

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 15570 by John F. and Lena M. Davidson and Application 15571 by Samuel F. Brown, Fletcher Brown, Samuel F. Brown, Jr., Ella Byrd Lutz and Mary A. McIntyre, to appropriate water from Indian Creek, Tributary to East Branch North Fork Feather River in Plumas County for Irrigation Purposes.

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Decision A 15570, 15571 D 833

Decided July 11, 1955

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In Attendance at Investigation Conducted by the Division of Water Resources on September 15, 1954:

John F. Davidson	Applicant
Lena M. Davidson	Applicant
Samuel F. Brown	Applicant
Cecil McIntyre	Representing Applicant Mary A. McIntyre
Donald H. McCrea	Representing the protestant Pacific Gas and Electric Company
Ray Dunham	Representing the protestant Department of Fish and Game
Alton Young	Plumas County Farm Adviser and Secretary, Plumas County Water Resources Board
Doris Magee	Secretary to Mr. Young
Ray Nestit	Associate Hydrographer, Division of Water Resources; Watermaster, Indian Creek Watermaster Service Area
K. L. Woodward Associate Hydraulic Engineer Division of Water Resources Department of Public Works	Representing the State Engineer

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OPINION

General Description of the Projects

Application 15570 initiates an appropriation of 2.5 cubic feet per second from April 1 to September 30 of each year from Indian Creek, tributary to East Branch North Fork Feather River, at a point within the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17, T26N R10E, MDB&M. The water is wanted for the irrigation of 200 acres of pasture located within Sections 5, 8 and 9 of the same township. Diversion is to be effected by pumping from the unobstructed channel, conveyance by 1400 lineal feet of earth ditch. According to the application, the applicants own the proposed place of use but not the land at the proposed intake and have secured or will secure right of access to the latter. The land to be irrigated is said to have no other water right or source of water supply.

Application 15571 contemplates the appropriation of 2 cubic feet per second from April 1 to September 30 of each year from Indian Creek at the same point as specified in Application 15570. The water is wanted for the irrigation of 160 acres of pasture located within Section 17, T26N R10E, and the adjoining Section 8. Diversion and conveyance are to be effected by the

same facilities as described in Application 15570. According to the application, the applicants own both the site of the proposed diversion and the land upon which the water is to be used, they state that their land has no other water right or source of water supply than as sought under the application.

Protests

The State of California, Department of Fish and Game, protests both of the applications, extracts from its protests reading as follows:

" ... the proposed appropriation will result in ... destruction of trout and other fishes ... because the amount of water to be diverted exceeds the known minimum flow of the stream."

"Trout and other fishes exist and spawn naturally in Indian Creek and these waters are stocked by the State of California."

"This protest may be disregarded and dismissed if the permit contains the following clause: 'Permittee shall by-pass 7.0 c.f.s. or the natural flow of the stream, whichever is less, at the point of diversion to maintain fish life.'"

The Pacific Gas and Electric Company also filed identical protests against the two applications, its protests containing, among others, the following statements:

"Pacific Gas and Electric Company ... avers that the place of proposed diversion is above and upstream from places where Protestant diverts or is entitled to divert water and such diversion by Applicant would detract from natural flows to which Protestant is entitled"

"Natural flow to which the Protestant is entitled as derived from rights based on appropriations and beneficial use prior to enactment of the State Water Commission Act of 1911:

(a) The right to divert ... at the Big Bend Diversion Dam, the entire flow, up to the capacity of said diversion works, from the North Fork Feather River and its tributaries ... for power use at Big Bend Power Plant. Protestant is also the owner of all the riparian rights

(b) The right to temporarily divert to storage in the SW $\frac{1}{4}$ of Section 31, T22N R5E, MDB&M, at the Big Bend Diversion Dam, the natural flow, up to the capacity of the diversion reservoir, from the North Fork Feather River and its tributaries above said dam and divert such storage into Big Bend Tunnel for power use at Big Bend Power Plant.

(c) The right to divert ... at the head dam of Western Canal, the natural flow, up to the capacity of the diversion works ... into the Western Canal for irrigation use."

"Natural flows to which the Protestant is entitled as derived from rights granted by permit issued by the Division of Water Resources:

The right to divert under Application 9800, Permit 5724, ... from the North Fork Feather River and its tributaries above diversion works hereunder described: (1) 3000 cubic feet per second ... at Rock Creek Diversion Dam into the Rock Creek Tunnel for power use at Rock Creek Power Plant; (2) 3500 cubic feet per second ... at the Cresta Diversion Dam into the Cresta Tunnel for power use at Cresta Power Plant; and (3) 3500 cubic feet per second ... at the proposed Poe Tunnel for use at the proposed Poe Power Plant."

"All the water diverted by Protestant under and pursuant to said rights is used for the generation of

electrical energy sold to the public generally for light, heat, and power purposes; and/or irrigation purposes, and any diminution of such flows would be against the public interest."

Answers

The applicants answer the protests by Department of Fish and Game against both applications by stating, in part:

"In our judgement, there are no fish at the point of diversion of any value and seepage and return flow would provide ample water to meet your demands at the point of diversion."

"The above fact is displayed by the records of discharge at the U.S.G.S. Station a short distance below Crescent Mills."

The applicants likewise address identical answers to the protests by Pacific Gas and Electric Company, stating in those answers as follows:

"We each have owned our lands over a period of years and have observed that there is an abundance of water in the stream and our uses of the water in our judgement would not materially affect the flow of the stream.

"It is a well recognized fact that due to the high water level in the valley where our lands are located, and due to the texture of the soil, a goodly percent of the water used on the land returns to the stream.

"Due to the efforts of myself, Samuel F. Brown, and other parties, we have recently been able to establish a drainage project which is greatly needed over some 1,700 acres and which will make more water available for useful purposes than would be used under the water rights applied for. This is the establishment of a legal drainage district.

"In our opinion, the minor amount of water we would use, would not cause any appreciable loss in the production of power by the protestant."

Field Investigation

The applicants and the protestants, with the approval of the Division, having stipulated to the submittal of the applications and protests upon the official records of the Division, a field investigation was conducted on September 15, 1954, by an engineer of the Division. The applicants and the protestants were present or represented during the investigation.

Records Relied upon

Applications 9800, 15570 and 15571 and all information on file therewith; Greenville Quadrangle and 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.

Information Secured by Field Investigation

Extracts from the report covering the field investigation of September 15, 1954, are as follows:

"Indian Creek heads on the slopes of Diamond Mountain Ridge in Plumas County, flows southerly about 20 miles to Genesee Valley, takes a westerly course through the valley, then northerly through a canyon section and enters Indian Valley near the town of Taylorsville. From Taylorsville the stream

continues a short distance west then follows a circuitous route through Indian Valley to the outlet of the valley about 1 mile southwest of the town of Crescent Mills."

"Outflow from Indian Valley has been measured by the United States Geological Survey since 1944 at a point near the southwest corner of Section 25, T26N, R9E, MDB&M. Records of the flow appear in the Water Supply Papers under the station name 'Indian Creek near Crescent Mills'."

"Diversions from the stream systems are controlled by a State watermaster and his reports are to the effect that normally between the first and middle of July of each year the entire natural flow of Indian Creek as well as Lights and Wolf Creeks, are diverted for use in Indian Valley. During the critical period of each year (about July 1 to October 1) all flow measured at the above mentioned U.S.G.S. gage is return flow from irrigation and surface and subsurface seepage from high water table. At the time of the investigation the channel at the proposed point of diversion was ponded six to eight feet deep by about 30 feet wide and several hundred feet in length. Outflow from the pond was an estimated 8 cfs consisting to a considerable extent of surface drainage from adjacent irrigated fields. Mr. Davidson stated that a neighbor, H. C. Neer, who owns property adjoining his, has for the past six years irrigated 145 acres of clover from that pool and that Mr. Neer claimed that his diversion had made no noticeable effect on the supply, that subsurface effluent to the creek more than offset the quantity he was diverting."

"A large area of land in the vicinity of the applicants' proposed projects has from time immemorial been subject to inundation during the spring runoff season due to inadequate channel capacity of Indian Creek near the mouth of Indian Valley to carry large flows of water. The report prepared by the Division in connection with the determination of water rights indicates that in excess of 800 acres in Sections 4, 5, 8, and 9, T27N R10E, MDB&M, are normally subject to such overflow and as a result are overgrown with tule and swamp grasses. Water table levels in other portions of the valley are

extremely high, as evidenced by tule growths in sloughs and in low areas and by heavy willow growth over uncultivated areas, creating a movement of ground water, which contributes to summer outflow through seepage to the natural drainage channels. Consumptive losses from high water table lands and flooded areas are undoubtedly considerable from the types of phreatophytes observed. It is difficult to evaluate such losses accurately; however, the results of experiments contained in various reports support the conclusions reached."

"During the summer and fall of 1954, a dredging project was undertaken by private financing, supported in part by the applicants, to increase the capacity of the lower reach of Indian Creek in Indian Valley and draining much of the flooded area. Specifically the project included enlargement and realignment of the channel from a point near the northwest corner of Section 17, T26N, R10E, MDB&M, to the U.S.G.S. gage, 'near Crescent Mills' a distance of about 4 miles. The reconstructed channel has a bottom width of up to 70 feet with 2:1 side slopes and was also deepened in places to possibly as much as 10 feet below former conditions. Also included in the project was the removal of 100 acres or more of willows which grew profusely along both banks. While the project will probably not eliminate spring flooding completely, it will accelerate runoff of any water which may be backed onto the land and will lower the water table sufficiently to allow the reclamation of the area."

"Deepening of the channel of Indian Creek and increasing the slope of the water table will tend to increase effluent seepage from the high water table lands, particularly during the latter part of the irrigation season. The added flow of the stream due to increased seepage along the enlarged and deepened stream channel and the saving of the former losses by the elimination of tules, water grasses and willows over large areas ... in all probability will be equal to or more than the quantity sought to be appropriated under the applications."

"According to Mr. Dunham, the principal concern of Department of Fish and Game in this matter

is to maintain a flow in Indian Creek below the Arlington Bridge (center of Section 25, T20N, R9E, MDB&M). Although only a few warm water fish are known to be present in the creek above the bridge, Fish and Game in 1954 planted 5,000 catchable trout a short distance below and future plantings will undoubtedly follow. The '7 cfs or entire natural flow' by-pass requirement was believed by Fish and Game to be a reasonable request"

"At the time of investigation no development had been initiated under the applications and no water from the creek has been diverted to the place of use. The amount sought to be appropriated and the method of diversion appear reasonable for the contemplated projects."

"The applicants have no other source of water available for irrigation purposes. It is understood that wells in the vicinity have in the past proved unsuccessful."

Information Obtained from Division Files

Application 9800 Permit 5724, referred to in the protests by Pacific Gas and Electric Company, authorizes that permittee to divert up to 3,500 cubic feet per second of natural and/or regulated flow, from North Fork Feather River, for power purposes and incidental domestic use, at four designated power plants. The conduits serving three of those plants (the Rock Creek, Cresta and Poe plants) head on North Fork Feather River below the point of entrance of

East Branch, to which Indian Creek, the applicants' proposed source, is tributary. Application 9800 Permit 5724 is under current extension to December 1, 1955 for completion of construction and application of the water filed upon to beneficial use. The Rock Creek and Cresta projects are reported complete and in full operation. According to progress report by permittee for the year 1953 average uses on the Rock Creek and Cresta projects were respectively 2,265 and 2,579 cubic feet per second; maximum uses respectively 2,880 and 3,786 cubic feet per second.

"North Fork Feather River at Big Bar" is a United States Geological Survey gaging station located about one mile downstream from the lowermost diversion under Application 9800 Permit 5724. According to the Water Supply Papers, monthly mean flows past "North Fork Feather River at Big Bar", in cubic feet per second, during the portion of each year when the applicants desire to irrigate, have been in recent years as follows:

Year:	April	May	June	July	August	September
1944	4405	3974	1633	1845	1886	1441
45	3603	3915	2244	1774	1777	1771
46	4236	3528	1889	1941	2021	1668
47	2560	1763	1611	1983	2022	1550
48	6052	4876	3540	1783	1580	1577
49	4452	2725	1597	1873	1818	1033
50	5463	4523	2258	1622	1583	1664
51	3724	3719	1828	1820	1727	1711
52	13580	10430	5384	2771	2441	2430
1953	5641	5559	4614	2463	2377	2378

"Indian Creek near Crescent Mills" is a United States Geological Survey gaging station located about 4.5 miles downstream from the applicants' proposed point of diversion. According to the Water Supply Papers monthly mean flows past that station during irrigation seasons of recent years have been as follows:

Year	April	May	June	July	August	September
1944	1285	940	182	32.8	10.4	10.0
45	1018	776	227	35.4	9.55	10.5
46	1613	709	122	24.4	10.8	13.0
47	543	148	86.1	11.4	6.53	6.20
48	1390	894	487	48.7	9.59	10.6
49	1064	478	62.7	8.64	4.20	7.20
50	1565	943	239	25	8.72	14.1
51	965	793	148	23.2	11.4	13.0
52	5776	3675	1091	271	100	58.9
1953	1435	1316	762	141	29.5	30.6

"Feather River near Gridley Bridge" is a gaging station of the Division of Water Resources, located at Mile 49.7 (measured from mouth of Feather River). Monthly mean flows, in cubic feet per second, passing that station during irrigation months of recent years, according to reports of Sacramento-San Joaquin Water Supervision (prepared by the Division), have been as follows:

Year :	April :	May :	June :	July :	August :	September :
1944	5644	4989	917	102	56	351
45	5784	4819	1235	126	81	450
46	8085	4752	762	129	232	593
47	5780	643	465	175	278	510
48	13295	9641	4575	437	61.7	455
49	8129	4071	352	38.4	61.2	281
50	11180	7081	1975	127	57.2	855
51	6800	5360	738	53.3	47.6	948
52	29620	21820	8675	2087	837	1248
1953	8950	8284	5767	1075	703	1447

River distances upstream from "Feather River near Gridley Bridge" scale roughly on a map of the locality as follows:

To Sutter-Butte Canal Company Dam	8.2 miles
To Western Canal Company Dam	11.4
To Big Bend Diversion Dam	40.0
To Proposed Poe Diversion Dam	47.
To Cresta Diversion Dam	54.
To Rock Creek Diversion Dam	65.
To East Branch Feather River	67.5
To the Applicants' proposed point of diversion	92.

"Feather River at Yuba City" is a gaging station of the Division of Water Resources, located at Mile 28.0 above mouth of Feather River. Monthly mean flows in cubic feet per second during months of April through September of years 1944 through 1953 at that station are of record as follows:

Year	April	May	June	July	August	September
1944	*	*	*	384	132	487
45	*	*	*	325	166	645
46	9120	5410	1250	254	278	771
47	6460	1200	772	258	388	628
48	14080	10770	5427	566	190	639
49	8701	4639	475	192	161	488
50	11230	7419	2455	280	217	1018
51	7006	5541	1070	253	222	1321
52	32810	25570	9352	2796	1063	1844
1953	9654	9823	7319	1618	738	1578

* No record.

Diversions from Feather River above this station include a diversion at Mile 38.1 by Sutter Extension Water District.

Under date of October 20, 1954 the Department of Fish and Game advised this office that its protest against the subject applications may be disregarded and dismissed if the permit in the matter be worded as follows:

"Permittee shall cease diversion whenever the flow is less than 7.0 c.f.s. at the U.S.G.S. gaging station on Indian Creek near Crescent Mills ... California."

Discussion

The only times at which the protestant Pacific Gas and Electric Company might be injured, if at all, by the applicants' proposed diversions would be those times, between April 1 and September 30 of each year, when that protestant elects to divert its full entitlement and would be prevented from so doing

by diversion, upstream, by the applicants. The maximum entitlement of Pacific Gas and Electric Company to divert from North Fork Feather River appears to be 3500 cubic feet per second, year-round. Flows passing "North Fork Feather River at Big Bar" (tabulated in an earlier paragraph) averaged more than 3500 cubic feet per second in every April but one (of the 10 recent years considered), in every May but two and in three of the months of June. Thus in 9 plus 8 plus 3 or 20 of the 60 months considered, as relatively small an abstraction upstream as that contemplated by the applicants would probably not have affected the protestant company. During the other 40 months of the ten 6-month periods considered, monthly mean flows passing "North Fork Feather River at Big Bar" were less than 3500 cubic feet per second. In those 40 months any diminution of flow in North Fork Feather River, ascribable to an upstream diversion by a junior appropriator, would have injured the protestant company insofar as the latter was disposed to exercise its rights in full.

While water passing "Indian Creek near Crescent Mills" undoubtedly contributes to the flow available to Pacific Gas and Electric Company, the data do not establish that the water that the applicants seek to appropriate reaches that point of measurement. The investigator found that drainage in the vicinity of the applicants' proposed points of diversion is sluggish and

that channel improvements have been undertaken to overcome repeated flooding of nearby lands. Insofar as escape of water from Indian Valley is prevented by faulty drainage such water cannot contribute to the supply of Pacific Gas and Electric Company. While the information at hand does not enable a close estimate to be made of the amount of water that is dissipated as by evaporation and transpiration, instead of draining out of Indian Valley, the investigator has stated that the channel improvements undertaken will probably result in the saving of at least as much water as the applicants seek to appropriate.

The tabulation relating to "Feather River at Gridley Bridge" reflects substantial mean flows throughout the same ten 6-month periods as above considered and indicates that a diversion of 4.5 cubic feet per second such as proposed by the applicants would not within the period considered have interfered with deliveries into Western Canal or with other diversions from Feather River above that gaging station.

The tabulation relating to "Feather River at Yuba City" indicates that flows at that point during the same ten 6-month periods, were also much in excess of the 4.5 cubic feet per second that the applicants seek to appropriate. "Feather River at Yuba City" is located down-river from intakes of all recent objectors to diversions from Feather River drainage.

The tabulation relating to "Indian Creek near Crescent Mills" indicates that monthly mean flows have exceeded, except

in 3 of the 60 months considered, the 7 cubic feet per second tentatively estimated by the protestant Department of Fish and Game, as necessary for the welfare of fish life.

If the appropriation that the applicants seek would not materially reduce flow passing "Indian Creek near Crescent Mills" and the protestant Department of Fish and Game is not particularly concerned about flows above Arlington Bridge, both of which appear to be the case, the protest by the Department of Fish and Game is not a bar to approval of the applications.

Conclusion

The available data point to the conclusion that unappropriated water ordinarily exists at the point at which the applicants seek to appropriate and that such water may be taken and used beneficially in the manner proposed without material effect upon flows passing the United States Gaging Station on Indian Creek near Crescent Mills and therefore without material injury to fish life or infringement upon the rights of downstream users. In view of that conclusion it is the opinion of this office that Applications 15570 and 15571 should be approved and permits issued, subject to the usual terms and conditions.

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ORDER

Applications 15570 and 15571, 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 Applications 15570 and 15571 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 11th day of July, 1955.



A. D. Edmonston

A. D. Edmonston
State Engineer