

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 Applications 12142 and 12312 by J. R. Barron to Appropriate Water from Willow Creek Tributary to Susan River and Application 12750 by Edward Vincent Shaffer to Appropriate Water from Willow Creek Tributary to Susan River and from Balls Canyon Creek Tributary to Willow Creek, in Lassen County, for Irrigation Purposes.

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Decision A. 12142, 12312 and 12750 D. 654

Decided March 31, 1950

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General Description of the Projects

Applications 12142 and 12312 are substantially identical, except as to amount. They propose diversions of 700 acre feet and 1000 acre feet respectively from Willow Creek at a location within the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 1, T 31 N, R 11 E, M.D.B.&M. Diversion is proposed from November 1 to April 1 only of each season. The water is to be used for the irrigation from about April 1 to about November 1 of 1891 acres of general crops lying within Sections 2, 3, 4, 9, 10, 11 and 14 of T 31 N, R 12 E and within Sections 34 and 35 of T 32 N, R 12 E, M.D.B.&M. The diversion dam is to be a concrete structure 2 feet high by 50 feet long and the conduit an earth ditch of a carrying capacity of some 14 cubic feet per second, 30,000 feet long. Pending its need for irrigation the water is to be accumulated and stored in a group of 7 shallow, adjoining reservoirs. These reservoirs are to have an aggregate surface area of

595.6 acres and an aggregate storage capacity of some 1560 acre feet and to extend over portions of Sections 9, 10, 11 and 14 of T 31 N, R 12 E.

Application 12750, by Edward Vincent Shaffer, contemplates diversion from two sources, these being Willow Creek, tributary to Susan River and Balls Canyon Creek, tributary to Willow Creek. The application proposes a direct diversion from either or both of the two sources of 3.0 cubic feet per second from March 1 to April 1 and a diversion of 25 acre feet per annum, accumulated between November 1 and April 1 of each season and temporarily stored. Of the stored water 10 acre feet are to come from Balls Canyon Creek and 15 acre feet from either or both of the two sources. The diversions from Balls Canyon and from Willow creeks are to head within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ and the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 31, T 30 N, R 14 E, M.D.B. & M. resectively. Diversion is to be effected by small earth and rock dams. Storage is proposed in two off-channel reservoirs, one of which is to be 10 acre feet in capacity and the other 15 acre feet. The water is to be used to irrigate 240 acres lying within Sections 5 and 6 of T 29 N, R 14 E, of which total 140 acres are to be in alfalfa and the remainder in general crops. Irrigation is to begin about March 1 and extend to about September 1.

Protests

The Tanner Slough Irrigation Association on behalf of owners of some 6300 acres in the Standish area, east and south of the Town of Standish protest all three of the applications alleging in brief that the water applied for has been used on its members' lands for many years for stock watering, under both riparian and adjudicated rights and that use is in progress at the time diversion is proposed under the applications.

The Tule Irrigation District protests Applications 12142 and 12312, representing that the water applied for is water which originates in Eagle Lake and belongs to Tule Irrigation District originally and as successor in interest to Baxter Creek Irrigation District under Permits 782 and 783. It asserts a further claim to the water in question through the filing of Application 12966 and upon its alleged riparian rights on Eagle Lake and Willow Creek. It asserts that the applicant proposes to use property of Tule Irrigation District for its diversion point, canal and reservoir. It claims that it or its predecessors in interest have used water from the source filed upon to the extent of over 5 second feet of water stored in winter for summer use and that such use dates back to 1921. It describes its diversion points as being located within Section 26 of T 32 N, R 11 E and Section 8 of T 31 N, R 12 E, M.D.B.&M.

The California State Fish and Game Commission protests Application 12750, claiming that in years of subnormal precipitation there is barely enough water to supply present users and that the proposed appropriation would render that supply inadequate. It asserts use of water to create and maintain nesting and resting areas for migratory waterfowl and for irrigation of grain land for feed raising for waterfowl. It states that flood waters are stored in Hartson Reservoir, in Fleming Reservoir and in ponds within the Fleming Ranch area. It states that ducks and geese nest in these ponds in large numbers. It claims to divert at various points within Sections 20, 21 and 22 of T 29 N, R 15 E and in Section 12 of T 28 N, R 14 E, M.D.B.&M.

Applicant Barron answers the Tanner Slough Irrigation Association protest by stating that his application is limited to unappropriated water, that the Tanner Slough Irrigation Association reservoir is

unfavorably located and can be relocated with mutual advantage, and that the development proposed by him will substantially benefit lower users and will not operate to the disadvantage of vested rights. Applicant Barron answers the Tule Irrigation District protest by denying in general the allegations therein contained, by asserting that Permits 782 and 783 are invalid and by discussing generally the local water supply problems.

Applicant Shaffer answers the protest of the Turner Slough Irrigation Association by stating that he is not seeking to divert during the irrigation season but that his application is for surplus unappropriated waters during the non-irrigation season when no member of the protestant association is making any beneficial use of water then available. He recognizes that the rights of members of the association have been adjudicated and that the appropriation he proposes should be subject to vested rights. He answers the California State Fish and Game Commission protest by stating that during any normal year the capacity of Hartson and Fleming reservoirs is insignificant as compared to the amount of water available from November 1 to April 1. He recognizes that protestant's rights to fill the reservoirs named to their present capacity but contends that after such filling unappropriated water will be abundant.

Informal Hearing

The applicants and the protestants all stipulated to an informal hearing under the provisions of Section 733(b) of the California Administrative Code. In view of the amount of the information already before the Division, including that collected in connection with its own extensive activities in the locality a supplementary field investigation was considered unnecessary and was not made.

Records Relied Upon

Applications 12142, 12312 and 12750 and all data and information on file in connection therewith, together with data available in the Susan River Reference (Fleming v. Bennett, Superior Court, Lassen County, No. 4573) and Susan River Watermaster Service Area files.

Discussion

The waters of Susan River and its tributaries (which include the sources named in the three applications at issue) are distributed in accordance with the judgment and decree in the case of Fleming et al. vs. Bennett et al., No. 4573, Superior Court, Lassen County. That document defines the water rights of users supplied from Susan River and tributaries as such rights existed on its effective date.

Willow Creek is tributary to Susan River and diversions from Willow Creek or its tributaries may therefore affect water users whose diversions head on Susan River below the mouth of Willow Creek. The protestants against Applications 12142, 12312 and 12750 may thus be affected by the appropriations proposed in those applications, should demand at any time exceed supply.

The aggregate of the recognized rights to divert from Susan River below the mouth of Willow Creek is of the order of 140 cubic feet per second. Irrigation usually starts on or about April 1 but may start as early as March 1, depending on the nature of the season. Water required by the protestants and other users within the same area is supplied from Susan River and/or Willow Creek. Surpluses

are known sometimes to have occurred in early months of irrigation seasons but experience indicates that they cannot always be counted upon. Surpluses are known to have existed prior to the commencement of irrigation also but recent figures in this regard are lacking inasmuch as stream flow now is recorded during irrigation months only. As will be discussed in following paragraphs the available records point to the probability that surpluses existing before the beginning of irrigation are considerable.

The quantities which Susan River has discharged from May 1 to July 31 of each season together with the total quantities discharged during the same seasons are set forth in the following tabulation for seasons for which sufficient data are available.

Discharges of Susan River (near Susanville) in Acre Feet

| <u>Season</u> | <u>From May 1 to July 31</u> | <u>From October 1 to Sept. 30</u> |
|---------------|------------------------------|-----------------------------------|
| 1900-01 | 30,260 | 103,000 |
| 01-02 | 22,700 | 66,200 |
| 02-03 | 20,810 | 68,200 |
| 03-04 | 49,550 | 166,000 |
| 04-05 | 14,930 | 62,100 |
| 1917-18 | 7,570 | 25,800 |
| 18-19 | 15,500 | 44,000 |
| 19-20 | <u>7,920</u> | <u>19,400</u> |
| Total | 169,240 | 554,700 |
| Average | 21,150 | 69,340 |

On the basis of the tabulated figures it is concluded that something of the order of 21,150/69,340 or 30.5% of the yearly flow of Susan River,

on average, occurs in the 3 month period beginning May 1 and ending July 31.

In connection with watermaster service the Division has ascertained and recorded the flow of Susan River above Ramsey Ditch from 1936 to 1949, both inclusive. The amounts recorded represent natural flow only - releases from upstream storage are excluded - and the record covers only the irrigation season of each year. According to that record the natural flow of Susan River above Ramsey Ditch, in acre feet, during each of the months of May, June and July, together with the total for each such 3 month period, has been as follows:

Recent Discharges of Susan River during May, June and July in Acre Feet

| <u>Year</u> | <u>May</u> | <u>June</u> | <u>July</u> | <u>Total</u> |
|-------------------------------|------------|-------------|-------------|--------------|
| 1936 | 6,310 | 2,810 | 606 | 9,726 |
| 37 | 7,660 | 1,590 | 416 | 9,666 |
| 38 | 82,800 | 21,500 | 2,940 | 107,240 |
| 39 | 950 | 398 | 171 | 1,519 |
| 40 | 11,700 | 1,560 | 706 | 13,966 |
| 41 | 26,000 | 5,240 | 1,220 | 32,460 |
| 42 | 18,600 | 9,160 | 1,570 | 29,330 |
| 43 | 8,890 | 4,050 | 1,320 | 14,260 |
| 44 | 9,240 | 3,460 | 1,180 | 13,880 |
| 45 | 6,140 | 2,210 | 1,000 | 9,350 |
| 46 | 6,170 | 1,720 | 903 | 8,793 |
| 47 | 2,995 | 866 | 236 | 4,097 |
| 48 | 9,662 | 7,264 | 831 | 17,757 |
| 49 | 4,891 | 978 | 360 | <u>6,229</u> |
| | | | | 278,273 |
| | | | | 19,880 |
| Mean period total (acre-feet) | | | | |

If it be assumed, as appears logical, that discharges during the 3 month periods bear on average the same relation to seasonal discharges as was established in the preceding paragraph, i.e. 30.5%, it may be supposed that seasonal discharges over the 14 year period considered in this paragraph have averaged something of the order of $100/30.5$ (19,880) or 65,200 acre feet.

An idea of the relative yields of Susan River and Willow Creek may be gained from the record of the one calendar year (1905) for which figures are available. Monthly runoffs according to Water Supply Paper 300 were as follows:

Discharges During 1905

| <u>Month</u> | <u>Willow Creek near Standish (acre-feet)</u> | <u>Susan River at Susanville (acre-feet)</u> |
|--------------|---|--|
| January | 4,944 | 4,728 |
| February | 4,965 | 5,382 |
| March | 2,060 | 14,390 |
| April | 1,363 | 15,710 |
| May | 1,045 | 9,838 |
| June | 1,256 | 3,648 |
| July | 2,841 | 1,439 |
| August | 1,205 | 744 |
| September | 2,440 | 732 |
| October | 1,955 | 965 |
| November | 2,356 | 1,131 |
| December | 2,380 | 1,107 |
| | | |
| Total | 28,810 | 59,814 |

The ratio of the flow of Willow Creek near Standish to the flow of Susan River at Susanville thus seems to approximate 48%.

The Susan River decree (earlier referenced) defines the irrigation season as extending from March 1 to October 31 of each year. Except during the irrigation season as so defined, domestic, stockwatering,

municipal and industrial rights are entitled to water on a continuous flow basis and the reservoirs are entitled to store certain surpluses.

Although not mentioned in its protest, Tanner Slough Irrigation Association holds Application 9123, License 2598 for an appropriation of 2600 acre feet per annum from Willow Creek, collected during the period from October 15 to May 1 of each season and stored in Willow Creek (Walsh) Reservoir. Said reservoir is some 5 to 6 miles downstream from the point at which Applicant Barron proposes to divert. However, storage under Application 9123 is governed by an agreement between the licensee and Applicant Barron, and operation of the reservoir pursuant to that agreement has resulted in restricting storage space in the reservoir to considerably less than 2600 acre feet.

Willow Creek besides supplying users whose diversions head thereon also supplies in part the requirements for domestic purposes and stockwatering on Susan River below the junction of those streams. These requirements are not defined in the Susan River Decree but in the absence of court definition it is estimated that they will not exceed, from Willow Creek, 1000 acre feet per month or 5000 acre feet for the 5 month period from November 1 to March 31. Willow Creek is also depended upon in part for 2850 acre feet each season to be accumulated in storage at Whitewater and Fleming reservoirs. Assuming that Willow Creek must supply the entire 2850 acre feet for the last mentioned reservoirs and that the Willow Creek (Walsh) reservoir could be operated to store the 2600 acre feet appropriated under Application 9123, License 2598, the demands upon Willow Creek from November 1 to March 31 would appear to be of the order of $5000 + 2850 + 2600$ or 10450 acre feet.

If Willow Creek (at Standish) produces 48% as much water annually as Susan River (at Susanville) as the limited data suggest, the mean annual runoff of Willow Creek may be taken roughly at 48% of 65,200 acre feet or 31,300 acre feet. Of this amount 51% or 15,960 acre feet would be expected to materialize prior to March 1 when irrigation rights begin to be asserted and another 2,190 acre feet (7% of 31,300 acre feet) ordinarily would become available during March when irrigation demands are relatively small. These quantities (15,960 + 2,190) aggregate 18,150 acre feet. Subtracting the 10,450 acre feet estimated in the preceding paragraph to be required for the satisfaction of prior rights leaves 7,700 acre feet as apparently surplus and subject to appropriation, an amount considerably in excess of the amounts filed upon under Applications 12142, 12312 and 12750. Not considered in the calculation of probable surplus is the limited irrigation that may be practiced during March. It is considered that demands for March irrigation will be more than offset by contributions from Susan River.

From the fact that surpluses in the neighborhood of 7,700 acre feet may occur near Standish where Willow Creek was gaged it does not necessarily follow that surpluses in that amount are available at the proposed points of diversion under the applications at issue. It so happens that the flow of Willow Creek was also measured during 1904-05 at a point very close to the storage site proposed under Applications 12142 and 12312. According to Water Supply Paper 300 (U.S.G.S.) the measurements referred to (Willow Creek at Merrillville) indicate that the mean daily discharge over the period from July 1, 1904 to December 31, 1905 was 19.1 cubic feet per second. Aside from one day in December, 1904 the discharge varied but little,

the extremes having been a maximum of 24.0 and a minimum of 16.0 cubic feet per second. Discharges during portions of recent irrigation seasons, according to Department records, have been as follows:

| <u>Period</u> | <u>Discharge (in c.f.s.)</u> |
|------------------------------|------------------------------|
| May 10 to September 30, 1935 | 10.78 |
| April 8 to July 19, 1936 | 9.62 |
| April 10 to June 24, 1937 | 7.95 |
| April 5 to May 4, 1939 | 14.42 |

In addition to the foregoing a single measurement on July 9, 1949 indicated a flow at that time of 8.53 cubic feet per second. Other measurements on the last named date indicated that accretions to flow a short distance downstream amounted to some 2 cubic feet per second.

The 18 month record from July 1, 1904 to December, 1905 inclusive indicates that the discharge of Willow Creek at Merrillville has been nearly constant throughout each year. The limited records of 1935, 1936, 1937, 1939 and 1949 however indicate some variation in rate from year to year. In view of the relatively minor variation of flow from month to month it appears reasonable to assume that the winter discharges in 1935, 1936, 1937, 1939 and 1949 were of the same order as the flows observed by Department personnel during the irrigation seasons of the same years. The average of the figures tabulated in the preceding paragraph and the single figure obtained in 1949 is slightly over 10 cubic feet per second, a figure probably as representative of flow conditions during the past 15 years as any that can be derived from the available data.

An accretion to the flow of Willow Creek occurs between the Merrillville gaging station and Applicant Barron's proposed dam. That

accretion measured 3.0 cubic feet per second in 1935 but only 2.0 cubic feet per second in 1949.

On the assumption that the gross amount of water available at the proposed reservoir is equal to the deduced flow at the Merrillville gaging station plus the latter value of the accretion above mentioned, that gross amount approximates $2 \times 12 \times 151$ or 3,624 acre feet on average, per 5 month collecting period. Prior rights under the Susan River decree will not appreciably decrease the proportion of this amount that would be available for storage by the applicant as amounts diverted under the decree would pass through the same ditch as used by the applicant and after use for stockwatering purposes it would flow on into the projected reservoirs. The amount which Applicant Barron will be obliged to release to Tanner Slough Irrigation Association to satisfy rights under Application 9123 is not predictable because of the limiting effects of the agreement hereinbefore mentioned but it is certain to be substantially less than the 2,600 acre feet authorized. It thus appears that surpluses probably exist at the locality in question, in amounts approaching if not equalling the 1,700 acre feet per annum sought by Applicant Barron.

Permits 782 and 783, issued in approval of Applications 1209 and 203 respectively, named in the protest by Tule Irrigation District against Applications 12142 and 12312, at one time authorized Leon Bly, predecessor to Tule and Baxter Creek Irrigation Districts, to divert a total of 60,000 acre feet per annum from Eagle Lake at a point within Section 22 of T 32 N, R 11 E, M.D.B.&M. Those permits are not a bar to the approval of Applications 12142, 12312 and/or 12750 first because any diversions made under them will head upstream from the diversion points described in the applications at issue, and second because Permits 782

and 783 have been revoked by order dated November 13, 1939.

Tule Irrigation District also bases its protest against Applications 12142 and 12312 upon the filing by that District of Application 12966, a proposal to divert 8 cubic feet per second from Eagle Lake and/or from the tunnel leading therefrom, from April 15 to September 15, and 35,000 acre feet per year to be collected continuously in Eagle Lake, diversion to be effected within Section 27 of T 32 N, R 11 E, M.D.B.&M. That application is not a bar to approval of Applications 12142 and 12312 either, inasmuch as it is junior to them and proposes diversion at a location upstream from them both.

The circumstances above outlined indicate that the surpluses which at times exist may be taken and used by the applicants in the manner proposed in the applications without injury to the protestants or to other downstream users. The time of occurrence and the amount of such surpluses cannot be determined exactly and will vary from season to season. Reliance for protection against invasion of the rights of lower users may safely rest in this instance upon the wording invariably appearing in an approved application, limiting the appropriation to unappropriated waters and subordinating the appropriation to rights already vested. Additional protection of downstream users in the present instance lies in the fact that the lands and waters involved are within a water-master district and that during irrigation months diversions by all water users therein are supervised by the Division of Water Resources. For the reasons stated it is concluded that Applications 12142, 12312 and 12750 should be approved and permits issued, subject to the usual terms and conditions.

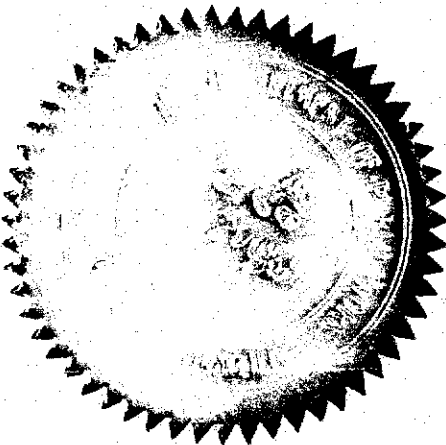
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ORDER

Applications 12142, 12312 and 12750 for permits to appropriate water having been filed, a stipulated hearing having been held in accordance with Section 733(b) of the Administrative Code and the State Engineer now being fully informed in the premises:

IT IS HEREBY ORDERED that Applications 12142, 12312 and 12750 be approved and that permits be issued to the applicants subject to such of the usual terms and conditions as may be appropriate.

WITNESS my hand and the seal of the Department of Public Works of the State of California this 31st day of March 1950.



A. D. Edmonston
A. D. Edmonston
State Engineer.