STATE OF CALIFORNIA
STATE WATER RIGHTS BOARD

In the Matter of
Application 16358
by M. R. and Leora R. Caswell

Source: Lick Creek
County: Shasta

Decision No. 877
Decided: November 13, 1957

In attendance at Investigation conducted by the State Water Rights Board on August 7, 1956:

M. R. Caswell Applicant
Leora R. Caswell Applicant
Grover Edler Protestant
Augusta Sperry Protestant
A. D. Sperry Husband of Protestant Sperry
E. C. Johnson Representing State
Assistant Hydraulic Engineer Water Rights Board

DECISION

Substance of the Application

Application 16358 is for a permit to appropriate 1.0 cubic foot per second, to be diverted year-round, for immediate application to beneficial use. The source is Lick Creek, tributary to South Fork of North Salt Creek, thence Sacramento River in Shasta County. The applicants
propose to divert at a point within the SW\(\frac{1}{4}\) of NE\(\frac{1}{4}\) of Section 18, T36N, R4W, MDB&M, by means of a concrete box, which is to be set below a natural fall formed by a rock ledge in the channel, and from which is to lead about 3,600 feet of 6-inch diameter concrete pipe with short sections of flume as necessary across large rocks, gullies, etc. The applicants claim ownership of the land to be served, and that the point of diversion is to be located on Forest Service land, access to which has allegedly been granted by the Forest Service. The water will be used for household purposes, for stockwater for 50 head of ranch cattle, and for the irrigation of 80 acres of general crop and pasture within the W\(\frac{1}{2}\) of Section 7, T36N, R4W, MDB&M, with the irrigation season extending from March 1 to November 1 of each year.

**Protests**

Grover Edler and Augusta Sperry protested Application 16358 on the apprehension of possible interference with the water supply of the Edler Ranch located in the E\(\frac{1}{2}\) of SE\(\frac{1}{4}\) of Section 2, T36N, R5W, MDB&M. Protestant Sperry claims that she owns two acres of the ranch lying on the east side of North Salt Creek, and that the remainder of the ranch is owned by protestant Edler. Jointly, the protestants claim that approval of the application will deprive them of water which the ranch has been using for more than fifty years under
right acquired by posting of notice on November 1, 1912, and filing a copy thereof with the Shasta County Recorder. They agree that the protest may be disregarded and dismissed if it can be shown that their rights will not be interfered with by the diversion contemplated under the application.

**Answer**

The answer to the protests contains an assertion that to the best knowledge of the applicants only about 1/2 acre of the protestant Edler's land has been irrigated during the last nine years, that the amount of water claimed by the protesters, namely 500 inches, is far in excess of the needs of the ranch, and that the applicants believe that only about 30 acres of protestant Edler's portion of the ranch are irrigable. The applicants further claim that to the best of their knowledge no water has been used on protestant Sperry's property during any of the nine years.

**Field Investigation**

The applicants and protesters, with the approval of the State Water Rights Board, stipulated to proceedings in lieu of hearing as provided for under Section 737 of the Board's Rules, and a field investigation was conducted on August 7, 1956, by an engineer of the Board. The applicants and protesters were present at the investigation.
Records Relied Upon


Information Obtained by Field Investigation

According to the "Report on Investigation of Application 16358," dated November 9, 1956, Lick Creek originates in Shasta County within the SW ¼ of Section 18, T36N, R4W, MDB&M, at an altitude of about 3000 feet, flows in a northeasterly direction about one-fourth mile to the proposed point of diversion and on another one-fourth mile to the confluence with another small stream within the NE ¼ of said Section 18, thence in a northerly direction a distance of about 1 ½ miles to the confluence with South Fork of North Salt Creek within the NW ¼ of Section 7 of the same township. From this point the South Fork flows a distance of about one-half mile to the confluence with North Salt Creek. North Salt Creek continues from this point about one-half mile in a northwesterly direction to the protestants' point of diversion which is located within the SE ¼ of SE ¼ of Section 1, T36N, R5W, MDB&M, and thence about one mile to the Sacramento River. The investigating
engineer estimates that the watershed above the applicants' point of diversion is about one-half square mile.

Relative to the water supply, the report includes the following statement:

"Flow of Lick Creek near the proposed point of diversion, at the time of investigation, was an estimated 0.5 cfs and Mr. Caswell indicated that this was about normal for that time of year. He advised that flow during the spring and early summer is considerably greater but gradually diminishes as the summer progresses before picking up when the weather becomes cooler in the fall.... Flow at the protestants' point of diversion was an estimated 6-7 cfs. Of this total approximately one-half was being diverted by the protestants with the remainder continuing down North Salt Creek and discharging into the Sacramento River. It was agreed that this was about the normal flow for this season of the year; however, Mr. Sperry advised that over a period dating back more than 50 years he could recall two summers when the creek was nearly dry.... Mr. Caswell stated that for the past nine years there had continuously been a considerable amount of water flowing below the protestants' point of diversion and into the Sacramento River."

As to use of water the report of investigation indicates that no development has yet been commenced by the applicants, that protestant Edler diverts from North Salt Creek by means of a low rock and sand dam and conveys the water by ditch approximately one mile for use upon about one acre of pasture, orchard and domestic garden, together with domestic and stockwatering use, that of the estimated 3½ cfs being diverted by Edler, 1½ to 2 cfs was lost en route, that numerous small field ditches are used to distribute the water for irrigation with excess water flowing either into the Sacramento River or North Salt Creek, that no attempt was made to determine the amount of spillage but
the excess was "considerable," and that in the opinion of
the investigating engineer only an additional 2-3 acres
within Edler's portion of the ranch could be irrigated.

Protestant Sperry's place is located directly
across North Salt Creek from the Edler property but to the
knowledge of Mr. Sperry, water had never been used on the
former property.

**Discussion of Other Information**

As heretofore stated, the source under considera-
tion is indirectly tributary to Sacramento River which flows
into the ocean at Suisun Bay. For the purpose of the follow-
ing analysis the stream system has been arbitrarily divided
into three sections as follows: Reach 1 - from applicants' point of diversion to junction of North Salt Creek with Sacramento River; Reach 2 - Sacramento River from junction
with North Salt Creek to Shasta Dam; and Reach 3 - Sacramento
River from Shasta Dam to Suisun Bay.

Table 54, page 321, of State Water Resources Board Bulletin No. 1 "Water Resources of California" includes precipitation data of four precipitation stations in the Sacramento River Basin and two precipitation stations in Pit River Basin above Shasta Dam as follows:
<table>
<thead>
<tr>
<th>Station</th>
<th>Elevation</th>
<th>Precipitation in inches mean for 1897-1947</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta</td>
<td>1138</td>
<td>63.59</td>
</tr>
<tr>
<td>Dunsmuir</td>
<td>2285</td>
<td>49.87</td>
</tr>
<tr>
<td>McCloud</td>
<td>3270</td>
<td>46.25</td>
</tr>
<tr>
<td>Mt. Shasta</td>
<td>3550</td>
<td>34.44</td>
</tr>
<tr>
<td>Pit River Basin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big Bend</td>
<td>2000</td>
<td>65.70</td>
</tr>
<tr>
<td>Montgomery Creek</td>
<td>2180</td>
<td>53.58</td>
</tr>
</tbody>
</table>

Plate 3 of the same publication is an isohyetal map showing the geographical distribution of precipitation in California including the area under consideration. Plate 3 shows that practically the entire watershed of the Sacramento River above Shasta Dam is within the zone of intensity of precipitation of "more than 50 inches," and that the area within the applicants' project receives a mean annual rainfall of about 70 inches, with precipitation decreasing progressively to about 35 inches at the upper end of the watershed.

There appear to be no continuous records of stream flow available at any point along Reach 1. A U.S. Geological Survey gaging station has been maintained on Sacramento River "at Delta, California" and daily records for the water years 1945-46 through 1953-54 are published in the water supply papers of that agency. This station which is located about five miles downstream from the junction of Sacramento River and North Salt Creek and about two miles upstream from the upper end of Shasta Lake measures the runoff of 427 square miles of watershed.
including the source under consideration. Runoff in acre-feet and per cent of annual runoff by months during the season March 1 to November 1 for the nine-year period of record was as follows:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1945-46</td>
<td>30,980</td>
<td>81,740</td>
<td>118,500</td>
<td>93,110</td>
<td>32,290</td>
<td>16,790</td>
<td>11,910</td>
<td>10,770</td>
</tr>
<tr>
<td>1946-47</td>
<td>12,520</td>
<td>100,600</td>
<td>69,780</td>
<td>34,310</td>
<td>61,750</td>
<td>17,180</td>
<td>11,690</td>
<td>9,810</td>
</tr>
<tr>
<td>1947-48</td>
<td>33,040</td>
<td>54,480</td>
<td>175,900</td>
<td>138,100</td>
<td>82,210</td>
<td>25,990</td>
<td>15,990</td>
<td>14,120</td>
</tr>
<tr>
<td>1948-49</td>
<td>15,780</td>
<td>208,400</td>
<td>150,300</td>
<td>90,810</td>
<td>29,670</td>
<td>14,560</td>
<td>11,330</td>
<td>10,020</td>
</tr>
<tr>
<td>1949-50</td>
<td>11,110</td>
<td>87,090</td>
<td>117,600</td>
<td>72,610</td>
<td>27,600</td>
<td>13,000</td>
<td>9,980</td>
<td>10,130</td>
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<tr>
<td>1950-51</td>
<td>112,900</td>
<td>61,120</td>
<td>86,080</td>
<td>90,780</td>
<td>27,320</td>
<td>16,000</td>
<td>12,360</td>
<td>10,990</td>
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<tr>
<td>1951-52</td>
<td>15,990</td>
<td>135,300</td>
<td>199,400</td>
<td>165,400</td>
<td>61,610</td>
<td>28,100</td>
<td>16,460</td>
<td>13,810</td>
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<tr>
<td>1952-53</td>
<td>13,520</td>
<td>111,000</td>
<td>128,100</td>
<td>118,800</td>
<td>80,190</td>
<td>30,900</td>
<td>17,770</td>
<td>14,350</td>
</tr>
<tr>
<td>1953-54</td>
<td>16,500</td>
<td>143,300</td>
<td>197,200</td>
<td>96,330</td>
<td>33,120</td>
<td>18,800</td>
<td>17,450</td>
<td>14,750</td>
</tr>
<tr>
<td>1954-55</td>
<td>29,180</td>
<td>111,140</td>
<td>138,110</td>
<td>100,600</td>
<td>48,410</td>
<td>20,150</td>
<td>13,860</td>
<td>12,080</td>
</tr>
<tr>
<td>Average</td>
<td>3.6</td>
<td>15.0</td>
<td>10.0</td>
<td>12.6</td>
<td>6.4</td>
<td>5.2</td>
<td>1.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Median*</td>
<td>2.4</td>
<td>12.4</td>
<td>10.3</td>
<td>14.2</td>
<td>5.2</td>
<td>2.6</td>
<td>1.8</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Median is the value that divides the record into an equal number of greater and lesser quantities.

The average annual flow past the gage for the 9-year period is 790,970 acre-feet or 1,855 acre-feet per square mile. The investigating engineer reports that the watershed above applicants' point of diversion is about one-half square mile and the area contributing to the flow at the protesters'
point of diversion scales 19 square miles from the 1946 edition of Shasta National Forest map. Assuming that the average runoff of 1,855 acre-feet per square mile for the entire watershed above the gage is representative of that occurring on North Salt Creek and tributaries, it may be expected that the following quantities reached the applicants' and protestants' points of diversion during the March-October season for the same period.

TABLE II.

<table>
<thead>
<tr>
<th>Month</th>
<th>Runoff af sq. mile</th>
<th>Applicants 1/2 sq. mile af</th>
<th>Applicants 1/2 sq. mile cfs</th>
<th>Protestants 19 sq. miles af</th>
<th>Protestants 19 sq. miles cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>282</td>
<td>141</td>
<td>2.3</td>
<td>5350</td>
<td>86.3</td>
</tr>
<tr>
<td>April</td>
<td>334</td>
<td>167</td>
<td>2.8</td>
<td>6350</td>
<td>106</td>
</tr>
<tr>
<td>May</td>
<td>234</td>
<td>117</td>
<td>1.9</td>
<td>4440</td>
<td>71.8</td>
</tr>
<tr>
<td>June</td>
<td>116.5</td>
<td>59.2</td>
<td>1.0</td>
<td>2270</td>
<td>37.9</td>
</tr>
<tr>
<td>July</td>
<td>50.0</td>
<td>25.0</td>
<td>0.4</td>
<td>950</td>
<td>15.3</td>
</tr>
<tr>
<td>Aug.</td>
<td>37.1</td>
<td>18.5</td>
<td>0.3</td>
<td>705</td>
<td>11.4</td>
</tr>
<tr>
<td>Sept.</td>
<td>29.7</td>
<td>14.8</td>
<td>0.2</td>
<td>565</td>
<td>10.9</td>
</tr>
<tr>
<td>Oct.</td>
<td>66.7</td>
<td>33.3</td>
<td>0.5</td>
<td>1260</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Again assuming that the flow which occurred during the 9-year period of record is representative of the flow which on an average will occur in the future, it is apparent that there is ample water flowing in North Salt Creek during every month of the specified irrigation season to allow appropriation of the entire flow at the applicants' point of diversion without injury to the protestants.
No detailed information is available as to the use of water from Sacramento River along Reach 2. The U.S. Geological Survey water supply papers do indicate that there are small diversions for irrigation above the "at Delta, Calif." gage. However, in view of the flows passing the gage as shown in Table I, it is concluded that diversion of the amount requested under Application 16358 would reduce the flow in Reach 2 an insignificant amount insofar as any diversion along that reach is concerned.

Insofar as the uses and rights along Reach 3 (Sacramento River downstream from Shasta Dam) are concerned, the season during which diversion will be made under the application is of little consequence. Shasta Dam creates a lake of capacity of about 4,500,000 acre-feet and is operated on the basis of considerable holdover storage from year to year. Likewise, reservation of reservoir storage space for flood control frequently requires that water be released downstream at a rate considerably greater than can be beneficially used. Such excesses appear to be available for appropriation by users above the dam without regard to the time of year the actual diversion is made.

**Summary and Conclusions**

The Board finds that there is unappropriated water in the source designated in Application 16358 available to supply applicants, which water may be appropriated to a substantial extent in the manner proposed in the application.
without injury to any other lawful user of water, that the intended uses are beneficial and that said application should be approved and permit issued to applicants subject to the usual terms and conditions.

ORDER

Application 16358 for a permit to appropriate unappropriated water having been filed with the former Division of Water Resources, protests having been filed, jurisdiction of the administration of water rights including the subject application having been subsequently transferred to the State Water Rights Board and an investigation having been held by the Board, and said Board now being fully informed in the premises:

IT IS HEREBY ORDERED that Application 16358 be, and the same is, hereby approved, and it is ordered that a permit be issued to the applicants subject to vested rights and to the following terms and conditions, to wit:

1. The amount of water to be appropriated shall be limited to the amount which can be beneficially used and shall not exceed 1 cubic foot per second, which amount may be diverted from about January 1 to about December 31 of each year.

The equivalent of such continuous flow allowance for any thirty-day period may be diverted in a shorter time if there be no interference with vested rights.

2. The maximum amount herein stated may be reduced in license if investigation so warrants.
3. Construction work shall begin on or before June 1, 1958, and shall thereafter be prosecuted with reasonable diligence, and if not so commenced and prosecuted, the permit may be revoked.

4. Said construction work shall be completed on or before December 1, 1960.

5. Complete application of the water to the proposed use shall be made on or before December 1, 1961.

6. 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.

7. All rights and privileges under the 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 interests of the public welfare to prevent waste, unreasonable use, unreasonable method of use or unreasonable interference with vested rights.

Adopted as the decision and order of the State Water Rights Board at a meeting duly called and held at Sacramento, California, on this 13th day of November, 1957.

/s/ Henry Holsinger
Henry Holsinger, Chairman

/s/ John B. Evans, Member

/s/ W. P. Rowe
W. P. Rowe, Member