

STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS  
BEFORE THE STATE ENGINEER AND  
CHIEF OF THE DIVISION OF WATER RESOURCES

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In the Matter of Application 16401 by Tudor Mutual Water Company  
to Appropriate from Feather River, in Sutter County, for  
Irrigation Purposes.

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Decision A 16401 D 840

Decided November 1, 1955

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In Attendance at Investigation Conducted by the Division  
of Water Resources on October 25, 1955:

Larry Otis, Chairman Board of Directors Tudor Mutual Water Company	Representing the applicant
J. R. McBride, Attorney Tudor Mutual Water Company	Representing the applicant
Jennie S. Tweedy, Secretary Garden Highway Mutual Water Company	Representing the protestant
Desmond A. Winship, Attorney Garden Highway Mutual Water Company	Representing the protestant
Grover Shannon	Interested party
John Shannon	Interested party
K. L. Woodward Senior Hydraulic Engineer Division of Water Resources Department of Public Works	Representing the State Engineer

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## DECISION

### General Description of the Project

The application initiates an appropriation of 32 cubic feet per second from April 1 to October 1 of each year from Feather River in Sutter County. The water is to be diverted at a point within the NW $\frac{1}{4}$  of NW $\frac{1}{4}$  of projected Section 1, T 13 N, R 3 E, MDB&M, and utilized in irrigating a net area of 2,614 acres of orchard located within the service area of the applicant consisting of a gross area of 2,723 acres in the vicinity of Tudor as shown on the map filed with the State Engineer.

### Protests

Garden Highway Mutual Water Company protests the application stating that as the applicant is located upstream it is possible that during dry years all of the flow of the River would be appropriated before it reached the protestant's points of diversion, and furthermore, that the proposed project would tend to raise the underground water table to a point damaging to the orchards in the area. Protestant locates its point of diversion as being within the SW $\frac{1}{4}$  of SE $\frac{1}{4}$  of Section 24, T 13 N, R 3 E, MDB&M, and claims appropriative rights to the extent of 63.7 cubic feet per second as well as riparian rights. Allegedly water was first used by the protestant in 1920, with present use extending to the irrigation of 3,688.45 acres during the season extending from about April 15 to November 1 of each year.

Plumas Mutual Water Company claims a right to the use of water from the source from which applicant proposes to divert based upon "Prior appropriation of water to beneficial use", states that use of water on its property began between 1913 and 1914 and contends that the proposed appropriation will jeopardize protestant's crops as "At present time there is barely enough water to take care of growing crops on lands served by protestant water district. Protestant is forced to use supplemental pumps at its diversion point in order to obtain sufficient water."

#### Answers

Applicant concedes that protestant Garden Highway Mutual Water Company is a downstream prior appropriator but contends that the protestant has increased its use of water in recent years and has obtained permits for such increase "although there were, and are, prior appropriators below protestant, and yet protestant objects to applicant's request for a permit, which is inconsistent to say the least". Applicant further states that there will be no storage of water underground as contended in the protest.

No formal answer to the protest of Plumas Mutual Water Company has been submitted as it was apparently the understanding of all parties that protestant's point of diversion was located upstream from the applicant and thus the protest was insufficient. Later investigation revealed that such is not the case, that protestant is located downstream and accordingly the protest has been accepted.

### Field Investigation

A field investigation was conducted on October 25, 1955, by an engineer of the Division of Water Resources pursuant to Article 12, California Administrative Code, Title 23, Waters. The applicant and protestant Garden Highway Mutual Water Company were represented during the investigation, and a conference was subsequently held by the investigating engineer with attorney and manager of protestant Plumas Mutual Water Company.

### Records Relied Upon

Subsequent to the aforementioned field investigation applicant and protestants filed stipulations, which have been approved by the State Engineer, for submittal of the application and protests for decision based upon the official records of the Division. Records relied upon are water right Applications 480, 1699, 14415, 15839 and 16401 and all information on file therewith; Olivehurst and Nicolaus Quadrangles, editions of 1952; Water Supply Papers, Part 11, Pacific Slope Basins in California, United States Geological Survey; reports of Sacramento-San Joaquin Water Supervision, Division of Water Resources; and State Water Resources Board Bulletin No. 6, Sutter-Yuba Counties Investigation, September, 1952.

### Discussion

Garden Highway Mutual Water Company holds License 2033 issued in the matter of Application 1699 to appropriate 39.0 cubic

feet per second and Permits 8848 and 9904 issued in the matter of Applications 14415 and 15839 for 23.0 and 1.7 cubic feet per second, respectively, from Feather River from about April 15 to about November 1 for irrigation of a total of 3,688.45 acres. Diversion is effected by means of a pumping installation located on the right bank of the River within the SW $\frac{1}{4}$  of SE $\frac{1}{4}$  of projected Section 24, T 13 N, R 3 E, MDB&M. The reports of Sacramento-San Joaquin Water Supervision lists the diversion at Mile 13.1R (mileage is measured upstream from junction of Feather River and Sacramento River).

Plumas Mutual Water Company holds Permit 249 issued in the matter of Application 480 which allows a total diversion of 150 cubic feet per second from about April 1 to about October 1 of each year from Plumas Lake and Feather River for irrigation of 5,349 acres. The Plumas Lake supply is not involved in the matter at issue. Two points of diversion from Feather River are allowed under the permit; however, one point of diversion is presently not in existence and the entire River supply is diverted by means of a pumping installation located on the left bank of the River within the SW $\frac{1}{4}$  of NW $\frac{1}{4}$  of Section 6, T 13 N, R 4 E, MDB&M. The reports of Sacramento-San Joaquin Water Supervision lists the diversion at Mile 17.5L.

The only other active application before this office to appropriate from Feather River below the point of diversion proposed under the subject application is pending Application 16366 of Leslie A. and Carl A. Scheiber which contemplates diversion of 3.0 cubic feet per second from a movable point within projected

Section 25, T 13 N, R 3 E, and projected Section 31, T 13 N, R 4 E, MDB&M.

The most recent published report (1953) of Sacramento-San Joaquin Water Supervision shows a total of eight diversions on Feather River below Nicolaus. The only diverters between Nicolaus and the applicant are the two protestants. During the 1953 irrigation season a total of 3,458 acre-feet of water were diverted by the said eight diversions serving 569 acres of general crops and 60 acres of rice. No information is available as to the rights under which these diversions are made. During that year diversions by Garden Highway Mutual Water Company and Plumas Mutual Water Company were 17,372 and 11,354 acre-feet, respectively.

Daily mean flow of "Feather River at Nicolaus" has been recorded by the United States Geological Survey and/or State Division of Water Resources since 1921. This gage is listed in the reports of Sacramento-San Joaquin Water Supervision at Mile 9.3L. From the Olivehurst Quadrangle it appears that the proposed point of diversion is to be located at about Mile 18.5R. Therefore the gage is located about 9.2 miles below applicant, 8.2 miles below protestant Plumas Mutual Water Company and 3.8 miles below protestant Garden Highway Mutual Water Company.

The only tributary inflow to Feather River of any significance between the applicant and the gage "Feather River at Nicolaus" is Bear River which joins Feather River at Mile 12.0L. Flow of Bear River has been measured by the United States Geological Survey and/or State Division of Water Resources since 1928 at a

point about 11.3 miles above its mouth at station "Bear River near Wheatland". The 1953 report of Sacramento-San Joaquin Water Supervision indicates that during that year 63 acre-feet were diverted from Bear River below the gage.

Mean monthly flow passing "Feather River at Nicolaus" and "Bear River near Wheatland" during the months April through October of the 10 most recent years of published records are reported to have been as follows:

Feather River at Nicolaus

Monthly mean flow in second-feet.

Year	Apr.	May	June	July	Aug.	Sept.	Oct.
1944	10040	10290	3022	541	216	541	1354
1945	12214	11972	4419	665	449	893	1736
1946	14050	11058	2889	626	489	902	1425
1947	9635	2017	1249	273	401	686	2205
1948	22280	17740	9919	1197	263	776	2161
1949	13610	8676	1648	226	150	462	641
1950	18447	13599	5477	655	303	1157	2639
1951	12260	10910	2122	472	321	1488	2547
1952	42640	36520	18200	5355	1419	1905	2778
1953	15450	15860	12620	2588	1076	1957	2975

Bear River near Wheatland

Monthly mean flow in second-feet.

Year	April	May	June	July	Aug.	Sept.	Oct.
1944	289	157	72.1	7.7	5.4	2.8	5.6
1945	776	214	120	10.1	12.6	13.8	52.0
1946	553	346	137	10.5	4.2	3.0	40.5
1947	448	66	5.2	3.0	1.5	1.3	57.6
1948	1479	732	216	11.7	2.6	8.2	45.0
1949	607	193	25.7	2.0	1.9	6.5	10.7
1950	690	199	47.2	14.5	11.6	16.6	51.0
1951	725	405	43.4	6.7	7.1	17.6	46.7
1952	1244	491	131	55.4	19.1	38.2	16.1
1953	814	457	130	10.5	15.7	22.2	76.1

By deducting the flow of "Bear River near Wheatland" from flow of "Feather River at Nicolaus" it follows that at least the following flows have passed the protestants' points of diversion during the April-October periods during the years from 1944 through 1953:



Flow of Feather River at Nicolaus Minus Flow of  
Bear River near Wheatland

Monthly mean flow in second-feet

Year	April	May	June	July	Aug.	Sept.	Oct.
1944	9751	10133	2950	533	214	535	1348
1945	11438	11758	4299	655	436	841	1684
1946	13497	10712	2752	606	485	899	1384
1947	9187	1951	1244	270	400	685	2147
1948	20801	17008	9703	1085	260	768	2116
1949	13003	8483	1622	224	148	456	630
1950	17757	13400	5430	641	291	1140	2588
1951	11535	10505	2079	465	314	1470	2500
1952	41396	36029	18069	5300	1400	1867	2762
1953	14636	15403	12409	2578	1060	1935	2899

State Water Resources Board Bulletin No. 6, "Sutter-Yuba Counties Investigation" dated September 1952, was published as a result of a two-year cooperative investigation in accordance with an agreement between said Board, Counties of Sutter and Yuba, and State Department of Public Works acting through the agency of the State Engineer. The investigation included a study of the underground water supply of valley floor lands including quality, replenishment, and utilization thereof, and, a possible method (or methods) of solving the water problems involved. The area investigated

was divided into four principal zones with the area west of the Feather River being designated "West Side Zone". This zone was further subdivided with the area generally devoted to orchards and served by ground water designated "Peach Bowl". Applicant and the protestant Garden Highway Mutual Water Company are located in the general Peach Bowl area.

Relative to the ground water conditions in the Peach Bowl area, said Bulletin No. 6 states under Chapter V, "Conclusions and Recommendations" as follows:

"6. Because of the continuing development and extensive use of ground water in the Sutter-Yuba Area, a substantial cone of depression exists in the ground water plane, and the average level of ground water has fallen about 10 feet since 1943. This lowering of the ground water level has resulted in increased agricultural production costs, and in saline degradation of the ground water in portions of the area."

"12. The ground water supplies of the Sutter-Yuba Area are generally of excellent to good mineral quality. However, salinity sufficient to impair use of ground water for irrigation, domestic, and many industrial uses, has been observed at scattered wells throughout the area for many years. This condition is particularly prevalent in the Peach Bowl. Saline degradation of ground water in the Sutter-Yuba Area probably results from the upward migration and diffusion of deep saline brines through permeable zones in the alluvium, and through unplugged test wells and abandoned, defective, or improperly constructed wells. This upward and lateral movement of degraded water is probably accelerated when the ground water plane is lowered by heavy irrigation pumping."

"18. The present requirement for supplemental water in the Sutter-Yuba Area, in order to prevent progressive and permanent lowering of ground water levels and attendant degradation of mineral quality of the ground water, is about 79,000 acre-feet per season. The estimated distribution of the supplemental seasonal water requirement among the several zones is as follows: West Side Zone, 17,000 acre-feet; Northeast Zone, 6,400 acre-feet; East Central Zone, 27,600 acre-feet; and South Side Zone, 27,600 acre-feet. The distribution among the zones was based on

the assumption that lowering of water levels which occurred during the season of 1948-49 would have been proportionately the same had mean water supply and climatic conditions prevailed."

### Conclusions

The circumstances point to the conclusion that unappropriated water exists in Feather River at applicant's and protestants' points of diversion and that water may be taken and used beneficially in the manner proposed under Application 16401 without infringement upon the rights of downstream prior right holders. The apprehension of Garden Highway Mutual Water Company that the proposed appropriation will cause an undesirable high water table condition, is unfounded.

The results of the recent investigation as reported in State Water Resources Bulletin No. 6 referred to earlier in this decision, directs attention to the necessity of relieving the draft on ground water in the area by providing an alternate supply such as proposed under Application 16401 in order to mitigate the present rate of saline intrusion due to overdraft on the ground water basin.

In view of the foregoing circumstances, it is the opinion of this office that Application 16401 should be approved and permit issued, subject to the usual terms and conditions.


### Order

Application 16401 having been filed with the Division of Water Resources as above stated, protests having been filed, stipulations having been submitted, a field investigation having

been conducted and the State Engineer now being fully informed in the premises:

IT IS HEREBY ORDERED that Application 16401 be approved and that permit be issued to the applicant subject to the usual terms and conditions that may be appropriate.

WITNESS my hand and the seal of the Department of Public Works of the State of California this 1st day of November, 1955.

  
A. D. Edmonston  
State Engineer

