

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 15434 by Garnet Dike Mine to  
Appropriate Water from Lower Mud Lake and from Grouse Lake,  
Both Tributary via Unnamed Streams and Dinkey Creek to North  
Fork Kings River, in Fresno County, for Mining and Incidental  
Domestic Purposes.

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Decision A 15434 D 857

Decided June 27th, 1956

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In Attendance at Investigation Conducted by the Division of  
Water Resources on August 26, 1954:

H. A. Savage

Applicant's Attorney

E. Benson

An associate of Mr. Savage

Robert Ehlers

Assistant Fisheries Biologist,  
Department of Fish and Game

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 applicant seeks to appropriate 3 cubic feet per second from Lower Mud Lake and/or from Grouse Lake, from April 1 to December 1 of each year, for mining and incidental domestic

purposes. Each lake is on a separate, unnamed tributary of South Fork Dinkey Creek, the latter discharging into Dinkey Creek, thence into North Fork Kings River. The proposed points of diversion are described as being located respectively within the SW $\frac{1}{4}$  SW $\frac{1}{4}$  and the SE $\frac{1}{4}$  NW $\frac{1}{4}$  of Section 30, T9S R27E, MDB&M. The applicant proposes to divert from Lower Mud Lake by pumping and from Grouse Lake by siphoning. The project includes 450 lineal feet of 2-inch and 2,600 lineal feet of 3-inch pipe. According to the application the proposed points of diversion are within Sierra National Forest, the water is to be used for milling and concentrating tungsten on mining claims located within the SW $\frac{1}{4}$  SW $\frac{1}{4}$  of the above mentioned Section 30 and will also be used for domestic purposes by the operating personnel, the water will be returned unpolluted to the unnamed stream traversing the described place of use.

#### Protest

The application is protested by the State of California, Department of Fish and Game. Extracts from the protest are:

"... to the best of our information and belief the proposed appropriation will result in ... destruction of trout, property of State of California .... According to our files Lower Mud Lake has a surface area of 3 $\frac{1}{2}$  acres ... with an average volume of 17.5 acre-feet. Grouse Lake has a surface area of 6 acres ... with an average volume of 54 acre-feet. ... the Garnet Dike mine could completely dry up both lakes in less than 2 weeks ...."

"Trout are present and spawn naturally in Lower Mud and Grouse Lakes and are planted there

by the State. Both lakes are extensively used by fishermen."

"No conditions can be stated for the dismissal of this protest until detailed plans and operating schedules are made available ...."

"This proposed diversion and resulting severe fluctuation will seriously jeopardize the recreational potential of these lakes and the biological productivity of the lakes will be greatly reduced."

#### Answer

The applicant in answering the protest declares in effect that it does not intend to take water in quantities that will in any way interfere with fish life, that it conveys to an off-stream reservoir the water used in milling operations, that the reservoir permits settlement of tailings and re-use over and over again, of the same water. The applicant declares further that Grouse Lake and Lower Mud Lake overflow year-round except during August, September and sometimes in October, that recessions in the lake surfaces below overflow level range between 12 and 20 inches, that applicant's diversions for mining purposes in 1953 lowered the lake surfaces an additional 6 to 10 inches. It states as to the lowering of lake surfaces:

"... it can and will, if desired by protestant, put a dam in Mud Lake, which is the only source from which water is now taken, to raise the level of the lake by three or four feet above its natural level so that ... it would not be drawn down then any lower than its natural contents ...."

"The same could be done to Upper Mud Lake ...."

The applicant finally alleges:

"... the mining of tungsten in Lower Mud Lake was urgently requested by the United States Government because of the then scarcity of this strategic material ...."

#### Field Investigation

The applicant and the protestant with the approval of the Division having stipulated to the submittal of the application and protest upon the official records, a field investigation was conducted on August 26, 1954 by an engineer of the Division. The applicant and the protestant were both represented during the investigation.

#### Records Relied Upon

Application 15434 and all information on file therewith; Kaiser quadrangle and Water Supply Papers, Part 11, "Pacific Slope Basins in California", United States Geological Survey.

#### Information Obtained by Field Investigation

Extracts from "Report on Investigation of Application 15434," dated October 20, 1954 and filed with the application, are as follows:

"Lower Mud Lake and Grouse Lake are located on two unnamed tributaries of South Fork Dinkey Creek on the west slope of Sierra Nevada Mountains at an elevation of about 9,000 feet. Runoff area contributing to the lakes is ... about 1/4 and 1/2 square miles, respectively, ... the terrain ... moderately steep and sparsely to moderately wooded."

"According to (recent) surveys ... by the Department of Fish and Game, Lower Mud Lake and Grouse Lake have surface areas of 3.5 and 6 acres and capacities of 17.5 and 54 acre-feet, respectively. At the time of investigation there was no flow in the streams feeding the lakes. According to Mr. Savage water normally ceases to flow out of Lower Mud Lake by the first of July and the level normally recedes approximately 2 feet during the dry season, whereas Grouse Lake will overflow until the first or middle of August."

"Earlier in the season the applicant had constructed an earth dike ... across the Lower Mud Lake outlet and had raised the lake level somewhat above natural conditions. Although water had been and was being used for milling by the applicant from this lake the level was noted to be about 12 inches above the natural outlet."

"The mill is located on a bench on the right side of the channel leading from Lower Mud Lake and about 500 feet downstream. The tailings are discharged into an artificial pond adjacent to the mill. Under present operations all water that can be salvaged from the pond is recirculated through the mill and the only water lost from the operations into the downstream water courses is the seepage through the sides of the pond. It was noted that about 10 gallons per minute was being lost from the tailings pond and this appeared to be in an unclouded condition. With exception of Upper Mud Lake there appeared to be no supplemental or alternate water supply in the immediate vicinity available throughout the season of operation."

"The applicant is presently obtaining its water supply by pumping from Lower Mud Lake. The milling operation uses about 120 gallons per minute and a small amount is used for domestic purposes at the camp. As above indicated (there are) facilities ... for recirculation of the used water, and the amount extracted from the lake was averaging about 10 gallons per minute to compensate for the seepage losses from the tailing pond."

"Department of Fish and Game claim that trout are present and spawn naturally in Lower Mud Lake and Grouse Lake and both lakes are used extensively

by fisherman. The attitude of Fish and Game personnel contacted ... is that extractions of any amount would be detrimental."

"The applicant is presently milling tungsten by gravity tables method which requires about 120 gallons per minute. Due to the loss of metal by this method it is proposed to eventually change to the flotation method and also to increase operation to a point where about 300 tons of ore is processed daily. Mr. Savage was adamant in his belief that the amount filed for would eventually be needed ...."

Information from Water Supply Papers

Water Supply Papers of the United States Geological Survey indicates that monthly mean flows passing the gaging station "Pitman Creek below Tamarack Creek", from April to November, both inclusive, of the 26-year period of published record, in cubic feet per second per square mile of tributary watershed, have averaged approximately as follows:

Month	:	Flow
April	:	3.86
May	:	7.25
June	:	4.86
July	:	0.58
August	:	0.06
September	:	0.018
October	:	0.043
November	:	0.27

Pitman Creek is tributary via Big Creek to San Joaquin River. The gaging station on Pitman Creek scales 9.4 miles northwest of Lower Mud Lake.

Supplemental Statement by Protestant

By inter-departmental communication dated April 25, 1956, this office requested further information from protestant in support of the latter's contention that lowering of the lake levels would substantially injure fish life. By inter-departmental communication dated May 21, 1956, the protestant replied to the effect that a lowering of lake levels by 2.5 feet would reduce the volumes of Lower Mud Lake and Grouse Lake by 50% and 28% respectively, that in protestant's opinion such reductions would result in lake habitat compressions in like amounts, that water temperatures increase as lake levels decline, causing increases in bacterial decomposition with release of partially oxidized organic materials, that such decomposition results in rapid oxygen depletion and is conducive to a sudden mortality and destruction of the fishery, and that such destruction would set the lakes back for several seasons or until the fishery is re-established by planting. The protestant also stated in its reply that lake habitat compression in any substantial amount could well result in fishery loss; that in such very shallow lakes a reduction of volume by 5 or 10% might well trigger the chain of events culminating in a lake kill. It estimates that

the Mud Lakes and Grouse Lake are fished at the rates of 79.4 angler days and 46.3 angler days, respectively, per acre of lake surface per season. It states that use of the lakes by anglers has become so heavy that it is only with great difficulty that the fisheries can be maintained by fingerling planting.

#### Discussion

In view of the information secured by field investigation and supplemented by protestant's communication of May 21, 1956 it appears in the public interest that Lower Mud and Grouse Lakes be not depleted below their natural outlet levels. Insofar therefore as diversions under the application at issue would result in lowering the surface of either of the lakes in question below the level to which that lake would recede in a state of nature, approval of the application would not best conserve the public interest and the application should be rejected. To the extent however that inflow into either lake exceeds natural losses therefrom, as by seepage and/or evaporation, that excess evidently may be diverted without injury to fish life, and to that extent the application may be approved.

While inflow into the lakes and natural losses therefrom are not of record they may be roughly calculated by comparison of watersheds and consideration of reported surface areas and surface recessions. Nearness and topographic similarity suggest that the watersheds tributary to the lakes and the



watershed above the gaging station "Pitman Creek above Tamarack Creek" produce runoff at about the same rate. On the assumption that the rates of runoff from those watersheds are equal, the  $3/4$  square mile of watershed tributary to the lakes may be supposed for example to produce about  $3/4 \times 3.86$  or 2.90 cubic feet per second in a normal April. As to losses, according to the report of field investigation, Lower Mud Lake overflows until about July 1, has a surface area of about 3.5 acres and recedes about 2 feet during the "dry" season (presumed to mean until about mid-October). Losses from Lower Mud Lake may therefore average something of the order of  $(3.5 \times 2)/(105 \times 2)$  or 0.0333 cubic foot per second and, in view of its larger surface area but similarity in other respects, Grouse Lake may lose roughly  $6/3.5$  of 0.0333 or 0.0572 cubic foot per second, making the total loss from the two lakes roughly 0.09 cubic foot per second and the excess of inflow over losses, in a normal April, roughly  $2.90 - 0.09$  or 2.81 cubic feet per second. Like calculations indicate that excesses of inflow over losses in later months average roughly 5.35 cubic feet per second in May, 3.56 cubic feet per second in June, 0.34 cubic foot per second in July, nothing in August, September or October, 0.12 cubic foot per second in November.

The data thus indicate that excesses of inflow into Lower Mud and Grouse Lakes over natural losses from those lakes are probably greater at times than the amount which the applicant

seeks to appropriate and that such excesses may be taken and used beneficially in the manner proposed, without injury to fish life, provided such taking from either lake is restricted to times when the water surface of that lake stands at or above its natural overflow level.

#### Conclusion

Unappropriated water in excess of requirements in the public interest for the support of fish life exists in each lake from which the applicant seeks to appropriate, at such times as inflow into that lake exceeds natural losses therefrom and overflow results. Such unappropriated water may be taken and used beneficially in the manner proposed by the applicant. In view of the situation presented it is the opinion of this office that the application should be approved and permit issued, subject to the usual terms and conditions but with diversions from each lake limited to times when that lake is full to the point of overflowing.

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#### ORDER

Application 15434 having been filed with the Division of Water Resources as above stated, a protest 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 15434 be approved and that a permit be issued to the applicant subject to the usual terms and conditions and subject to the following special term and condition, to wit:

Diversions under this permit from either of the lakes designated in the application as sources shall be limited to times when the water surface in that lake stands at or above its natural outlet.

WITNESS my hand and the seal of the Department of Public Works of the State of California this 27th day of June 1956



HARVEY O. BANKS, STATE ENGINEER

By *L. C. Jopson*  
L. C. Jopson  
Assistant State Engineer