

TABLE OF CONTENTS

Introduction 1

Hearing on Applications 2

Substance of the Applications 3

Proposed Projects of Yuba County Water Agency
and Johnson Rancho County Water District 7

 Project of Yuba County Water Agency 7

 Project of Johnson Rancho County Water District 9

 Joint Development Proposed by Johnson Rancho
 County Water District 10

 Availability of Unappropriated Water 11

 Financial Feasibility of Proposed Projects 12

 Market for Water and Power 14

 Flood Control and Recreational Benefits 16

 Maintenance of Fish 18

 Ability to Proceed with Diligence 18

 Conclusions 21

Proposed Projects of the Tahoe National Forest and
Nevada Irrigation District Involving Weaver Lake 24

 Description of Weaver Lake 24

 Water Supply 24

 Plans of Tahoe National Forest 24

 Plan of Nevada Irrigation District 25

 Feasibility of Project of Nevada Irrigation
 District 26

 Ability to Proceed with Diligence 27

 Conclusions 28

Project Proposed by Placer County Water Agency 28

 Project Feasibility 29

 Ability to Proceed with Diligence 30

 Conclusion 30

Order 31

1159

STATE OF CALIFORNIA
STATE WATER RIGHTS BOARD

In the Matter of Applications 5631,
5632, 15204, 15205, 15563 and
15574 of Yuba County Water Agency;
Application 12746 of Placer County
Water Agency; Applications 14700,
14701, 19138 and 19139 of Nevada
Irrigation District; Applications
15560, 15585, 15656, 15700, 15873,
15930, 15944 and 15945 of Johnson
Rancho County Water District; and
Application 17236 of Tahoe National
Forest to appropriate from the Yuba
River Stream System in Yuba, Sierra
and Nevada Counties

Decision D 1159

DECISION APPROVING APPLICATIONS 5631, 5632, 15204,
15205, 15563 AND 15574 OF YUBA COUNTY WATER AGENCY,
IN PART, AND APPLICATION 17236 OF TAHOE NATIONAL
FOREST, IN PART; AND DENYING APPLICATION 12746 OF
PLACER COUNTY WATER AGENCY, APPLICATIONS 14700,
14701, 19138 AND 19139 OF NEVADA IRRIGATION DISTRICT,
AND APPLICATIONS 15560, 15585, 15656, 15700, 15873,
15930, 15944 AND 15945 OF JOHNSON RANCHO COUNTY
WATER DISTRICT

INTRODUCTION

This decision concerns twenty applications, either
filed or held by assignment by five public agencies, to
appropriate water of the Yuba River and its tributaries. The

applicants are Yuba County Water Agency, referred to hereinafter as "Yuba"; Placer County Water Agency, referred to hereinafter as "Placer"; Nevada Irrigation District, referred to hereinafter as "NID"; Johnson Rancho County Water District, referred to hereinafter as "Johnson Rancho"; and the United States Tahoe National Forest, referred to hereinafter as "Forest Service." The projects covered by the applications held by Yuba and Johnson Rancho contemplate major works and overall development of the water of the Yuba River and its tributaries and will be discussed together. The projects contemplated by NID and the Forest Service compete for water from a common source and will be discussed together. Discussion of the project proposed by Placer County, which has no sites in common with or substantial effect upon the other projects, will follow.

HEARING ON APPLICATIONS

Protests to the applications having been received, a public hearing under the provisions of the California Administrative Code, Title 23, "Waters," was held before the State Water Rights Board (hereinafter referred to as the Board), on June 4, 5, 6, 7, 11, 12, 13 and 14, 1963, at Marysville, California, conducted by Board members William A. Alexander, presiding, and Ralph J. McGill. The applicants, protestants, and other interested parties were duly notified of all sessions of the hearing.

SUBSTANCE OF THE APPLICATIONS

The salient features of the applications herein considered are summarized in Tables 1, 2 and 3. The map accompanying this decision shows the major features covered by the applications. Information shown in Table 1 relates to applications of Yuba County Water Agency. Information shown in Table 2 relates to applications of Johnson Rancho County Water District and incorporates the changes proposed by amended applications submitted on April 30, 1963.

Information shown in Table 3 relates to applications of Placer County Water Agency, Nevada Irrigation District and United States Tahoe National Forest and incorporates the changes proposed by amended Application 12746 submitted on June 6, 1963, by Placer County Water Agency.

TABLE 1

SUMMARY OF APPLICATIONS OF YUBA COUNTY WATER AGENCY
TO APPROPRIATE FROM YUBA RIVER AND TRIBUTARIES

Appl. No.	Date filed	Direct diversion				Storage					Purpose ^{2/}	Place of use				
		Source of appropriation	Diversion dam	Quantity : cfs ^{1/}	Season	Source of appropriation	Diversion dam	Storage reservoir	Quantity : afa ^{2/}	Season of collection						
5631	7/30/27	Middle Yuba	Hour House	1,000	Year-round	North Yuba	New Bullards Bar	New Bullards Bar	490,000	10/1-8/1	P	New Bullards Bar, New and Existing Colgate, and New and Existing Narrows Power Plants				
		Oregon Creek	Log Cabins	1,100	do											
		North Yuba	New Bullards Bar	1,800	do											
		North Yuba	New Colgate	1,800	do											
		Yuba	Narrows	1,800	do											
5632	7/30/27	North Yuba	New Colgate	43	Year-round	North Yuba	New Bullards Bar	New Bullards Bar	490,000	10/1-8/1	D,FC,I	A net irrigable area of 102,989 acres within a gross area of 121,366 acres within Yuba County Water Agency				
Yuba	Irrigation Diversion Weir	1,657	do						In,N,R,SC							
15204	2/20/53	North Yuba	New Colgate	43	3/1-11/1	North Yuba	New Bullards Bar	New Bullards Bar	240,000	10/1-8/1	D,FC,I, In	Same as A-5632				
				657	3/1-11/1				Yuba	Timbuctoo			Timbuctoo	6,000	5/1-8/1	R
15205	2/20/53	Middle Yuba	Hour House	800	Year-round	Middle Yuba	Hour House	New Bullards Bar	Total of	10/1-8/1	P	Same as A-5631				
		Oregon Creek	Log Cabin	800	do											
		North Yuba	New Bullards Bar	800	do											
		North Yuba	New Colgate	800	do											
		Yuba	Narrows	800	do											
		Oregon Creek	Log Cabin	120,000	10/1-8/1											
		North Yuba	New Bullards Bar	6,000	5/1-8/1											
15563	10/2/53	Middle Yuba	Hour House	200	Year-round	Middle Yuba	Hour House	New Bullards Bar	30,000	10/1-8/1	P	Same as A-5631				
		Oregon Creek	Log Cabin	1,100	do											
		North Yuba	New Bullards Bar	1,800	do											
		North Yuba	New Colgate	1,800	do											
		Yuba	Narrows	1,800	do											
		Oregon Creek	Log Cabin	44,000	10/1-8/1											
		North Yuba	New Bullards Bar	146,000	10/1-8/1											
15574	10/9/53	Yuba	Irrigation Diversion Weir	1,000	3/1-11/1	Middle Yuba	Hour House	New Bullards Bar	150,000	10/1-8/1	D,FC,I	Same as A-5632				
													Oregon Creek	Log Cabin	44,000	10/1-8/1
													North Yuba	New Bullards Bar	320,000	10/1-8/1
															New Bullards Bar	

^{1/} cfs = cubic feet per second^{2/} afa = acre-feet per annum^{3/} D = domestic, FC = flood control, I = irrigation, In = industrial

N = navigation, R = recreational, SC = salinity control

TABLE 2

SUMMARY OF APPLICATIONS OF JOHNSON RANCHO COUNTY WATER DISTRICT
TO APPROPRIATE FROM YUBA RIVER AND TRIBUTARIES

Appl. No.	Date filed	Direct diversion				Storage					Purpose ^{3/}	Place of Use
		Source of appropriation	Diversion dam	Quantity cfs ^{1/}	Season	Source of appropriation	Diversion dam	Storage reservoir	Quantity afa ^{2/}	Season of collection		
15560	10/1/53	Yuba do do do	Narrows North Canal) South Canal) Daguerre Point)	1,500 1,500	3/1-11/1 3/1-11/1	North Yuba Yuba Yuba	Indian Valley Narrows Parks Bar	Indian Valley Waldo Parks Bar	220,000 300,000 120,000	10/1-8/1 10/1-8/1 10/1-8/1	D, I	A net of 212,000 acres within a gross area of 451,000 acres in Butte, Yuba, Sutter, Nevada and Placer Counties and 1,000,000 acres on the valley floor of the Sacramento and San Joaquin Rivers
15585	10/26/53					Yuba do	Narrows Parks Bar	Waldo) Parks Bar)	180,000	10/1-8/1	D, I	Same as A-15560
15656	12/17/53	Yuba	Small South Yuba Canal	500	3/1-11/1						D, I	24,000 net irrigable acres within Wheatland Water District and adjacent area
15700	1/25/54	Yuba do do do	Indian Valley New Bullards Bar New Colgate Narrows	900 900 900 1,700	Year-round do do do	North Yuba Yuba	Indian Valley Parks Bar	Indian Valley Parks Bar	220,000 320,000	10/1-8/1 10/1-8/1	P	Indian Valley, New Bullards Bar, New Colgate and Parks Bar Power Plants
15873	5/14/54					Yuba do	Narrows Parks Bar	Waldo) Parks Bar)	282,000	10/1-8/1	D, I	Same as A-15560
15930	6/25/54					Yuba	Parks Bar	Parks Bar	440,000	10/1-8/1	P	Parks Bar Power Plant
15944	7/14/54	Deer Creek	Deer Creek	200	3/1-11/1	Deer Creek Yuba do	Deer Creek Narrows Parks Bar	Waldo Waldo) Parks Bar)	50,000 218,000	10/1-8/1 10/1-8/1	D, I	Same as A-15560

^{1/} cfs = cubic feet per second^{2/} afa = acre-feet per annum^{3/} D = domestic, I = irrigation, P = power

TABLE 3

SUMMARY OF APPLICATIONS OF PLACER COUNTY WATER AGENCY, NEVADA IRRIGATION DISTRICT AND UNITED STATES TAHOE NATIONAL FOREST TO APPROPRIATE FROM TRIBUTARIES OF YUBA RIVER

Appl. No.	Date filed	Direct diversion				Storage				Purpose ^{3/}	Place of use	
		Source of appropriation	Diversion dam	Quantity cfs ^{1/}	Season	Source of appropriation	Diversion dam	Storage reservoir	Quantity afa ^{2/}			Season of collection
<u>PLACER COUNTY WATER AGENCY</u>												
12746	10/13/48	Rattlesnake Creek	Rattlesnake South Yuba	60	1/1-7/15	Rattlesnake Creek	Rattlesnake South Yuba	Enlarged Lake Valley	9,000	1/1-7/15	D,I,M.	A net area of 7,000 acres within a gross area of 89,700 acres in Placer County
		South Yuba	South Yuba	240	1/1-7/15	South Yuba	South Yuba	Lake Valley	36,000	1/1-7/15	R,S	
<u>NEVADA IRRIGATION DISTRICT</u>												
14700	3/6/52	Haypress Creek	Haypress	230	10/1-7/15	Haypress Creek	Haypress	Haypress) Milton) Bowman)	75,000	10/1-7/15	P	Bowman Power Plant
14701	3/6/52	Haypress Creek	Haypress	230	4/15-7/15	Haypress Creek	Haypress	Haypress) Milton) Bowman) Parker)	75,000	10/1-7/15	I	167,789 acres within Nevada Irrigation District
19138	12/17/59	East Fork Middle Yuba Weaver Creek	East Fork) Weaver)	70	4/15-10/15	East Fork Middle Yuba Weaver Creek	East Fork Weaver	Weaver Lake) Weaver Lake)	4,730	10/15-5/31	I	A net irrigable area of 88,025 acres within a gross area of 268,000 acres in Nevada Irrigation District
19139	12/17/59	East Fork Middle Yuba Weaver Creek	East Fork) Weaver)	70	6/30-4/1	East Fork Middle Yuba Weaver Creek	East Fork Weaver	Weaver Lake) Weaver Lake)	4,730	10/15-5/31	P	Spaulding Rim, Spaulding No. 1, Drum, Dutch Flat No. 2, and Chicago Park Power Plants
<u>UNITED STATES TAHOE NATIONAL FOREST</u>												
17236	8/13/56	Weaver Lake	Weaver	.01	5/1-11/30	Weaver Lake	Weaver	Weaver Lake	4,320	12/1-5/1	D, R	Weaver Lake

1/ cfs = cubic feet per second

2/ afa = acre-feet per annum

3/ D = domestic, I = irrigation, M = municipal,

R = recreational, S = stockwatering, P = power.

PROPOSED PROJECTS OF YUBA COUNTY WATER AGENCY
AND JOHNSON RANCHO COUNTY WATER DISTRICT

Project of Yuba County Water Agency

Yuba proposes to construct a diversion dam, referred to as Hour House, on the Middle Yuba River, which will divert water through the Lohman Ridge Tunnel to Oregon Creek. Immediately below the outlet of this tunnel, water will be diverted from Oregon Creek by the Log Cabin Diversion Dam through a proposed Camptonville Tunnel to Willow Creek which enters the North Yuba River upstream from a proposed New Bullards Bar Dam. This dam is to be located on North Yuba River approximately 1.5 miles downstream from the existing Bullards Bar Dam of Pacific Gas and Electric Company (hereinafter referred to as "P.G.& E."), which will be inundated. The reservoir formed by this dam will have a gross capacity of 930,000 acre-feet. A two-unit New Bullards Bar Power Plant with a capacity of 132,000 kilowatts will be located at the downstream toe of the dam.

New Bullards Bar Dam will be a rock-fill or concrete-arch structure. If it is to be rock-fill, the fill material will cover the site of P.G.& E.'s Colgate Dam and the intake works of an existing power tunnel. This will necessitate the construction of a new dam approximately 2,700 feet downstream from the axis of the New Bullards Bar Dam, along with 3,000 feet of new tunnel

to link the forebay formed by the new dam and the existing P.G.& E. tunnel. A New Colgate Tunnel, 22,400 feet in length with a capacity of 3,800 cfs, will be constructed with an intake immediately upstream from the New Colgate Dam to connect with a 2,300-foot penstock to a proposed New Colgate Power Plant. If New Bullards Bar Dam is to be a concrete-arch structure, existing Colgate Diversion Dam will create a forebay for the existing tunnel of P.G.& E., as well as the New Colgate Tunnel. The New Colgate Power Plant will be located on the north bank of the Yuba River approximately 600 feet downstream from P.G.& E.'s existing Colgate Power Plant and will have a total installed capacity of 122,000 kw.

An existing Narrows Dam which creates Englebright Reservoir is located approximately nine miles downstream from the Colgate Power Plant and six miles from the confluence of the South Yuba River and the Yuba River. Water will be conveyed from Englebright Reservoir to a proposed New Narrows Power Plant which will be a 41,000-kw. installation. The proposed Timbuctoo Afterbay Dam will be located approximately two and one-half miles downstream from the Narrows Power Plants. It will have a gross storage capacity of 5,700 acre-feet and will furnish regulatory storage for the purpose of serving Yuba's proposed North and South Canals and the existing canals of the Hallwood Irrigation Company and the Cordua Irrigation District. An Irrigation Diversion Weir will

divert water into proposed North Yuba and South Yuba Canals to serve lands within Yuba County.

Project of Johnson Rancho County Water District

On April 30, 1963, Johnson Rancho submitted amended applications to support a revised water development plan for the Yuba River and tributaries. The revised plan contemplates the construction of the Indian Valley Reservoir of 282,000 acre-foot capacity on the North Yuba River, an 825,000 acre-foot capacity Parks Bar Reservoir on the main stem of the Yuba River, and a 200,000 acre-foot capacity Waldo Reservoir for off-stream storage on Dry Creek. Water is to be released from the Indian Valley Reservoir through the Indian Valley Power Plant located at the downstream toe of the dam, thence into New Bullards Bar Reservoir for release through New Bullards Bar and New Colgate Power Plants to P.G. & E.'s Englebright Reservoir. Water will be either released from Englebright Reservoir directly into the proposed Parks Bar Reservoir, thence through Parks Bar Power Plant, or through a proposed Smartsville conduit system which will either take the water to a penstock leading into the Parks Bar Power Plant or to storage in the proposed Waldo Reservoir. Consumptive use of water will be within the Wheatland Water District, Johnson Rancho District and adjacent areas, and on lands in Butte, Sutter, Nevada and Placer Counties, and on an undesignated 1,000,000 acres on the valley floor of the Sacramento and San Joaquin Rivers.

Joint Development Proposed by

Johnson Rancho County Water District

During the course of the hearing and by way of a brief filed subsequent to the hearing, Johnson Rancho proposed a joint development of the water resources of the Yuba Basin. Under this proposal for joint development, Yuba would construct Hour House and Log Cabin Diversion Dams, Lohman Ridge and Camptonville Tunnels, New Bullards Bar Dam and Reservoir, and the New Bullards Bar and New Colgate Power Plants. Johnson Rancho would construct a 320,000 acre-foot, first-stage Parks Bar Dam and Reservoir and Parks Bar Power Plant, along with what is described as a "small Waldo Project."

The normal high water level of Johnson Rancho's Parks Bar Reservoir would be approximately 200 feet higher than the elevation of Yuba's proposed New Narrows Power Plant and would necessitate elimination of this power facility as well as P.G. & E.'s existing Narrows Power Plant.

Yuba contends that elimination of the New Narrows portion of its project would make its project infeasible and for that reason, along with others, is not agreeable to the proposal. It further contends that the overall joint project would be infeasible and that Johnson Rancho's Parks Bar Dam and Power Plant taken alone would be 50 per cent short of financial feasibility. Johnson Rancho did not submit a project operation study to substantiate the feasibility of

such a joint project.

Johnson Rancho is within the proposed service area of Yuba, and its expressed interest in constructing a project is to accomplish a higher degree of flood protection and development of the waters of the Yuba River system than that offered by Yuba's project, in the public interest. In this regard the State Department of Water Resources has been conducting a comprehensive investigation leading to full development of the water resources of Yuba Basin which was commenced in the year 1957 and which is now in its final phase (DWR Exh. 11). The Department considers Yuba's project a satisfactory initial stage of an overall development which will accomplish the maximum development of the waters of the entire stream system. The second stage of the development will include a 1,000,000 acre-foot Marysville Reservoir approximately five miles downstream from the Parks Bar damsite.

Availability of Unappropriated Water

The historic average annual flow of the Yuba River is 1,900,000 af, and the monthly distribution is as follows:

<u>Average Monthly Flows of Yuba River</u> <u>(in thousands of acre-feet)</u>							
Jan.	185	April	329	July	47	Oct.	23
Feb.	267	May	339	Aug.	24	Nov.	61
Mar.	285	June	176	Sept.	20	Dec.	145

Diversions from the Yuba between Narrows Dam and its confluence with Feather River averaged approximately 190,000 afa for the years 1958-1960, most of which was being diverted by Hallwood Irrigation Company and Cordua Irrigation District at a point just below Yuba's Irrigation Diversion Weir.

Water is usually physically present at the sites of the facilities proposed by Yuba and Johnson Rancho in sufficient quantities to satisfy the applications for either of the projects. There was no contention made at the hearing that either of the projects would interfere with uses of water from the Yuba River system under prior rights.

An analysis of the available water supply in the Sacramento River to which the Yuba contributes, based on the "1956 Cooperative Study Program" (Staff Exh. 5) and the "Shasta Operation Study" (Staff Exhs. 6 and 7), shows that, except during the months of July and August, water in excess of the quantities necessary to satisfy prior rights on the Sacramento River and in the Delta occurs in the Yuba River at Yuba's Irrigation Diversion Weir in most years.

Financial Feasibility of Proposed Projects

Both Johnson Rancho and Yuba intend to finance their projects through sale of bonds secured by revenue from power sales. It is expected that the projects would receive additional revenues from the sale of water and grants for flood control from the Federal Government.

Yuba plans to integrate the operation of its proposed power plants with the existing Colgate and Narrows Power Plants of P.G.& E. Its objective is to obtain the maximum power from the project commensurate with the highest possible firm yield of water for irrigation and for flood control requirements (Yuba Exh. 36, p. III-1). Its integrated system will have an annual load factor of 0.415 for the first 15 years of project operation. The average annual load factor for the next 30 years will be 0.340 (Yuba Exh. 26, p. III-5; RT 265). Yuba's development will have a total installed capacity of 297,000 kw. with a firm capacity of 214,000 kw. at a load factor of 0.415 and with a firm capacity of 239,000 kw. at a load factor of 0.340. This will produce a net annual energy of 1,006,500,000 kwh. at a load factor of 0.415 and 998,300,000 kwh. at a load factor of 0.340.

At an estimated net annual revenue of \$22.50 per kw. for dependable capacity and \$0.003 per kwh. for usable energy, there will be a net annual power revenue for the first 15 years of \$6,931,000 and \$7,469,000 for the next 30 years.

Based upon the foregoing power revenues, a \$10 million flood control grant, a 45-year payout period, and interest at $3\frac{1}{2}$ per cent, capital would be available to meet the estimated construction costs of \$167,400,000 and leave a surplus of \$5,000,000. The project would be

financially feasible if interest paid on the revenue bonds is 3.7 per cent or less. The foregoing analysis does not take into consideration any revenue from water sales or funds from a Davis-Grunsky grant.

Johnson Rancho has not submitted similar data either on the project as it stands under its pending applications or for a proposed joint development.

Market for Water and Power

Yuba received a letter dated May 31, 1963, from P.G.&E., stating that it was the company's firm intention to enter into an agreement for the purchase of the power to be derived from its proposed project (Yuba Exh. 50). Further, P.G.&E. intervened in proceedings before the Federal Power Commission in support of Yuba's project and surrendered its License No. 187 on its Bullards Bar project which is to be inundated under Yuba's plans. Johnson Rancho has received no such letter of intent. There is no showing that Johnson Rancho could obtain a similar waiver of P.G.&E.'s Federal power license covering its Narrows project which would be inundated by Johnson Rancho's proposed Parks Bar Reservoir.

The irrigated acreage within the Yuba County Water Agency is now 67,500 acres which are supplied from both surface and ground water sources. Ground water extractions within the agency are 189,000 acre-feet per annum. There is an annual ground water overdraft of 87,500 acre-feet.

Yuba's project would produce a new supply of 265,000 acre-feet per annum the first 15 years and 366,000 acre-feet

per annum the next 30 years. It is expected that the irrigated area within the agency would increase to 117,000 acres by the end of the first 45 years of project operation which, Yuba estimates, would result in a consumptive use of 530,000 acre-feet per annum. The estimated annual unit consumptive use would be over 4.5 acre-feet per acre which is higher than is normally experienced under similar conditions. Use of water for municipal purposes would result in an estimated consumptive use of 46,000 afa. In addition to being sufficient to eliminate the ground water overdraft and to meet the total estimated consumptive use of 576,000 acre-feet, the water supply produced by Yuba's project coordinated with other presently developed supplies, would be sufficient to maintain a minimum flow of 150 cfs from the Yuba River into the Feather River and in addition would result in return flows directly to the Feather and Bear Rivers of 134,000 acre-feet per annum. The average annual flow from the Yuba River into the Feather River will be substantially in excess of 1,000,000 acre-feet after full development under Yuba's proposed project (Table II, Yuba Exh. 29).

Yuba presented resolutions from 14 public agencies within Yuba County in support of its project or requesting water service. Some of these agencies were specifically organized for the purpose of constructing distribution works and purchasing water from Yuba. The area within the boundaries of these public agencies is more than 75 per cent of the area to be served by Yuba's project.

Johnson Rancho has approximately 800 acres of land subject to irrigation within its boundaries requiring an estimated 4,000 acre-feet a year, which is approximately 0.3 of 1 per cent of the total yield of its proposed project (RT 927-928). There are only two families and six voters in the district (RT 616). It contemplates service to other areas within Yuba County which Yuba also proposes to serve (RT 916). However, there have been no indications from any water users within this larger local area that they wish to be served by Johnson Rancho. The principal area which Johnson Rancho proposes to serve is an indefinite 1,000,000 acres on the valley floor of the Sacramento and San Joaquin Rivers (RT 886). No definite information was submitted as to the requirements or the particular places of use within this general area (RT 807). Service to this area would necessitate the use of the State's aqueduct system or the Bureau of Reclamation facilities. No agreement has been reached, and no negotiations are in process for the use of either of these facilities (RT 941). In addition, there has been no definite written expression of an intention to purchase water from Johnson Rancho by any user in this general area (RT 909-910).

Flood Control and Recreational Benefits

Storage space of 170,000 acre-feet will be reserved in New Bullards Bar Reservoir for flood control purposes (RT 94-96), which figure was arrived at in cooperation with

the U. S. Army Corps of Engineers. Flood damage caused in the Marysville area by the disastrous 1955 flood could have been prevented if there had been this amount of flood control storage on the Yuba River and if the Oroville Dam had been constructed. Flood damage in the Yuba River flood plane would be reduced an estimated annual amount of \$655,000 (RT 11, 40, 262, 334).

Johnson Rancho estimated that from 230,000 to 260,000 acre-feet of storage at a first-stage Parks Bar Reservoir would be available for flood control purposes (RT 746). No operation study was presented to establish the financial feasibility of such a reservation (RT 746). No opinion was given as to flood control benefit of a second-stage Parks Bar Reservoir; and no further investigation is planned by this applicant "until the question of the Narrows Project is settled." (RT 752).

Yuba's plans include developing the recreational potential at New Bullards Bar Reservoir, which will have a surface area of 4,600 acres and a shoreline of 16 miles. The reservoir will be at an elevation of approximately 2,000 feet in a protective canyon. Access roads will be made available for most of the potential camping and picnicking sites. It is estimated that recreational use at Bullards Bar Reservoir will increase from the present 12,000 visitor-days per year to an ultimate 402,000 in the year 2020. Recreational benefits under full development are estimated to be \$4,850,000 (RT 328).

Although recreational benefits are inherent in the projects planned by Johnson Rancho, no specific testimony in that regard was received at the hearing.

Maintenance of Fish

Both Yuba and Johnson Rancho have entered into agreements with the Department of Fish and Game which provide for the maintenance of certain minimum flows in the Yuba River below Timbuctoo Afterbay Dam for the benefit of fish. Since the specified flows exceed the natural flow at times, release of some stored water will be required to comply with the agreements. Whether the agreed quantities of water are reasonably required for fish and in the public interest was not an issue at the hearing. A determination of the question does not appear necessary in disposing of the pending applications, since the parties have not requested the Board to approve the agreements or to take any action with respect thereto. Under the circumstances, issuance of permits to Yuba will not foreclose the Board in other proceedings from considering whether maintenance of the minimum flows which have been agreed to is necessary and in the public interest.

Ability to Proceed with Diligence

Yuba is a countywide agency formed by special act of the Legislature in 1959 (RT 102). On May 16, 1961, the voters of Yuba County authorized the issuance of revenue bonds in the amount of \$185,000,000 for the construction of a

project to develop the water resources of the Yuba River and its tributaries.

On May 23, 1962, Yuba entered into an agreement with the Department of Water Resources, eliminating any conflict resulting from loss of head at its New Narrows power facilities due to any Marysville Dam project in the construction of which the Department of Water Resources may become involved.

On December 6, 1962, Yuba entered into an agreement with the Bureau of Reclamation to eliminate a possible conflict between its proposed facilities and a proposed Marysville Dam and Reservoir now under study by the Bureau.

Yuba and NID entered into an agreement dated November 13, 1961, resolving conflicts between them relating to their pending applications, which contemplates the incorporation of the terms of the agreement in permits to be issued to them.

A joint resolution was passed by the 1963 session of the California Legislature supporting Federal legislation authorizing a flood control appropriation for Yuba's project (RT 110).

Agreement was reached with the U. S. Forest Service in regard to the use of necessary Federal lands, and Yuba has committed itself to a \$3,000 contribution to recreational development in the area.

A Federal power license authorizing Yuba's proposed project was issued on May 16, 1963, which included a waiver by P.G.& E. of its rights under an existing license covering facilities to be inundated by the agency's project.

On December 6, 1963, the U. S. Army Corps of Engineers announced that a review report on the Bullards Bar project had been completed by the District and Division Engineers. The report approved the New Bullards Bar Reservoir contemplated by Yuba and recommended a Federal flood control contribution to Yuba in a sum not to exceed \$18,700,000.

Yuba has expended \$30,000 for preliminary studies of development of waters of the Yuba Basin made by Bechtel engineers. Since that time, Yuba has retained International Engineers for studies which resulted in the present project and has committed the taxpayers of the county in the sum of \$440,000 for such work (RT 106-107). A definite construction schedule for the proposed facilities has been submitted, and the estimated date for the commencement of construction is August 1, 1964.

Johnson Rancho's engineer stated during the course of the hearing that construction of Indian Valley Reservoir is too far in the future to justify approval of its applications as they relate to the same (RT 903). There are no final plans or hydrology studies to determine the power and/or water yield for either the project set forth by the amended applications or for the proposed joint project (RT 655).

Kaiser or Ebasco engineers are to be used for this work, but they have not been authorized to make such studies (RT 656, 753). Apparently the studies have not been made because Johnson Rancho does not wish to incur the necessary indebtedness (RT 655). It is not now apparent how such studies which, according to Kaiser engineers, will take 5 years (RT 656), will be financed.

Other matters previously discussed under "Market for Water and Power" are pertinent to the question of Johnson Rancho's ability to proceed with diligence.

Conclusions

1. The revenue from the power features of Yuba's project including the New Narrows facility together with other available funds are adequate to meet expected costs of construction of the project.
2. Yuba's project will provide a significant measure of flood control as well as make water available for necessary multi-purpose uses and will be consistent with other plans by the State and Federal governments for the ultimate full development of the Yuba River.
3. There is unappropriated water available to supply Yuba, except for consumptive purposes during the months of July and August, and subject to suitable conditions, such water may be diverted and used in the manner proposed without causing substantial injury to any lawful user of water.

4. Yuba has shown that it can reasonably be expected to commence construction of its project promptly and to proceed with due diligence in placing the water to be appropriated to beneficial use and that approval of its applications would be in the public interest.

5. The water diverted pursuant to Yuba's permits should be limited to the capacities of Yuba's diversion facilities, as follows: 930,000 af at New Bullards Bar Reservoir, 6,000 af at Timbuctoo Afterbay, 1,000 cfs at Hour House, 1,100 cfs at Log Cabin, 3,800 cfs at New Bullards Bar, 3,800 cfs at New Colgate, 3,000 cfs at Narrows, 400 cfs at North Canal Intake, and 1,150 cfs at South Canal Intake.

6. Johnson Rancho has failed to show the financial feasibility of either its project or the joint project proposed by it, or that it is able to construct its project and place water to beneficial use in the manner described in its applications.

From the foregoing findings, the Board concludes that Applications 5631, 5632, 15204, 15205, 15563, and 15574 should be approved in part and that permits should be issued to Yuba subject to the limitations and conditions set forth in the following Order; that approval of Applications 15560, 15585, 15656, 15700, 15873, 15930, 15944, and 15945 of Johnson Rancho would not be in the public interest, and these applications should be denied in their entirety.

Applications 5631 and 5632 were originally filed by the State Department of Finance under the provisions of Section 10500 of the Water Code and were assigned to Yuba by the California Water Commission. To satisfy the provisions of Water Code Section 10505, the assignment reserved to any county in which water covered by the applications originates "such water as may be necessary for the development of such county." Permits issued to Yuba should contain a similar provision in accordance with the public interest.

The permits to be issued to Yuba should also be subject to the agreement dated November 13, 1961, between Yuba and NID, insofar as such agreement relates to matters within the jurisdiction of the Board.

PROPOSED PROJECTS OF THE TAHOE NATIONAL
FOREST AND NEVADA IRRIGATION DISTRICT
INVOLVING WEAVER LAKE

Description of Weaver Lake

Weaver Lake is a natural lake located approximately one mile north of Bowman Lake and approximately 37 miles northeast of Nevada City. The capacity of the lake has been increased to 3,800 acre-feet by the construction of a rock-fill dam at its outlet. The dam is in disrepair and an outlet tunnel formerly used to draw down the lake when the lake was used as a source of water for mining operations is partially plugged. Leakage from the dam and tunnel draws the lake down to a low level in the late summer and fall.

Water Supply

Weaver Lake is fed by Weaver Creek and runoff from a watershed of approximately 620 acres (RT 821). Inflow to the lake during the winter and spring usually fills the lake to spillway level (RT 984). There is no inflow to the lake during the months of July and August (RT 1003).

Plans of Tahoe National Forest

The Forest Service proposes to repair or rebuild the existing dam and completely plug the outlet tunnel to

eliminate leakage. The estimated cost of such work is \$20,000. The object of the project is to stabilize the water in the lake, which would result in improving food conditions for fish and improve the lake as a fishery resource by one-third (RT 985). The Department of Fish and Game is agreeable to the elimination of releases from the lake in order that the lake may be stabilized (RT 987).

Recreational use in the vicinity of the lake, which includes camping and picnicking, amounted to approximately 2,200 visitor-days in 1962 (Forest Service Exh. 5). The Forest Service plans to expend approximately \$240,000 on additional recreational facilities which it estimates would raise the visitor-days per year to 33,000 by the year 1975 and 57,000 by the year 2000. Water would be pumped from the lake at a maximum diversion rate of 0.01 cfs to cover domestic use in the area.

Plan of Nevada Irrigation District

NID proposes to replace the existing dam with a dam 10 feet higher, which would increase the capacity of the lake to 4,800 acre-feet. Water would be diverted from the East Fork Middle Yuba River to Weaver Lake through a 12,000-foot conduit. East Fork Yuba River water combined with Weaver Lake water would then be diverted through a 3,900-foot tunnel to Bowman Lake, thence through a conduit to Lake Spaulding. From Lake Spaulding, the water would

pass through a series of P.G.& E. power plants along the Bear River. Downstream from the lowermost power plant the water would be diverted for irrigation purposes within NID.

Feasibility of Project of
Nevada Irrigation District

The estimated cost of constructing the dam and excavating the tunnels contemplated by NID is estimated to be \$1,260,000 at 1959 price levels (RT 486) and could be as high as \$1,400,000 at 1963 price levels (RT 1029). There is no evidence before the Board as to the amount of power the project would produce nor the revenue therefrom. Although sale of the power to P.G.& E. is contemplated, the utility has not indicated any intention to purchase same (RT 501).

The amount of water from the project that would be placed to beneficial use by irrigation is likewise uncertain. NID's average annual water sales were 111,000 acre-feet during the 1952-1957 period, which included 22,000 acre-feet of water purchased from P.G.& E. This water is purchased under a contract which extends through the year 1977 (RT 469). The Yuba-Bear River development now under construction by NID will yield 109,200 afa of additional water for irrigation (Line 4 of Table D, NID Exh. 1). It is reasonable to assume that water developed

by the Yuba-Bear project will meet NID's requirements for many years in the future.

Ability to Proceed with Diligence

NID has no agreement with P.G.& E. for the use of the company's power facilities as contemplated by the project, and there has been no showing that negotiations are now under way between the agencies for such use.

Testimony by representatives of NID was vague and uncertain in regard to when construction would commence if permits were issued (RT 497-499, 549).

The site of the proposed Weaver Lake Dam and 75 per cent of the surface area of the enlarged lake at elevation 5,682 would be on Federal land (RT 817). At sometime prior to 1936, NID filed an application for a Federal Power Commission license to cover a project involving Weaver Lake (RT 861). Following this application, a withdrawal from mineral entry was made in favor of its use for power development purposes (RT 859). In 1936, NID's application for a Federal Power Commission license was dismissed (RT 861). The Forest Service has instituted proceedings to vacate the withdrawal of the land for power development purposes (RT 859). NID has instituted no proceedings before the Federal Power Commission for its proposed Weaver Lake project.

Conclusions

NID has failed to show the necessary ability or intent to proceed with due diligence to construct a project and to place water to beneficial use under Applications 14700, 14701, 19138, and 19139. Approval of these applications would not best serve the public interest, and they should be denied.

The Forest Service is prepared to proceed promptly with construction of the necessary works to place the water to beneficial use under its Application 17236. As its project is essential to the full development of the recreational potential of the area, which is in the public interest, Application 17236 should be approved except for diversions during the months of July and August when water is not available to satisfy the application.

PROJECT PROPOSED BY PLACER COUNTY WATER AGENCY

During the course of the hearing Placer submitted petitions to change the place of use, points of diversion, and purpose of use under its Application 12746. Under Placer's revised plans, water would be diverted by tunnel from Rattlesnake Creek and South Fork Yuba River watershed to the watershed of the North Fork American River. The tunnel would be approximately 5,900 feet long and discharge into the existing P.G.&E. Lake Valley Reservoir, which is proposed to be enlarged to a capacity of 57,000 acre-feet.

Water would be released from this reservoir into the North Fork American River and rediverted four miles downstream into a conduit that would carry the water to the Bear River. The Bear River would serve as a conduit to the headworks of the P.G. & E. Boardman Canal, which would carry the water to a service area of approximately 80,000 acres on the Colfax Ridge for irrigation, municipal, and domestic purposes.

Project Feasibility

Placer's operation studies show that its project would produce approximately 16,500 afa for irrigation purposes with a 33-1/3 per cent deficiency in any one year and with aggregate deficiencies not to exceed 100 per cent in a 7-year period. A firm supply of 13,700 afa for domestic uses could be developed with no deficiencies (Placer Exh. 8B-R and 8C-R). The project would irrigate a net 4,125 acres.

The estimated cost of the project is \$7,750,000, which does not include the cost of increasing the capacity of the Boardman Canal or a distribution system within the Colfax Ridge area (RT 416). The capital cost per acre for the 4,125 acres to be irrigated would be \$1,880 per acre. There is no showing how the area to be served could repay such an investment. Placer proposes to wholesale some of the water produced by the project and considers P.G. & E. as a potential customer. However, there has been no

determination of the amount that would be charged for the water or evidence that P.G.& E. is interested in purchasing water from the project (RT 403, 410-411).

Ability to Proceed with Diligence

In addition to the aforementioned deficiencies in definite plans for proceeding, the applicant admits that negotiations with P.G.& E. for the Boardman Canal will take at least several years (RT 426). Its estimated date of commencement of construction is not before July 1, 1973, but there is no definite evidence to conclude that the project will start even this far in the future.

Conclusion

Placer has not demonstrated intent or ability to proceed with due diligence to construct the necessary works and to place the water to beneficial use under its Application 12746, and its approval would not best serve the public interest. Said application should be denied.

ORDER

IT IS HEREBY ORDERED that Applications 5631, 5632, 15204, 15205, 15563, and 15574 of Yuba County Water Agency and Application 17236 of Tahoe National Forest be, and the same are, approved in part and that permits be issued to the applicants subject to vested rights and to the following limitations and conditions:

1. The amount of water to be appropriated under permit issued pursuant to Application 5631 shall be limited to the amount which can be beneficially used and shall not exceed 1,000 cubic feet per second (cfs) by direct diversion from Middle Yuba River at Hour House Diversion Dam; 1,100 cfs by direct diversion from Oregon Creek at Log Cabin Diversion Dam; 1,800 cfs by direct diversion from North Yuba River at New Bullards Bar Dam; 1,800 cfs by direct diversion from North Yuba River at New Colgate Diversion Dam; and 1,800 cfs by direct diversion from Yuba River at Narrows Dam; and shall not exceed 490,000 acre-feet per annum (afa) by storage in New Bullards Bar Reservoir on North Yuba River. The direct diversion season is year-round, and the storage season is from October 1 of each year to about June 30 of the succeeding year.

2. The amount of water to be appropriated under permit issued pursuant to Application 15205 shall be

limited to the amount which can be beneficially used and shall not exceed 800 cfs by direct diversion from North Yuba River at New Bullards Bar Dam; 800 cfs by direct diversion from North Yuba River at New Colgate Diversion Dam; and 800 cfs by direct diversion from Yuba River at Narrows Dam; and shall not exceed a total of 120,000 afa off-stream storage in New Bullards Bar Reservoir by diversions from Middle Yuba River and Oregon Creek; and shall not exceed 6,000 afa by on-stream storage in New Bullards Bar Reservoir on North Yuba River. The direct diversion season is year-round, and the storage season is from about May 1 to about June 30 of each year.

3. The amount of water to be appropriated under permit issued pursuant to Application 15563 shall be limited to the amount which can be beneficially used and shall not exceed 1,200 cfs by direct diversion from North Yuba River at New Bullards Bar Dam; 1,200 cfs by direct diversion from North Yuba River at New Colgate Diversion Dam; and 400 cfs by direct diversion from Yuba River at Narrows Dam; and shall not exceed 30,000 and 44,000 afa by off-stream storage in New Bullards Bar Reservoir from Middle Yuba River and Oregon Creek, respectively; and shall not exceed 146,000 afa by on-stream storage in New Bullards Bar Reservoir on North Yuba River. The direct diversion season is year-round, and the storage season is from about October 1 of each year to about June 30 of the succeeding year.

4. The amount of water to be appropriated under permit issued pursuant to Application 5632 shall be limited to the amount which can be beneficially used and shall not exceed 43 cfs by direct diversion from North Yuba River at New Colgate Diversion Dam; and 1,550 cfs by direct diversion from Yuba River at the Irrigation Diversion Weir; and shall not exceed 490,000 afa by storage in New Bullards Bar Reservoir on North Yuba River. The storage season is from about October 1 of each year to about June 30 of the succeeding year. The direct diversion season is from about September 1 of each year to about June 30 of the succeeding year.

5. The amount of water to be appropriated under permit issued pursuant to Application 15204 shall be limited to the amount which can be beneficially used and shall not exceed 240,000 afa by storage in New Bullards Bar Reservoir on North Yuba River from about October 1 of each year to about June 30 of the succeeding year; and 6,000 afa by storage in Timbuctoo Afterbay from about October 1 to about June 30 of each year.

6. The amount of water to be appropriated under permit issued pursuant to Application 15574 shall be limited to the amount that can be beneficially used and shall not exceed 44,000 afa and 150,000 afa by off-stream storage in New Bullards Bar Reservoir from Oregon Creek and Middle Yuba River, respectively; and shall not exceed 320,000 afa by on-stream storage in New Bullards Bar Reservoir on North

Yuba River. The storage season is from about October 1 of each year to about June 30 of the succeeding year.

7. The total quantities of water to be appropriated by storage under permits issued pursuant to Applications 5631, 5632, 15204, 15205, 15563, and 15574 shall be limited to 930,000 afa at New Bullards Bar Reservoir and 6,000 afa at Timbuctoo Afterbay.

8. The amount of water appropriated under permit issued pursuant to Application 17236 shall be limited to the amount which can be beneficially used and shall not exceed 0.01 cfs by direct diversion to be diverted from about May 1 to about June 30 and from about September 1 to about November 30 of each year; and 4,320 afa by storage to be collected from about December 1 of each year to about May 1 of the succeeding year.

9. The maximum amounts herein stated may be reduced in the license if investigation warrants.

10. Actual construction work under permits issued on Applications 5631, 5632, 15204, 15205, 15563, and 15574 shall begin on or before June 1, 1965, and under permit issued on Application 17236 shall begin on or before June 1, 1966, and shall thereafter be prosecuted with reasonable diligence, and if not so commenced and prosecuted, the

permits may be revoked.

11. Construction work under permits issued on Applications 5631, 5632, 15204, 15205, 15563, and 15574 shall be completed on or before December 1, 1970, and under permit issued on Application 17236 shall be completed on or before December 1, 1968.

12. Application of the water to the proposed uses under permits issued on Applications 5631, 15205, and 15563 shall be completed on or before December 1, 1975; under permits issued on Applications 5632, 15204, and 15574 shall be completed on or before December 1, 2010, and under permit issued on Application 17236 shall be completed on or before December 1, 1970.

13. Upon the request of the Board, permittee shall make such measurements and maintain and furnish to the Board such records and information as may be necessary to determine compliance with the limitations and conditions of this permit including the recognition of vested rights and for the purpose of determining the quantities of water placed to beneficial use under the permit both by direct diversion and storage.

14. Progress reports shall be filed promptly by permittee on forms which will be provided annually by the State Water Rights Board until license is issued.

15. All rights and privileges under this permit including method of diversion, method of use, and quantity

of water diverted are subject to the continuing authority of the State Water Rights Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

16. This permit does not authorize collection of water to storage outside of the specified storage season to offset evaporation or seepage losses or for any other purpose.

17. Permittee shall allow representatives of the State Water Rights Board and other parties as may be authorized from time to time by said Board reasonable access to project works to determine compliance with the terms of this permit.

18. In accordance with Water Code Section 1393, Yuba County Water Agency shall clear the site of New Bullards Bar Reservoir, Timbuctoo Afterbay and the reservoirs to be created by Log Cabin Diversion Dam, Hour House Diversion Dam, and the Irrigation Diversion Weir on Yuba River, and United States Tahoe National Forest shall clear the site of Weaver Lake of all structures, trees and other vegetation which would interfere with the use of the reservoirs for water storage and recreation purposes.

19. Permits issued pursuant to Application 5631 and 5632 are subject to compliance with Water Code Section 10504.5(a).

Permits issued pursuant to Applications 5631, 5632, 15204, 15205, 15563, and 15574 shall contain the following additional provisions:

1. This permit is subject to lawful appropriation of water for use in any county in which the water originates without regard to the time such appropriations are initiated.

2. This permit is subject to that certain agreement between Yuba County Water Agency and Nevada Irrigation District dated November 13, 1961, filed of record with the State Water Rights Board as Yuba's Exhibit 37 at the hearing of Applications 5631 etc., insofar as such agreement relates to matters within the jurisdiction of the Board.

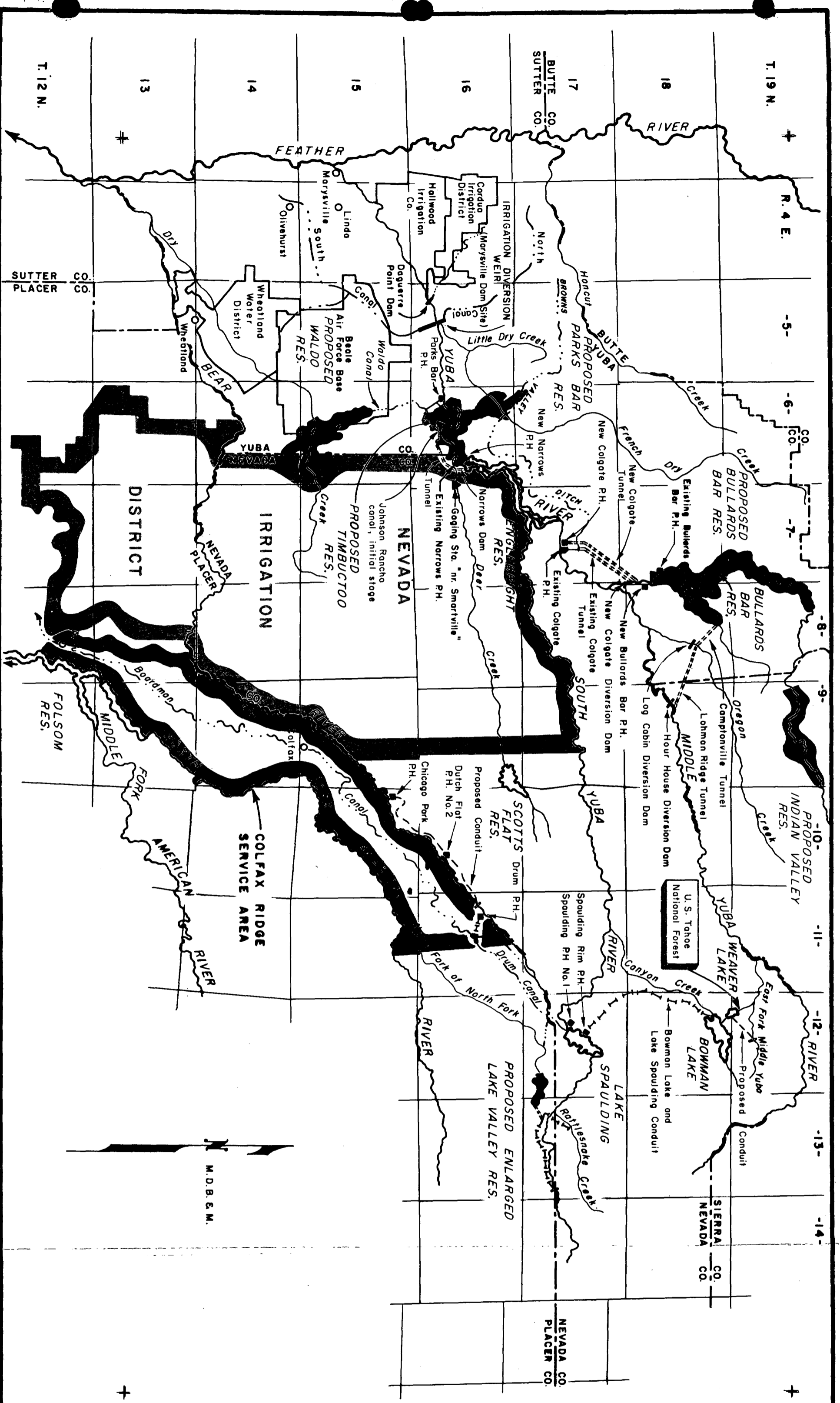
IT IS FURTHER ORDERED that Application 12746 of Placer County Water Agency, Applications 14700, 14701, 19138, and 19139 of Nevada Irrigation District; and Applications 15560, 15585, 15656, 15700, 15873, 15930, 15944, and 15945 of Johnson Rancho County Water District be denied in their entirety.

Adopted as the decision and order of the State Water Rights Board at a meeting duly called and held at Sacramento, California, on the 19th of December, 1963.

Kent Silverthorne, Chairman

Ralph J. McGill, Member

W. A. Alexander, Member



- LEGEND**
- █ Yuba County Water Agency
 - █ Placer County Water Agency
 - █ Nevada Irrigation District
 - █ Johnson Rancho County Water District
 - █ United States Tahoe National Forest

STATE OF CALIFORNIA
 STATE WATER RIGHTS BOARD
 MAP TO ACCOMPANY
 DECISION D 1159



M.D.B. & M.