIA 95202

JOHN A. WILSON AL WAPPEN HOSLETT

April 9, 1975

The Honorable John J. McFall House of Representatives Washington, D.C.

> Re: South Delta Water Agency Contract Negotiations With Bureau Of Reclamation and State Department Of Water Resources

Dear Mr. McFall:

At the meeting in your office on April 2, 1975, we discussed generally the problems involved in the negotiation of the Contract with the State and the Bureau which require policy decisions. One of those problems is the annual cost - how much should the lands within the SDWA be taxed to pay to the State and the Bureau in return for their agreement to maintain an in-channel water supply adequate in quantity and suitable in quality to meet the requirements of those lands. This is a difficult problem.

This letter is for the purpose of setting forth a summary of some of the principal factors that should be considered in developing that annual cost figure.

Until the quality and quantity criteria to be set forth in the Contract are agreed upon, no accurate estimate of quantities of project (State and Federal) water required to satisfy the contract can be made. It is sufficient now to say that the amounts of project water that will be required to satisfy the Contract will vary from year to year depending largely upon the characteristics of any particular "water year" (i.e., normal, dry or wet year).

However, regardless of what quantities of project water may be required by the terms of the contract, as it may finally be drafted, the following factors among others, must be considered in developing the annual charge to be paid to the Bureau and to the State:

- 1. The lands within SDWA have vested water rights to a portion of those waters by virtue of riparian rights, appropriative rights, prescriptive rights, etc. Full credit must be given for such rights.
- 2. The Bureau has an obligation to replace the water taken by it in the Friant Dam and exported. This obligation the Bureau has tacitly recognized in its settlement with the Patterson Water District, but not with SDWA.
- 3. The Bureau has an obligation to provide water to remedy the quality degradation that has resulted in the lower San Joaquin River due in substantial part to Bureau operations. As a result of such operations, the water entering the Delta particularly in the summer months is largely return flow of very poor quality.
- 4. The project water necessary to satisfy the contract criteria is, in fact, multi-purpose water. The same water to a greater or lesser extent also serv to enhance the fish and wildlife habitat, recreation, and other environmental uses in the Delta, including about 75 miles of channels within SDWA.
- 5. A substantial portion of the project water necessary to satisfy the contract criteria also provides part of the water for the Delta outflow necessary to maintain the hydraulic barrier against the intrusion of saline water into the Delta from San Francisco Bay. This, of course, benefits the entire Delta and may be a Bureau obligation.
- 6. The project water necessary to satisfy the contract criteria to a greater or lesser extent will provide the net daily downstream flow through the Delta and thereby will prevent the problems resulting from reverse flows, which cause stagnant areas in the Delta when there is no net daily downstream flow. Adequate downstream flows will also reduce brush growth and siltation which aggravate flood control problems.
- 7. Water costs may be reduced by the use of New Melones water which would involve no pumping or transportation expenses. The Delta should have a priority to this supply of good quality, low cost water.

April 7, 1975 John J. McFall

The factors such as I have set forth above must be considered in evaluating the cost to be borne by the lands within SDWA. There seems to be a reluctance on the part of the representatives from the regional office of the Bureau to consider such factors. No doubt, assistance will be needed from a higher level than the Regional Office of the Bureau in determining the question of the annual cost to be borne by the lands within SDWA.

Yours very truly,

WILSON AND HOSLETT

JOHN A. WILSON

JAW:sr

cc: Board of Directors/SDWA Dr. Gerald T. Orlob U. S. Bureau of Reclamation Attn: Mr. Steve Magnusson Dept. of Water Resources Attn: Mr. George Deatherage Page 3

WILSON AND HOSLETT

ATTORNEYS AT LAW II SOUTH SAN JOAQUIN STREET 606 CALIFORNIA BUILDING STOCKTON, CALIFORNIA 95202

IOHN A. WILSON L WAPREN HOSLETT HOMAS M. HARRINGTON

April 9, 1975

Mrs. Claire T. Dedrick Secretary for Resources The Resources Agency of California 1416 Ninth Street Sacramento, California 95814

Re: South Delta Water Agency

Dear Mrs. Dedrick:

This office represents the Board of Directors of the South Delta Water Agency (SDWA) which was created by the South Delta Water Agency Act (Stats. 1973, c. 1089). The boundaries of SDWA include the lands in the southern Sacramento - San Joaquin Delta. The general purpose of SDWA is to negotiate with the United States and the State a contract for the purpose of protecting the water supply of the lands within the SDWA and assuring those lands a dependable supply of water of suitable quality sufficient to meet present and future needs (Sec. 4.1 of the Act).

The SDWA has been negotiating with the State Department of Water Resources and the U. S. Bureau of Reclamation for a water contract which will assure the lands within SDWA an inchannel water supply adequate in quantity and suitable in quality to meet the present and future needs of those lands. In connection with these negotiations, the Board of Directors of SDWA was pleased to see a copy of your letter to the Secretary of the Interior dated February 4, 1975, regarding the allocation of New Melones water. The Board of Directors has requested that I write this letter to you.

The SDWA shares your concern over the consequences to the southern Delta's fishery, recreation and prime farmland if priority of use of New Melones water is not given to the Stanislaus River Hydrologic Basin. Furthermore, the Directors of SDWA believe that the San Joaquin River channels downstream from the mouth of the Stanislaus River should be considered part of that April 9, 1975 Mrs. Claire T. Dedrick

hydrologic basin. It is not reasonable to contend that the basin of each tributary to the San Joaquin River stops at its confluence with the main channel of the San Joaquin River System, leaving that main channel with no allocated basin and hence no water except return flows. This is particularly true since Friant Dam effectively cut off the headwaters of the channel which happens to carry the San Joaquin name.

The same water required for the purposes of the contract will serve in very large measure for fishery and recreation. The amount of New Melones water needed for the southern Delta can not be estimated accurately pending final agreement on contract provisions. However, even though the contract will not specify the sources of water, the technical feasibility and cost must necessaril be based on some source assumptions. The Agency is most desirous that it obtain assurance that water from New Melones will be available to satisfy the contract provisions. It does now appear that the following points are clear:

- The contract will require substantially more supplemental water than will be provided by the 70,000 acre-foot New Melones water quality releases and the 98,000 acre-foot fish releases.
- The Delta Mendota Canal and the New Melones Project are the only facilities (other than Friant) which are either existing or under construction and which can provide the necessary water supply assurance.
- 3. Water from New Melones can be furnished to the southern Delta without the substantial transportation and energy expenditures involved in Delta Mendota Canal releases.
- 4. Water from New Melones will do more to alleviate the existing and sometimes severe water quality problemsin the southern Delta than releases of an equivalent volume from the Delta Mendota Canal.

Page 2

April 3, 1975 Mrs. Claire T. Dedrick

- 5. Although the proposed Peripheral Canal may ultimately be a water source of intermediate cost for part of the lands within SDWA, it can only supply a portion of those lands and it is at present an uncertain and distant source.
- 6. The quality of the water input to the SDWA at Vernalis can be regulated better with New Melones releases then with Delta Mendota Canal releases. Delta Mendota Canal releases via the Westley Wasteway must first flow down a section of San Joaquin River which contains low quality water and which is subject to diversion and degradation by users who are not parties to the proposed contract. Consequently, water inefficiencies and delays in getting high quality water flows to Vernalis would complicate water quality control as compared to New Melones releases.

We shall appreciate any advice or assistance that your office can give us in protecting the water quality and quantity needed to assure, among other things, a continuation of the crop versatility and crop yields so essential to the agricultural productivity in the southern Delta.

Yours very truly,

WILSON AND HOSLETT

By Attbrnevs of Sdwa

JAW:sr

ATTORNEYS AT LAW II SOUTH SAN JOAOUIN STHEET BOB CALIFORNIA BUILDING STOCKTON, CALIFORNIA 95202

WILSON AND HOSLETT

JOHN A. WILSON AL WARREN HOSLETT THOMAS M. HAPPINGTON

April 7, 1975

The Honorable John J. McFall House of Representatives Washington, D.C.

> Re: South Delta Water Agency Contract Negotiations With Bureau Of Reclamation and State Department of Water Resources

Dear Mr. McFall:

All of the Directors of the South Delta Water Agency (SDWA) and I appreciated the opportunity to discuss with you on April 2, 1975, the progress in the negotiations with the Bureau and the State, the problems being encountered and the course the future negotiations should take.

In accordance with the suggestion made at the meeting with you, this letter is for the purpose of summarizing some of the principle obstacles we are now facing in the negotiations, and particularly with the Bureau.

The representatives of the Regional Office of the Bureau do not seem to comprehend that the Contract we are negotiating is unique in character to solve a unique problem. It is not in any sense an ordinary "water purchase" contract. It is in the nature of an "insurance policy" for the lands in the southern 'Delta which will assure those lands a dependable in-channel water supply adequate in quantity and suitable in quality to meet all present and future needs of those lands.

The purpose of the Contract is explicitly stated in the South Delta Water Agency Act (Cal. Stats. 1973, c. 1089). The need for such assurance is set forth in the Delta Protection Acts (California Water Code Sections 12,200 et seq., and 12,230, et seq.)



April 7, 1975 John J. McFall

Consequently, efforts to develop such a contract are frustrated if the representatives of the Bureau conceive the purpose to be to negotiate a routine "water purchase" within the rules and regulations established for such routine contracts.

More specifically, and for purposes of illustration, we are having particular difficulty in these areas:

- 1. <u>Water Uses</u>. The South Delta Water Agency Act (as well as the Delta Protection Statutes) makes clear that the Contract must provide for all uses on the lands within the southern Delta area, and not only agriculture. All of the lands are taxed (land only - not improvements) by SDWA to pay the cost (whatever it may be) for the maintenance of the in-channel water supply as provided in the Contract. Clearly, any Contract may not be for the benefit of only some of those lands, and not others - all lands are entitled to the benefits of that water supply. The Bureau now (not formerly) appears to want to limit the Contract to agricultural uses only.
- 2. Priority Of The Delta. In spite of all of the legislation as well as the declarations by public officials (past and present), the Bureau seems to recognize no priority on the part of the Delta to the waters in the Delta and in the tributaries to the Delta. The local representatives of the Bureau seem to view the Contract in the same light as a Contract with a potential water user outside of the watershed of the Delta and its tributaries. Clearly, it is the intent of the legislation that the requirements of the Delta and the watersheds of the tributaries to the Delta and the watersheds of the tributaries to the Delta and the watersheds of the tributaries to the Delta are to be first satisfied, and only the surplus then remaining is available for sale and export elsewhere.
- 3. <u>Priority regarding New Melones</u>. This topic is covered in my letter dated April 4, 1975, to Mrs. Dedrick, Secretary for Resources for the State of California, a copy of which I am enclosing with this letter.

April 7, 1975 John J. McFall

Page 3

In accordance with our conversation following the meeting of the negotiating committees on April 24, 1975, I will forward to you a full report on the progress of the negotiations at that date. As we stated at the time we met with you, it does appear that in several months at most we will have proceeded about as far as we can with the representatives from the Regional Office of the Bureau and will have to complete the negotiations with the top officials of the Bureau if we are to be successful and complete our task within any reasonable time.

Yours very truly,

WILSON AND HOSLETT

JOHN A. WILSON

JAW:sr Enclosures Mr. Gcorge W. Deatherage
 Mr. Gerald C. Cox
 Mr. Guy Fairchild

Karl Winkler Water Contracts Management Delta Branch, Central District April 2, 1975

South Delta Water Agency -- Delta Negotiations

On March 25, 1975, a meeting among representatives of the South Delta Water Agency, the U. S. Bureau of Reclamation, and the Department of Water Resources was held in the Central District office. Those in attendance were:

John Wilson Jerry Orlob Alex Hildebrand Bob Ferguson Albert Muller

SDWA

Dick Dauber Steve Magnussen John Budd

USBR

DWR

Karl Winkler Russ Kletzing Steve Sinton George Deatherage Ben Vanberg

The meeting started with a presentation from Alex Hildebrand reporting on the progress of recent engineering subcommittee meetings. In addition, he expressed SDWA's expectations to acquire a portion of New Melones' yield in order to meet the final criteria established for their contract. Hildebrand's request for New Melones water rather than a supply from the Delta Mendota Canal involved the following arguments:

1. New Melones water is generally of better quality than could be delivered from the Delta Mendota Canal, and, therefore, would offer better dilution capabilities.

2. New Melones water could be released to the South Delta with a minimum of expense, flowing by gravity verses

Mr. George Deatherage, et al -2- April 2, 1975

the high power costs associated with delivering Delta Mendota Canal water to the South Delta.

3. The people of the South Delta were involved in efforts to defeat the New Melones initiative allowing scheduled construction of the dam. In consideration of this, it would now be politically harmful for the Bureau to deny the South Delta landowners any chance to acquire some yield from New Melones.

Continuing, Hildebrand stated that it was his impression that the request for this New Melones yield at various negotiation sessions would have assured proper consideration of their request to the USBR authorities by means of USBR negotiators. As of this meeting SDWA was unsatisfied that this communication or other efforts to secure this yield for SDWA had been pursued.

In response to Hildebrand's remarks and in effort to explain the negotiators' position, Dick Dauber discussed USBR's involvement in the determination of a yield allocation procedure. An outline of the sequence of steps required are as follows:

 Define the New Melones "basin". It should be noted that there must first be an interpretation of the meaning of "basin" before the boundaries can be determined. Presently an interpretation has not been made.

2. The Secretary of the Interior, after receiving proper recommendation from the USBR, will determine the in-basin demand. Presently the USBR has, from information collected at local hearings, compiled some preliminary estimates of the in-basin demands which have been reviewed by the Secretary of the Interior.

Mr. George Deatherage, et al -3-

3. Other demands including water quality and fish releases, in addition to vested downstream water rights, must be determined.

4. An operations study must be run to determine the firm yield of the reservoir.

5. Marketable yield can then be determined.

In general, the USBR will use the information obtained in these negotiations to aid them in making a final recommendation to the Secretary of the Interior concerning the allocation on New Melones yield. In addition, SDWA's request for this yield has previously been recognized through local hearings independent of negotiations.

Dauber's personal views concerning the yield allocation were to delay any recommendation because of uncertainties facing USBR at this time, especially court action regarding CVP operations. Cognizant of this the Bureau should not proceed with studies or recommend any decisions concerning the yield of New Melones until the Secretary of the Interior could act from a more firm position.

The meeting continued with handouts of DWR and SDWA corrections and suggested changes to the draft contract, Attachments 1 and 2, which are included in the latest draft. Discussion pertaining to the changes and the draft included the following points:

Article I - Definitions:

 DWR suggested that the definition of "TDS" be changes to read the same as shown in Attachment No. 4 written by Warren Schoonover. SDWA objected and the matter was referred to the Engineering Subcommittee Meeting.

Mr. George Deatherage

April 2, 1975

2. SDWA stated that the definition of "agricultural purposes" was inadequate to include all lands and uses encompassed by the Agency. They mentioned that in order for the members of their Agency to be able to ratify the final contract some consideration would have to be allowed for existing municipal uses with some qualifications for industrial uses. USBR objected on the basis that a municipal water rate exceeds the agricultural rate since interest must be incorporated into repayment. Dicussion was delayed until new wording could be suggested to reflect a compromise.

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3. "Drought" definitions were questioned and proposed to be revised in an Engineering Subcommittee Meeting.

<u>Articles II and III - Water Quality and Quantity Criteria;</u> and Article IV - Monitoring Stations:

Since these articles are of main interest in the Engineering-Subcommittee Meetings, their revision will continue there.

Article V - Water Uses:

There was disagreement by SDWA with the changes provided in this draft by DWR. John Wilson will rewrite the questioned articles trying to reflect the concerns of the State and the Bureau in a way acceptable to the Agency.

Article VI - Maintenance of Delta Water Supply:

DWR and USBR questioned the redundancy involved with this article. USBR will redraft the proposal.

Article VII - Operational Reservoirs:

USBR stated they had reservations with the wording of Section 1. DWR stated that it will submit Section II "concerning forecasting" to Operations for review.

Article IX - Amount and Method of Payment:

DWR suggested that payment be separated into two costs, a fixed cost and a variable cost. The fixed cost to reflect the storage necessary to protect the Agency during a critical period; the variable cost to reflect power and transportation costs. SDWA objected stating that one total cost will be a better method in light of their taxation powers. The conflict was not resolved.

The next meeting will be April 24, 1975, at 9:30 a.m. in the Central District Conference Room at which time the rewritten proposals and the findings of the Engineering Subcommittee Meetings will be incorporated into a draft for consideration.

Note: Due to Mr. Budd's vacation, DWR was asked to prepare and transmit the rewritten material in time for the next meeting.

CHARLES M. GORE

ATTORNEY AT LAW 311 EAST MAIN STREET, SUITE 309 BTOCKTON, CALIFORNIA 95202 TELEPHONE 465-7216 (AREA CODE 209) MAILING ADDRESS: P. O. BOX 709 STOCKTON, CALIFORNIA 95201

March 31, 1975

U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California

Attention: Mr. John Morgan

RE: CENTRAL SAN JOAQUIN WATER CONSERVATION DISTRICT

Dear Mr. Morgan:

As you are aware, our District in recent months has become more and more interested in the possibility of getting a part of our water requirement through the Farmington Dam. The corp of Engineers has indicated that their studies show that up to 20,000 acre feet might be stored behind the Dam after the flood control needs have been met, commencing about March 15 of any given year.

They have suggested that it might be well to make a test of the Dam by obtaining a temporary right-of-way over the lands which would be flooded by holding that much water behind the Dam. Our Directors are showing increased interest in making such a test in the 1976 irrigation year if all of the necessary factors can be brought together.

Of course, we don't want to spend any unnecessary money and to which end we are making inquiry of you as to any developments which may have occured in the last several months in connection with the possibility of your being able to contract with us for a supply of water for New Melones.

Has the Bureau sent to the Secretary of the Interior its memorandum concerning the meaning of the word "basin" in so far as the New Melones authorization Act is concerned? Has the Bureau sent to the Secretary an estimate of the "inbasin" needs, and if so, does the total of the need leave any surplus of water from the anticipated New Melones' yield so that you could talk about the purchase of New Melones water from the Bureau from the District? Page Two Bureau of Reclamation

As I mentioned once before, our Directors would like to get together with you on this subject and on the status of the Bureau's planning efforts in so far as they relate to satisfying the needs of our District. Do you think it might be possible for us to meet with you and with Mr. Martin some evening towards the end of this month? To that end, we will be able to meet with you on any Wednesday or Thrusday evenings and we would be able to meet with you at the "Golden Acorn Restaurant" in Galt as a half-way point so as to cut down the time and driving that you might have to make to meet with us. If I can have about a week's notice of any particular dates that might be available to you and Mr. Martin, I will make the necessary arrangements.

Very truly yours

CHARLES M. GORE

CMG/crl

Stockton-East Water District

DETERATION CALEGON, A STORE

September 20, 1973

Regional Director Mid-Pacific Region Bureau of Reclamation Department of Interior 2800 Cottage Way Sacramento, California

Dear Sir:

This letter is written by the undersigned presidents of the North San Joaquin Water Conservation District, the Stockton-East Water District and the Central San Joaquin Water Conservation District. As you know, our three Districts originally requested, by their policy statement of June 25, 1973, that you undertake a new study of the means of meeting the very urgent water requirements of the Folsom-South Service Area. We understand that you will be undertaking the study and that you will hold a meeting of the interested agencies on Tuesday, September 25, 1973, to consider both the subject matter of the study and how the study should be conducted.

First we wish to make it clear that each of the undersigned would be most pleased to serve on the Policy Committee which you contemplate forming and will participate actively as is necessary. We would suggest that Policy Committee members have named alternates so that there will be a certainty that all meetings will be covered. We also are of the opinion that a Technical Committee should be created. It is our feeling that a Technical Committee should be available to review the work of the study and we would expect it to consist of engineers and possibly other appropriate staff representatives of the participating agencies.

Second, with respect to the subject matter of the study, we would suggest that the study include, among others, the following specific subject areas:

l. Consideration of the original Folsom-South Canal as authorized with the construction of a Hood-Clay Pump Connection when and as required.

2. Consideration of the possible reduction in size of the Folsom-South Canal and the reduction of the size, or, if possible, the elimination, of the Hood-Clay Pump Connection to the extent that a portion of the demand within the FolsomRegional Director Mid-Pacific Region Bureau of Reclamation Page two Sept. 20, 1973

South Service Area can be met by any one or more of the following alternatives:

A. The maximization of the availability of Stanislaus River water for consumptive uses by one or more of the following:

(1) The replacement of water quality control benefits for the Lower San Joaquin River by pumping at the Federal and/or State pumping plants at Tracy and making releases into the Lower San Joaquin River from the California Aqueduct and/or the Delta-Mendota Canal.

(2) The re-examination of the flows required between Goodwin Dam and the confluence of the Stanislaus River with the San Joaquin River in view of any changes which can be accomplished under (1) above.

(3) The re-examination and determination of the maximum amount of water available to the Folsom-South Area from the New Melones Project with due consideration to the integrated operation of the New Melones Project with the ground water resources of the four Stanislaus River Basin Counties.

(4) The determination of the proper allocation of the water available from the New Melones Project within the four Stanislaus River Basin Counties.

(5) Assuming water can be made available from the New Melones Project to the Folsom-South Service Area, then a study of the means of conveyance and the extent of service of Stanislaus River water to the Folsom-South Service Area including among other possible plans the diversion of New Melones water at Goodwin Dam to the Joint Main Canal of the South San Joaquin Irrigation District and the Oakdale Irrigation District and then the release of water to Littlejohn Creek to flow to Farmington Dam and thence north in a new canal extending as far north, possibly, as Bellota.

B. An assessment of the availability of water after allowance for all existing uses and the New Melones Project, for further development on the North Fork of the Stanislaus River similar to that which has been proposed in the "Preliminary Report and Plan - Calaveras County Water District" prepared by Tudor Engineers for the Calaveras County Water District. Such a project could involve future construction of the Utica-Union Reservoir, Regional Director Mid-Pacific Region Bureau of Reclamation Page three Sept. 20, 1973

Spicers Reservoir, and an interwatershed transfer by tunnel from Squaw Hollow on the North Fork of the Stanislaus through Hunter's Reservoir thence to San Domingo Creek where North Fork of the Stanislaus River water could then flow by gravity to New Hogan Reservoir for regulation and possible offstream storage.

C. A study of the possibility of constructing one or more additional dams on the Calaveras River.

D. A study of the possibility of augmenting the existing water supply of the Woodbridge Irrigation District by a project to divert from the Delta or the Peripheral Canal.

E. While the quantities may be small, a study of the possibility of storage generating some new water from Littlejohn, Rock, and Duck Creeks.

F. Study the availability of Cosumnes River water for diversion into the Folsom-South Canal by re-examining existing studies of the Cosumnes River.

3. Consideration of any possibility of reduction in Lower American River flows so in turn there could be an increase in water available to the Folsom-South Canal.

4. A review of the current water requirements and demands within the Folsom-South Service Area.

5. A study of the opportunity for staged construction and development so as to permit meeting urgent needs as soon as possible.

6. Consideration of the use of reclaimed waste water within the Folsom-South Service Area, wherever possible.

As we indicated at the beginning of this letter, the undersigned are pleased to have the opportunity of participating with you in the planned study of the best means to meet the Folsom-South Service Area needs. As we have made it clear on many occasions, our needs are most urgent. As you well know, we are suffering a sharp decline in our ground water level and in areas are suffering an actual deterioration or even loss of our ground water due to overdraft. For this reason, we urge that you complete the study at the earliest possible time and, in any event, before the end of the 1974 calendar year. To this end we assure you of our complete Regional Director Mid-Pacific Region Bureau of Reclamation Page four Sept. 20, 1973

cooperation and the cooperation of the staffs of the three Districts.

Very truly yours,

NORTH SAN JOAQUIN WATER CONSERVATION

DISTRICT By: ROBERT L. CARTER, President

STOCKTON-EAST WATER DISTRICT

By: WILLIAM C. HOSIE, President

CENTRAL SAN JOAQUIN WATER CONSERVATION DISTRICT

SORRENTI, ALFRED President



RICHARD W. DICKENSON COUNTY COUNSEL OFFICE OF THE

COUNTY COUNSEL

COUNTY OF SAN JOAQUIN COURTHOUSE 222 EAST WEBER AVENUE STOCKTON, CALIFORNIA 952 TELEPHONE 944-2561 (AREA CODE 20

August 11, 1972

ROBLEY E. CEORGE ASSISTANT, CÓUNTY COUNSEI JERRY D. HALL DEPUTY COUNTY COUNSEI KARAN F. MINICK DEPUTY COUNTY COUNSEI JOHN F. CHEADLE DEPUTY COUNTY COUNSEI MICHAEL N. GARRIGAN

Mr. Robert J. Pafford, Jr. Regional Director, Region 2 U. S. Bureau of Reclamation 2800 Cottage Way Sacramento, California 95825

Re: Uses of water Conserved by New Melones Reservoir

Dear Mr. Pafford:

Reference is made to the June 30, 1972, conference on this subject in the San Joaquin County Courthouse. The conference was attended by Messrs. Morgan, Renoud, and Moore of your office, by the undersigned representing San Joaquin County Flood Control and Water Conservation District, and by representatives of other San Joaquin County and Delta water agencies. At the end of the conference, it was agreed that the undersigned would coordinate preparation of the views of all San Joaquin County agencies on the matter, after consulting with such agencies, and would make a single presentation to you. The purpose of this letter is to make that coordinated presentation.

During the June 30 conference, Mr. Morgan stated that estimates, of new yield of the project previously made were being reviewed. He indicated that the new yield, other than that required for water quality control, probably would not exceed 250,000 acre feet annually, subject to deficiencies in dry years or dry periods. He indicated also that, depending on the results of studies now under way on water needs above New Melones Dam and on final fishery requirements and water rights settlements, the new yield might well be less. We are impressed by this figure on two grounds: first, because of the known requirements for supplemental water in San Joaquin County, including the southeastern part of the Delta, as discussed below; and, second, because the new yield is obviously a small fraction of the initial and ultimate supplies your agency has planned to deliver to the proposed East Side service area.

On the second point, it seems to us that you should identify the East Side area, if at all, as an area which might use part or all of the new yield only if local service areas, including those in San Joaquin County and its portion of the Delta, are He. Robert J. Pafford, Jr. August 11, 1972 Page 2

Genuel of the supplies of supplemental vator to meet their ultimate requirements. Since all studies by your office indicate that the only other logical source of supplemental water for custom Sectionation and San Joaquin counties, the American River, vill at best be about 200,000 acre feet short of meeting ultimate requirements in that area, and, since requirements in Calaveras, Stanislans, and Facture counties, and settlement of all vater right and fishery problems may deplete the available New Telenes yield well below the current estimate of 250,000 acre feet, it appears possible use of New Melones water outside the local area should be given no further consideration, at least for the foreseeable future. In any event, if the East Side area is identified, up think the amount of Stanislaus River water available for that use should be noted as a small fraction of the full noces of the East Side area.

Prior studies by your office, with changes to reflect Locent annountions to the Stockton-East Water District, indicate the following requirements for supplemental water in Eastern San Joaquin County:

Stockton-East Water District	145,000 AF
North San Joaquin Water Con- servation District	75,000
Voodbridge Area	40,000
Contral San Joaquin Mater Con- servation District ²	85,600
Sau Scaquin County Flood Control and Vator Concervation District	d <u>26,400</u> 372,000 AF

1. USDR Exhibit 19A, Hearings leading to Decision 1400 of State Maker Resources Control Board, except Central San Joaquin Water Conservation District taken as 92,000 AF less 6,400 AF, and San Joaquin County Flocd Control and Water Conservation District taken as 100,000 AF less 73,600 AF because of Stockton-East annexations.

2. Ibid.

3. Ibid. San Joaquin County Flood Control and Water Conservation District has not made estimates of the quantities of water Hoquired for areas remaining outside other districts subsequent to the recent annexations by Stockton-East Water District. Mr. Robert J. Pafford, Jr. August 11, 1972 Page 3

Each of those districts looks to the Folcom South Canal as its sole or primary source of supplemental water. Draft contracts have been approved for such supplies by the Beards of Diverturs of the Stockton-East and North San Joaquin District and are now under review in Washington. The Control and San Josquin Districts have received drafts of contracts and expect to act on them. If, for some unforescen reason, Folsom South Canal should not be completed soon, these Districts have only two potential convers of supplemental vater: the channels of the Delta and Net Malcaes. While the cost of the latter, as explained by Mr. Moore on June 30, is not now known, it is known that the cost of the Serner is probably in encoss of the ability of agriculture to pay because of pumping and distribution costs. Accordingly, until it is certain that the anticipated Folcem South supplies vill in fact be delivered, we urge that no consideration be given to delivery of any New Melones water outside the local area.

As indicated previously, however, when requirements of Sacramento County Water Agency, Sacramento Municipal Utility District, East Day Municipal Utility District, and others desiring American River water are considered, it appears that serve 200,000 acre feet of additional water may be required. Herebofered you have contemplated delivery of this water to Folden South Canal through the proposed Hood-Clay Connection. Such a physical arrangement may come to pass and appears essential in view of the intense public interest in higher, permanent minimum flows in the Assured, however. Accordingly, it seems essential that you at least identify use of New Melones water as an alternative to meeting this acknowledged shortage in the American River corvice area.

One of the most apparent areas which could benefit from New Melones water is the southern part of the Delta. This is generally the area downstream of the mouth of the Stanislaus. Operations of upstream dams on the San Joaquin River and its tributaries have reduced severely the winter and spring flows which wood to flush this area. Spring, summer, and fall flows passing Vermalis are largely return flows from upstream diversions, and these return flows contain very large emounts of salts leached from the irrigated land. The water is unsatisfactory for irrigation uses now and all projections are that it will grew worse.

Basically, this situation is the reason the Melones authorization includes water quality as a function. Plaus Mr. Robert J. Pafford, Jr. August 11, 1972 Page 4

developed pursuant to that authorization contemplate release of up to 70,000 acre feet of water annually to maintain dissolved oxygen levels and to keep total dissolved solids at Vernalis from exceeding 500 parts per million. We have limited knowledge as to whether releases of this magnitude can achieve the indicated quality levels, but believe concerned Federal officials should retain flexibility in this regard. Certainly, provision of more water from New Melones for water quality control at and below the mouth of the Stanislaus is not a single purpose use of water since the same water may improve fishery conditions and water quality elsewhere in the Delta, and may otherwise be useful for Central Valley Project purposes.

To summarize, it appears clear that San Joaquin County agencies and individuals, including those along San Joaquin River and in the Delta, could provide a ready market for the entire yield of the New Melones Project if water costs are not unreasonable. Recognizing that other interests in Tuolumne, Calaveras and Stanislaus counties may have needs, that fishery interests may desire greater minimum flows than were planned previously, that the Corps is considering releases for white water recreation, and that water right settlements are yet to be negotiated with agencies and individuals in San Joaquin and Stanislaus counties, it seems highly unlikely that any significant quantity of New Melones water will be available for areas south of Stanislaus County. If your studies support such a conclusion, we think it appropriate for you so to indicate.

Stockton-East Water District, by letter dated July 19, 1972, informed you directly of its conditional interest in water from the New Melones Project. North San Joaquin Water Conservation District advises me that the distance of that district from the Stanislaus River, and its proximity to the end of Folsem South Canal currently under construction, are such as to make impractical the use of New Melones water in that district. Copies of letters on the subject from South San Joaquin Irrigation District, Delta Water Agency, Delta Water Users Association, and Central San Joaquin Water Conservation District, are attached for your information, along with another copy of said Stockton-East letter.

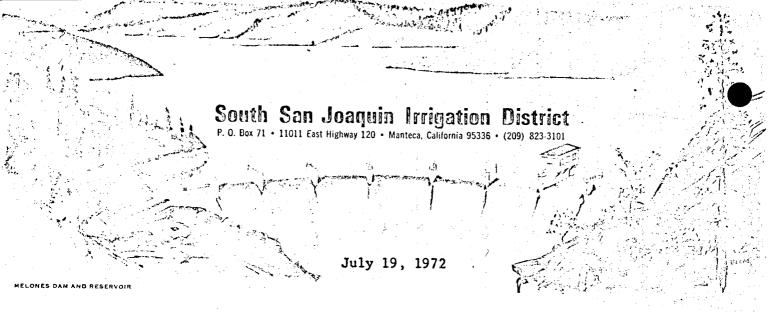
Thank you for the opportunity of expressing our views on this important subject. We look forward to further discussions of the matter especially as your studies basic to water pricing continue. HX. Pobozi J. Pafford, Jr. Ingust 11, 1972 Page 5

Yours very truly,

Dickenson

RICHARD W. DICKENSON County Counsel

IMD/pa/po Enclosures"for Mr. Pafford and for recipients of this letter South San Joaquin Irrigation District CC: c/o H. A. Ecgley, JE. Central San Joaquin Water Conservation District c/o Charles II. Core North San Joaquin Water Conservation District c/o Stewart C. Adams, Jr. Stockton-East Water District c/o Robert C. Sagehorn Dolta Water Agency c/o Hartin McDonough River Junction Reclamation District No. 2064 c/o Stanley Hortensen McJullin Reclamation District No. 2075 c/o Eldred Brown California Water Service Company City of Stockton Mr. Charles B. Wong Mr. Howard S. Hitchcock Mr. Duane Cox IN. Alfred A. Souza Mr. John A. Wilson Dr. Gerald T. Orlob Mr. Philip Cavaloro Hr. Thomas J. Shephard Mr. Goorge D. Raab Mr. Dante John Momellini Mr. Thomas M. Zuckerman Mr. Walter M. Gleason Mr. Pete Chadwick Mr. Clarence Salyer Mr. Roy A. Wonver Supervisor Clifford C. Wisdom Mr. Eccold J. Willis Supervisor Dan S. Parises Mr. Robert M. Blossom Supervisor Carmen Perino Mr. Robert Welty Supervisor Frank L. Hoyt Mr. James C. Hanson Supervisor Gary A. Wilcr Hr. A. H. Murray



Richard W. Dickenson County Counsel, San Joaquin County 222 East Weber Avenue Stockton, California 95202

Dear Mr. Dickenson:

Relative to purchase of New Melones water by the South San Joaquin Irrigation District, we feel that we cannot make commitments at this time.

Our District is negotiating with the Bureau of Reclamation as to the extent of our existing rights on the river. These water rights are very dear to us, and we fully expect to be able to continue to derive our entire needs from these existing rights. This District is quite stable as to need for water, being fully developed, and pursuing annexations of additional land only to the extent of offsetting losses to urbanization.

Very truly yours,

SOUTH SAN JOAQUIN IRRIGATION DISTRICT

A. Negley, Jr., Segretary-Engineer

NAN:er

DELTA WATER AGENCY

520 CAPITOL MALL • SACRAMENTO, CALIFORNIA 95814 TELEPHONE 444-2034

ALFRED A. SOUZA, Chairman W. R. DARSIE, Vice Chairman RUSSELL G. GRAHAM, JR., Secretary

August 4, 1972

Mr. Richard Dickenson County Counsel Room 400, Court House Stockton, California 95202

Re: New Melones Dam

Dear Mr. Dickenson:

This letter is in response to the suggestion made at the meeting held on June 30, 1972 at the San Joaquin County Court House that various interested parties in San Joaquin County express their views regarding local needs for water to be developed by the New Melones Dam.

At that meeting, representatives from the Bureau of Reclamation stated that it was estimated that an annual yield of 250,000 acre feet of water would be developed by the New Melones Dam and that preference would be given for in-basin uses. It appeared at the meeting that the requirements of San Joaquin County may well exceed this amount.

It is the opinion of the Board of Directors of the Delta Water Agency that a substantial portion of the water to be made available by the New Melones Dam is needed in the southern portion of the Delta for water quality control. The numerous upstream developments in the San Joaquin River system have greatly reduced the historical spring, summer and fall flows of the river coming into the Delta. This has resulted in serious water quality problems in the southern. Delta, not only with reference to the small amount of inflow from the San Joaquin River, but also with reference to the poor quality of the inflow resulting from the upstream uses of the water. This problem may be relieved only by introducing supplemental water into the southern Delta. Water from the New Melones Dam is the apparent logical means of assisting in the solution of this problem.

In this respect, attention should be given to the possibility of conveying a portion of the water from New Melones Dam into the Delta by a modification of the plan for the Folsom South Canal which would involve an extension of the canal to the Stanislaus River where the water would be taken to serve, in part, both the eastern portion of San Joaquin County and thence, by releases into existing channels, the southern Delta.

In the negotiations by this Agency with the Department of Water Resources and the Bureau of Reclamation, water to become available from the New Melones Dam should be considered as a water supply necessary for the maintenance in the Delta of an adequate supply of water of suitable quality for present and future uses.

This letter is written to you with the understanding that it, with others from interested parties in San Joaquin County, will be forwarded to the Bureau of Reclamation.

Yours very truly,

REDIA. SOUZA

AAS:sr



August 3, 1972

Mr. Richard W. Dickenson County Counsel Room 400, Court House Stockton, California

Re: New Melones Dam

Dear Mr. Dickenson:

I understand that at the meeting held on June 30, 1972 in the San Joaquin County Court House, interested parties in San Joaquin County were invited to express their views regarding local needs for water to be developed by the New Melones Dam.

At the last meeting of the Board of Directors of the Delta Water Users Association held on July 27, 1972, I was instructed to write this letter in response to the invitation. It was the opinion of the Board of Directors of the Delta Water Users Association that the Bureau of Reclamation should be informed that there is a great need in the southern Delta for additional water for water quality control purposes. In recent years, the water quality problems in the southern Delta have become increasingly critical. This year, it appears that the problem will be extremely critical.

Additional water from the New Melones Dam will be of great assistance in protecting the southern Delta and assisting in the maintenance of a water supply which is suitable for agricultural purposes in that area.

In this respect, the Delta Water Users Association strongly supports the Delta Water Agency in its efforts to obtain an assured water supply for the Delta adequate in quantity and suitable in quality for all present and future needs.

Yours very truly, albert Muller

ALBERT D. MULLER PRESIDENT OF DWUA

ADM:sr

CHARLES M. GORE

July 14, 1972

Mr. Richard W. Dickenson San Joaquin County Counsel Court House Stockton, California 95202

Dear Mr. Dickenson:

Following the meeting of various prospective San Joaquin County, water users with representatives of the Bureau of Reclamation in the Court House June 30, 1972, I obtained from the County Surveyor's Office an official map delineating the area formerly within the boundaries of Central San Joaquin Water Conservation District which was transferred to and made a part of Stockton East Water District. I forwarded a copy thereof to Mr. R. B. Welty, our District's Consulting Engineer, who had prepared a summary of our District's water requirements for presentation to the Department of Water Resources at the American River hearings last Summer. I requested him to determine from his field notes of land and crop usage and water requirements the extent to which our needs had been lessened by this transfer of acreage.

Mr. Welty informed me that the approximate acreage transferred to Stockton East was 3,300 acres, of which only 1,600 acres had present or potential agricultural usage, the bulk of the remainder being occupied by the Stockton Metropoliton Airport.

Mr. Welty further indicated that these 1,600 acres withdrawn had a demand of approximately 6,400 acre feet of water per year, and that as a result of the withdrawal, the needs of our District for additional water had been reduced from 92,000 acre feet per year to 85,600 acre feet per year.

Inview of the present situation of water availability from the American River and Congressional funding for further Mr. Dickenson Page 2 7/14/72

construction of the third and fourth reaches of the Folcom South Canal, our Board of Trustees is most eager to consider the possibility of obtaining water supplies from the New Melones Project. In fact, at our last Board meeting in May this possibility was discussed, and at the direction of our Board I wrote a letter of inquiry to the Bureau of Reclamation early in May inquiring as to the possibility of our District looking to New Melones as a possible source of supplemental water, which letter may have been part of the reason for the Bureau's inviting the June 30th meeting.

As you know, our District is unique in the County of being dependent solely upon underground water supplies and contains within the District the area of greatest reduction of ground water level over the past 15 years within the County. With the present dry year it is anticipated that a number of agricultural wells in our District will run dry and require compensive deepening of the wells in order to reach the new lower level of ground water.

I can recall former Chairman Mulligan's statement following the end of my testimony at the American River Mearings that we could be assured that the decision of the Water Resources Board would not "condemn San Joaquin County agriculture to death by dehydration", but it does appear that unless other supplies are found, and New Melones looks like the only practical other supply, Decision D-1400 will have the very effect that Mulligan asserted would not come to pass.

Very truly yours,

CHARLES M. CORE

CMG/mb

Stockton-East Water District

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2526 EAST FREMONT STREET POST OFFICE BOX 5157 STOCKTON, CALIFORNIA 95205 Telephone (209) 466-3114

July 19, 1972

JOHN ARMANINO, JR. WILLIAM C. HOSIE JACK M. LYONS RICHARDSON MASTEN JOHN R. DORTON JOSEPH L. DONDERO JOE J. WAIDHOFER



ROBERT C. SAGEHORN Secretary-Manager

MR. ROBERT PAFFORD Regional Director, Region 2 Bureau of Reclamation 2800 Cottage Way Sacramento, California

Dear Mr. Pafford:

This letter is written to you as a result of the meeting held on Friday, June 30, 1972, attended by the various San Joaquin County parties at the San Joaquin County Courthouse, at which your staff outlined the possible availability of Stanislaus River water which will be developed by New Melones Dam to San Joaquin County interests. This letter has been reviewed by the Board of Directors of the Stockton-East Water District and is in accordance with the policy of the District.

As you know, both planning and the actual construction of physical facilities in the District have been directed toward and have been in contemplation of an additional supply of water from the east, and specifically from the Folsom South Canal. The District continues to look to the Folsom South Canal as its principal supplemental source in addition to New Hogan. If for any reason which we cannot now foresee, Folsom South Canal should not be completed on the schedule now contemplated, our District would look to an alternate eastern source. It would seem physically feasible to supply at least a portion of the Folsom South area from the New Melones Project. In view of the fact that as a part of the Folsom South Service Area our District has long looked to a supplemental source from the east, we would certainly urge that if, as indicated above, for any unforeseeable reason we should not have Folsom South Canal water available to us at an early date, that the Folsom South Canal Service Area, including our District, be served from the New Melones Project.

MR. ROBERT PAFFORD July 19, 1972

As I believe you are also aware, our District Directors sometime ago directed Stoddard & Associates, our engineers, to undertake an investigation of the physical feasibility of serving our District from the New Melonus Project. We continue to feel that the best possible source of water for our District is the Folsom South Canal of the Central Valley Project. In view, however, of the rather complex situation which our District faces from a water supply point of view, we have felt it essential that we keep in mind all possible sources, and accordingly our direction to our engineers.

In conclusion, our District would strongly urge that prior to contracting for the disposal of any water which will be available at New Melones, that you first satisfy yourself that water will be available to meet the urgent needs of our District from the Folsom South Canal, or alternatively, that this District be given an opportunity to contract for Stanislaus River water developed at New Melones.

Very truly yours,

ROBERT C. SAGEHORN Secretary-Manager Stockton-East Water District

RCS:er

cc: Each Member of the Board of Directors

- Mr. Elder Gunter
- Mr. Harry Kerr
- Mr. Richard W. Dickenson
- Mr. Robert L. McCarty
- Mr. Ray Barnes
- Mr. Howard Stoddard
- Mr. A. Gene Rheault
- Mr. Mark Eudey
- Mr. Thomas J. Shephard
- Mr. A. N. Murray

MP-440

832.

August 1, 1972

Board of Directors Stockton-East Water District Attention: Robert C. Sagehorn Post Office Box 5157 Stockton, California 95205

Gentlemen:

This will acknowledge receipt of your letter dated July 19, 1972. We agree that the logical source of an additional supply of water to your District from the east would be from Folsom South Canal. In this connection, we are still optimistic that the Folsom South Canal will be completed.

In regard to water service from New Melones Project, a portion of San Joaquin County is within the area referred to in the authorizing act for which the Secretary of the Interior will determine existing and future needs for water from Stanialaus River and subordinate all diversions to other areas to such needs. You can be assured that the requirements for water in San Joaquin County will be appropriately taken into account along with the needs in other counties of reservation for water from the New Melones Project.

Sincercly,

Signed J. Robert Hammond Assistant Regional Director

CILARLES M. GORE

ATTORNEY AT LAW 311 EAST MAIN STREET, ROOM 309 STOCKTON, CALIFORNIA 95202 TELEPHONE 465-7216 (AREA CODE 209)

May 4, 1972

U. S. Bureau of Reclamation Regional Office, Region 2 2800 Cottage Way Sacramento, California 95825

ATTENTION: Regional Director

Re: Central San Joaquin Water Conservation District

Dear Sir:

As the attorney for and secretary of the Central San Joaquin Water Conservation District, I have been instructed to contact you through resolution adopted by the Board of Directors of the District at their meeting held May 3, 1972.

During the course of the meeting, discussion was had as to the apparent lack of any liklihood for construction of the Eastside project within the foreseeable future, and the uncertainty of completion of Reaches 3 and 4 of the Folsom South Canal. These factors would seem to result in a possible availability of water, so badly needed in our District, from uncommitted supplies which will be generated by the New Melones project.

If there is any possibility that such an alternative plan to get water to our District may develop, we would like to explore these possibilities. If the Bureau has reached a point in its thinking along these lines that it is felt that exploratory talks might be beneficial, we would appreciate arranging such talks with the proper Bureau representative at a mutually convenient time.

If it is felt that it is too soon for any tangible benefit to be derived, we would, at least, want U. S. Bureau of Reclamation Page #2

to go on record as informing you of our District's interest in new Melones water at this time so that we could be considered as a potential delivery customer of new Melones water when the relevant factors have been brought more sharply into focus.

Very truly yours, CHARLES M. GORE

CMG h BIBLIOGRAPHY

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^{1/} Includes majority of reports, but does not represent an inclusive listing of all those to which reference was made.

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1	A That is correct.	
2	MR. PALMER: Okay, thank you.	
3	MR. ROBIE: Are there other questions? Staff? All	
4	right, thank you very much.	
5	MR. RICE: I will call Mr. Hammond.	
6	MR. ROBIE: Is this your last witness?	
7	MR. RICE: Well, Mr. Renoud has some things to supply.	
8	I don't know if any testimony is necessary from him.	
9	MR. ROBIE: I know Mr. Hammond has a busy schedule, so	
10	we will take him today. I'm thinking as to whether or not it	
11	will be necessary to have a Monday session.	
12	MR. RICE: I don't think so.	
13	MR. ROBIE: All right.	
14	TESTIMONY OF	
15	J. ROBERT HAMMOND, WHO, HAVING BEEN DULY AND REGU- LARLY SWORN BY MR. ROBIE, TESTIFIED AS FOLLOWS:	
16	LARLI SHORN DI MIC. RODILI, ILOIILI	
17	DIRECT EXAMINATION	
18	Q BY MR. RICE: What is your name?	
19	A J. Robert Hammond.	
20	Q And you are employed by the Bureau of Reclamation in	
21	the Mid-Pacific Region?	
22	A Iam.	
23	Q And what is your position?	
24	A I am Assistant Regional Director.	
25	Q And you have a statement to make on the New Melones	
26	hearing?	
27	A I do.	
28	Q Would you do so?	

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A New Melones Project is multi-purpose in scope and needs to be operated to serve effectively and to the optimum extent all the functions contemplated. It was on that basis that the project was planned, justified and authorized by the Congress.

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The plans for the New Melones Project were developed recognizing that the anadromous fishery in the Stanislaus River is an important and valuable resource which needs to be protected and enhanced.

For accomplishment of that purpose federal and state fishery agencies recommended that flows totalling 98,000 acrefeet in a normal year and 69,000 acre-feet in a dry year be maintained in the Stanislaus River below Goodwin Dam. Such recommended flows would have a varying monthly schedule as follows:

> October through December, 200 cubic feet per second; January through May, 125 cubic feet per second; and June through September, 100 cubic feet per second.

These flows were included and became a basic and essential part of the supporting material for the project authorization. Other project accomplishments, water yield, water quality, power and recreation, were developed with full consideration given to these fishery releases.

Approximately two months ago, in October, the California Department of Fish and Game advised us that it now believes that substantially increased flows for the anadromous fishery over those previously recommended and provided for were needed and on a different monthly distribution, largely March

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through June.

These currently indicated flow requirements were derived by the Department of Fish and Game from studies correlating flows in the river from March through June with the number of female salmon in the spawning run occurring two and a half years later. The revised flow schedule now indicated as being needed would total about 262,000 acre-feet for fishery instead of the 98,000 acre-feet included in the project plus an additional 50,000 acre-feet in the late summer and fall for water quality purposes on the San Joaquin River side of the Delta, or a total of about 312,000 acre-feet. Of this new indicated desired total flow, 160,000 acre-feet would be required in the four months, March through June. This would be about 160,000 acre-feet more in these four months than the amount authorized by Congress.

The Bureau of Reclamation recognizes that the anadromous fishery in the Stanislaus River is an important and valuable resource which needs to be protected and enhanced as fully as possible. To this end we want to cooperate in every way possible to provide such protection and enhancement in harmony with the other functions which are to be served by the project.

We are deeply concerned, however, with the proposed new fishery schedule because of the significant adverse impact it would have on the power and consumptive use water supply, two primary functions in the project justification, and on the reservoir recreational aspect of the project.

The Bureau questions whether the correlation curve used to justify the new flow schedule appropriately represents the D-143 principal conditions upon which the salmon fishery is dependent, and we wonder if by using the same correlation procedures, and I say that we recognize the difficulty of using this because of the shotgun pattern of graphical representation of the results obtained making it very difficult to interpret, but if we used the same procedures and used the same data for interpretation, we can see where spawning returns of an equal amount might be interpreted from the curve as occurring for anything from 150,000 acre-feet to 262,000, plus the 50,000 acre-feet for water quality control. In other words, it's a difficult thing to ascertain statistically.

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As the Tri-Dam project has been operating since 1958, we question the validity of the Department of Fish and Game's use of the period 1945 to 1971 to establish the average fishery at 8600 fish on the Stanislaus. The average for the 1958-1971 period is about 6,000 fish in the run.

Using the State Fish and Game procedures this would require an average flow of 400 cubic feet per second versus the 950 cubic feet per second for the four-month period required by the 8600 fish run.

Although studies are not completed, it appears that most of the New Melones yield will be required in the future by the local areas. This is in conformity with the authorization which provides that the local areas will get first call on the water supply made available.

If additional fishery releases were possible and were made according to the indicated schedule, then a resulting annual reduction in the New Melones conservation yield which

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could not be recovered by the Central Valley Project of up to 71,000 acre-feet would occur during the yield determining period of 1928 through 1934. This yield loss estimate is made on the basis that the Central Valley Project would not be operated according to Decision 1379 water quality criteria. and that insofar as possible recovery of additional releases being accomplished from the Delta even larger reductions in yield would be experienced outside the 1928-1934 period. If the Central Valley Project were operated according to water quality criteria similar to Decision 1379, then more of the indicated additional releases from New Melones for the fishery probably could be used for water quality purposes in the The unrecoverable amount on this basis during the Delta. 1928-34 period would approximate 12,000 acre-feet. The indicated additional releases for the fishery would result in loss of power benefits from New Melones of over half a million dollars annually. Although we have not specifically examined the impact on recreation at New Melones, it appears obvious that release of the additional 160,000 acre-feet for the four months, March through June, would result in significantly lowered reservoir levels during the summer recreation season with the corresponding reduction in recreation benefits.

In order to provide for the Stanislaus River fishery and at the same time maintain other project accomplishments, the Bureau of Reclamation proposes that three agencies, in particular the Department of Fish and Game, the Bureau of Sports Fisheries and Wildlife, and the Bureau of Reclamation, engage in a period of experimental study perhaps relating

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to the anadromous fishery to obtain the greatest practical amount of needed information that can be applied in the further development of the fishery resources.

We believe these studies should consider not only the Stanislaus River, but other San Joaquin Valley streams such as the Tuolumne and the Merced. These streams all need to be considered together. The Stanislaus River should not be required to make up for any real or imagined deficiencies in the other streams.

In meetings with the Department of Fish and Game and the Bureau of Sports Fisheries and Wildlife, we have proposed such an experimental study program. We have suggested that this program initially cover a ten-year period to begin after initiation of project operation and cover not only the effects of the flow variations but also other possible means of providing fishery accomplishments.

These other possibilities include stream channel improvement, maximum development and maintenance of spawning channels, construction and operation of a hatchery, trucking of the young fish, planting of fish from other sources and such other items as may come to light during the studies.

A modernized fish hatchery which is under active study on the American River at Nimbus may well fit into this overall picture being considered as a regional type facility. It may be possible the fish produced at this or some other regional hatchery could be planted in the Stanislaus River.

During the trial period full and careful consideration needs to be given to determining what fishery should be

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suppored in each of these related San Joaquin Valley streams. On that basis then the study should be designed to determine how this resource can best be enhanced. These study programs will be need to be carried out in full consonance with the other functions of the New Melones Project.

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In the first few years of New Melones operation an interim water supply would be available for supplemental releases, although such releases would affect power, irrigation and recreation accomplishments. All additional releases made during the study period would need to be limited to quantities available consistent with the build-up in demand in the local area. We submit to the board that the entire matter of anadromous fishery on the Stanislaus River as well as other related San Joaquin Valley streams needs more comprehensive analysis than so far has been given to it.

The prime consideration, of course, is to achieve a careful determination of the magnitude of the optimum fishery which should be developed on these streams under a managed operation. After, and only after that determination is made, then detailed study needs to be given to how such number of fish can be obtained in a logical, effective and efficient manner. All practical means of obtaining this fishery should be analyzed. Conditional flows are only one of the possibilities and may not be the most desirable even if water for the additional flows were available. We have suggested to the Department of Fish and Game that a period of time of approximately ten years be used for analyzing, testing and deriving solutions to the fishery problems on the Stanislaus. It is possible that

an even more extensive period might be available if needed. We suggest to this board that even if such flows were available, this is not the time to decide either that additional flows for fishery are needed on the Stanislaus or the required magnitude of such flows. Rather, further studies covering all aspects of this problem should be made after the project begins operating.

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We believe a satisfactory solution can be derived through cooperative efforts and we will work to achieve that goal.

Then, I would also add that in consonance with the statement I believe Colonel Donovan made and in the spirit of that statement, that there are channels, avenues and procedures available to the Bureau of Reclamation to seek modification of existing authorization on projects, and whenever it is our understanding that the will of the people of California, or in specific, the best solution for fishery enhancement will be other than as the project is authorized for, we would be most eager to be a party with the Corps of Engineers to efforts to be made through proper congressional channels to effectively change the authorization of the project.

MR. ROBIE: Thank you very much, Mr. Hammond. With that statement I assume, Mr. Rice, you will incorporate in your briefs any specific recommendations?

MR. RICE: Yes, sir.

MR. ROBIE: We appreciate very much having the opportunity of the statement of policy by the Bureau.

MR. PALMER: Is there to be no opportunity for cross-

examination?

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MR. RICE: He is available.

MR. HAMMOND: Of course, of course.

CROSS-EXAMINATION

BY MR. PALMER: Mr. Hammond, I am thinking now of the 0 5 ten-year joint study you propose. Let me ask you, would the 6 Bureau be willing to abandon their request for diversion at 7 Knights Ferry as part of these proceedings in order to facili-8 tate such a study, and what I have in mind specifically is 9 this, what if the result of that study ten years down the line 10 were that indeed the California Department of Fish and Game 11 is absolutely right, the only way to get those fish coming 12 back is to release water in that amount when they want it. Now, 13 when you divert at Knights Ferry, presumably that solution 14 will no longer be possible. Now, in the spirit of your sugges-15 tion of a study, let me ask you, is the Bureau at this time 16 in order to facilitate such a study and in order to preserve 17 all possibilities that it be truly unbiased and lead to the 18 technically and let's say socially correct solution to preserve 19 those options, is it at this time willing to abandon the 20 request for a diversion point at Knights Ferry? 21

A If I understand the point to your speech, it is that we would hypothesize now some solution and at this point in time agree to some hypothetical solution, and I don't think that's appropriate.

Q Well, I guess the answer then is no, the Bureau is not willing.

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A You are naming the Knights Ferry as a specific point

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of diversion, and you are asking whether or not we would agree to a certain solution if in fact the study we proposed corroborates the conclusions already proposed by the Fish and Game. There would be no point to making the study then, would there?

Q Not at all. Wouldn't it be possible if the study turned out that Fish and Game are wrong that there's another method, is it not actually open to you to come back and get that point of diversion, permit for that diversion, since then it's available to you without harming the fish?

A Well, I'm sorry, I don't really get the point that you are trying to make.

MR. ROBIE: I wonder if I might clarify this, whether or not the Bureau would be willing to abandon that or not is really sort of a difficult question, but as I understand, the Knights Ferry diversion is contingent upon authorization of the East Side Division. That's my understanding.

MR. PALMER: Wouldn't it follow the Bureau has no present level of capability of diverting at the Knights Ferry and taking water down towards the East Side service area until Congress authorizes the project to do so?

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ten years?

That's exactly the situation.

MR. ROBIE: I don't know if that helps your answer, Mr. Palmer, but I assume the Bureau would not be doing that until they had a project authorized irrespective of what the board does with regard to the diversion points. Do you expect East Side Project could be authorized and constructed within

A Well, I'm not that much of a crystal ball gazer. If you would shorten that time a little bit, I could confidently say no.

MR. ROBIE: Nine years? I understand the point of your 4 Mr. Palmer, I didn't want to cut you off. If you answer. 5 wish to continue to press Mr. Hammond for a response, I think. 6 as I understand your question, you consider it inconsistent 7 to have a diversion point at Knights Ferry at the same time 8 the studies are going on, but I think that as a practical 9 matter there wouldn't be any diversions during that time. 10 Mr. Hammond, is that correct, there are MR. PALMER: 11 no possible diversions from the Knights Ferry other than into 12 East Side Canal? 13 A That's correct. 14 I would say that answer adds to the MR. PALMER: 15 16 net of my knowledge. That's the reason I was saying we are dealing with a A 17 hypothetical situation. 18 MR. ROBIE: I had a feeling that's why you interpreted 19 it as a hypothetical question. 20

MR. PALMER: Thank you.

MR. ROBIE: Mr. Smaage.

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CROSS-EXAMINATION

Q BY MR. SMAAGE: Mr. Hammond, if, after this ten-year period of study it was determined that the Department of Fish and Game's proposed minimum flows were really the only method of preserving the salmon resource, would the Bureau be in a position at the end of ten years to provide that much water? D-151 A This would have to be taken into context, too, Mr. Smaage, with the rest of the functions to be served by the project, and a part of the difficulty any agency serving the public deals with, and we are all in that boat, is what does the public want. Now, if it is the fishery, yes, obviously that's what we would have to go after. I mean priorities have got to come about in the consideration of all the functions to be served. And at this point in time, I couldn't commit myself to the fact that ten years from now we would agree that fishery was the most important thing to be served by the project.

MR. SMAAGE: Thank you.

MR. ROBIE: All right. If there are no further questions -- Mr. Pettit.

EXAMINATION

Q BY MR. PETTIT: Mr. Hammond, I believe you referred to the 70,000 acre-foot per annum authorization for water quality releases for the project.

A I referred to a figure of 50,000 for the San Joaquin side of the Delta.

Q Well, maybe I will go a little further, that was to refresh your memory I thought. Earlier in the hearing there was some question raised as to whether the authorization was for water quality control with an amount to be determined or whether the authorization specifically mentioned 70,000 acre-feet. I'm not sure we ever cleared that up completely.

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I see, okay. I don't know.

MR. RICE: I believe the Corps answered that in some-D-152

thing they put in today, is that right? MR. PETTIT: It could well be. MR. ROBIE: adequately covered, it could be covered in the briefs. I don't want to be the Corps' expert. Α MR. McCUBBIN: I think the Corps' position is that it is up to 70,000 and the EIS has a planning figure of 35, and it depends on the year and the standards. Rice? little --

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MR. ROBIE: I think I recall the Congress left it up to the executive agency to make the determination and they made the determination, didn't you say, along those lines. Mr. MR. RICE: Something like that. I might respond a I think somebody asked you if the agency MR. ROBIE: could change its determination and I think we left it there. We can also review the statutes in the record and see if we can find any reference to that. Any other questions? you very much. Mr. Hammond. MR. McCUBBIN: Before we go, in regard to the briefs, do you expect a brief from the Corps? Anyone who wishes to can submit one. MR. ROBIE: offer the opportunity. If you don't want to, you don't have Maybe we could ask if there's anybody who is going to to. submit briefs. Mr. Palmer indicates he is and so does Mr. Smaage. We marked Exhibits 51 and 52, the estimated MR. RICE: D-153 GPO 690-042/76-11

Thank

We

I haven't read all that correspondence.

In any event, Mr. Pettit, if it is not