



State Water Resources Control Board

DEC 21 2011

In Reply Refer to:
DLaBrie:262.0(18-09-02)

United States Department of the Interior
Bureau of Land Management
Eagle Lake Field Office
Attention Ken Collum, Field Manager
2950 Riverside Drive
Susanville, CA 96130

Dear Mr. Collum:

LOSS OF WATER THROUGH THE BLY TUNNEL FROM EAGLE LAKE IN LASSEN COUNTY

With this letter, the State Water Resources Control Board's (State Water Board) Division of Water Rights (Division) requests that the United States Bureau of Land Management (BLM) close the valve on the outlet pipe in the Bly Tunnel at Eagle Lake.

In 2008, the Division received numerous complaints alleging that the BLM is allowing water to drain from Eagle Lake through the Bly Tunnel. The complainants alleged that water is being diverted from Eagle Lake to the Willow Creek watershed through a pipe that passes through the concrete plug in the tunnel and that the diversion is without a valid basis of right. The complainants further alleged that the loss of water from Eagle Lake is causing harm to public trust resources at the lake.

The Division conducted a water right investigation pursuant to the complaints against BLM. Division staff found that:

- Bly Tunnel was constructed (1921-1923) as a conveyance facility for the diversion of surface water from Eagle Lake made pursuant to Water Right Permits 782 and 783. Water diverted from Eagle Lake through the Bly Tunnel was discharged to Willow Creek for further conveyance to the Honey Lake basin for irrigation and domestic uses;
- Following several years of diversion from Eagle Lake, the diversion project associated with the Bly Tunnel faltered due to drought conditions and economic hardship. As the water level in Eagle Lake fell during the drought years of the late 1920s and early 1930s, an open channel was excavated from the tunnel entrance to the receding water line. Repeated excavations resulted in an open inlet channel that was 20 feet deep and 1800 feet in length. A rock slide during the winter of 1935-1936 blocked the entrance to the tunnel and additional rock slides filled the open channel. No water was diverted from Eagle Lake to the project lands after 1935 and Permits 782 and 783 were subsequently revoked in 1959 for non-use;

CHARLES R. HOPPIN, CHAIRMAN | THOMAS HOWARD, EXECUTIVE DIRECTOR

- There are no appropriative rights in effect at this time for diversion of water from Eagle Lake;
- The rights to the diversion and use of water from the Susan River Stream System, of which Willow Creek is a part, were adjudicated in the matter of Fleming v. Bennett, et al (Judgment and Decree No. 4573, April 1940). The rights involved for those parties that derived their water supply from Willow Creek and Susan River below its confluence with Willow Creek were set forth in Paragraph 45 and in Schedule 3 of the decree. Paragraph 45 states that the parties enumerated in Schedule 3 are entitled to rights in and to the use of the “natural flow” of the above named sources. Paragraph 8 defined the term “natural flow” as *“such flow as will naturally occur at any given point in a stream from the run-off of the watershed which it drains, from springs which naturally contribute to the stream, from seepage, and from waste and return flow from dams, conduits, and irrigated lands; as distinguished from released stored water and from ‘foreign water’ directly conveyed to a stream from another watershed.”*
- According to the definition of “natural flow” in Paragraph 8 of the Susan River Decree, any water currently flowing from the Bly Tunnel that, absent the construction of the tunnel, would not otherwise contribute to the flow of Willow Creek, would be considered “foreign water” from another watershed. There is no evidence to suggest that the tunnel is intercepting water that would naturally occur in Willow Creek.
- The water supply report that was prepared for the adjudication of the Susan River Stream System recognized that seepage into the Bly Tunnel, either from the lake or from percolating ground water, contributes to the flow of Willow Creek, even in the absence of a direct diversion from Eagle Lake. In practice, the seepage flowing from the tunnel has been and continues to be included when allocating the available water supply of Willow Creek among the decreed right holders. At best, it may be argued that, to the extent that seepage into the tunnel occurs and discharges to Willow Creek, such water is available for use by the decreed right holders. However, the decree itself is actually silent as to the disposition of such water.
- The Susan River Decree did not confer upon any user the right to take physical control of the water within the Bly Tunnel and the tunnel itself is not designated as an authorized point of diversion under the decree. Therefore, it does not appear that any party has a right under the decree to demand that water be allowed to continue to flow from the Eagle Lake basin to Willow Creek through the tunnel.
- Following a hearing to address issues raised by the filing of several water right applications to appropriate water from Eagle Lake, the State Water Board adopted Decision 1073 in March 1962, stating that *“any export of lake water and the resulting lowering of lake levels would be detrimental, not only to fish and wildlife, but to recreation in its many aspects”* and that *“uses of water in this closed basin for said purposes are found to be important and beneficial.”* In the decision, the State Water Board found that, *“except in infrequent years, all Eagle Lake water is required to remain in Eagle Lake for recreational, stockwatering, and related uses, which beneficial uses are both pursuant to existing right and in the public interest; that insufficient unappropriated water is available to justify approval of the subject applications; and that it would best conserve the public interest to reject and deny all of the subject applications.”*
- Testimony presented at the hearing by the California Department of Fish and Game (DFG) indicated that any lowering of the lake’s surface elevation below USGS 5099 feet above sea level is detrimental to the fisheries of the lake. Other evidence indicated that recreational use and fish and wildlife propagation require Eagle Lake water levels to be higher than existed at the time of the hearing (USGS 5097.5) for optimum use.

- In its 1972 report on the Alternative Plans for Controlling Lake Levels at Eagle Lake, the California Department of Water Resources concluded that essentially all of the water being discharged from the Bly Tunnel is derived from Eagle Lake.
- Due to concerns over downstream flooding and in an effort to control the loss of water through the Bly Tunnel, BLM constructed a concrete plug at the midpoint of the tunnel in 1986. However, based on its concerns over the claims of right by the downstream water users, BLM installed an 8-inch pipe through the concrete plug that is capable of passing up to 10 cubic feet per second. While the pipe has a set of valves to control the flow, the valves have been open since the installation of the plug.
- Since the mid-1980s, the water surface at Eagle Lake has dropped below and receded from the surface inlet to the Bly Tunnel, thus no surface water is being diverted directly from Eagle Lake. Instead, virtually all of the water emanating from the Bly Tunnel at this time is seeping into the tunnel through the porous substrate at the lake-end of the tunnel.
- In 1990, Dr. Peter B. Moyle and others investigated Bly Tunnel to see if the water issuing from it was lake or spring water. In their 1991 report, Moyle, et al concluded: "*The highly alkaline water flowing through the Bly Tunnel clearly has its source in Eagle Lake.*"
- BLM is the only party or entity with an ownership interest in the tunnel. Therefore, the responsibility for controlling the diversion of water through the tunnel belongs to BLM. Downstream parties have no discernible rights to demand the release of such waters and BLM can shut off the discharge of this water at any time.
- The loss of water from Eagle Lake and its interconnected groundwater basin likely has a direct and adverse impact on the water level of the lake.
- While the amount of water lost annually through the Bly Tunnel is small when compared to the annual losses to seepage and evaporation, the losses through the Bly Tunnel are cumulative and controllable. The amount of water lost through the Bly Tunnel since BLM installed the tunnel plug in 1986 may have reduced the water level in Eagle Lake by several feet.
- To the extent that losses through the Bly Tunnel have an adverse impact on the water levels and the public trust resources of Eagle Lake, and to the extent that BLM does not put such water to beneficial use, the release of water through the tunnel constitutes a waste or unreasonable use.

Most of the above findings are discussed in a June 1, 2009 letter from Charles Rich, Chief of the Complaint Unit for the Division of Water Rights, to Dayne Barron, former Manager of the Eagle Lake Field Office. In that letter, Division staff concluded that, if BLM decided to leave the valve on the outlet pipe open, the Division would continue to investigate whether the diversion results in unreasonable harm to public trust resources.

Following Mr. Rich's letter, BLM asked for public comments on the potential impacts of permanently shutting off the flow from the outlet pipe. In a letter from Gary Stacey, former Regional Manager for DFG, to Dayne Barron (September 8, 2009), Mr. Stacey stated that the loss of water through the Bly Tunnel "*is not significant relative to the overall annual loss (from the lake) and would not have any measureable impact to the lake's fish resources.*" DFG recommended that BLM address the impacts that curtailing the flow of water from the tunnel would have on the fishery and habitat of Willow Creek.

In a letter dated February 22, 2010, Mr. Barron informed the Division that BLM would not reconsider its 1985 decision to allow water to flow from the tunnel through the outlet pipe. BLM cited DFG's comments above in its evaluation. Given DFG's responsibility for public trust resources in the State of California and its apparent position on the relative impacts of the flow through the tunnel, Division staff found it difficult to proceed with a finding that the diversion

results in unreasonable harm to public trust resources. In spite of its conclusions that the loss of water from Eagle Lake likely has a direct and adverse impact on the water level of the lake and that the losses through the Bly Tunnel are both cumulative and controllable, Division staff had insufficient evidence at the time with which to contradict DFG's comments and, therefore, took no further action with regard to the public trust finding.

However, since 2000, the Eagle Lake watershed has been subjected to a multi-year drought resulting in low lake levels. Even in the few wet years during that period, the lake level did not respond favorably. In 2010, the water level in Eagle Lake dropped below USGS 5096 feet above sea level and, in February 2011, low lake levels and thick ice cover may have created anoxic conditions in the northern basin, resulting in a fish kill (per DFG).

DFG reported that approximately 500 Eagle Lake rainbow trout (*Oncorhynchus mykiss aquilarum*) were observed floating in the lake or washed up on the shoreline following the February 2011 incident. The Eagle Lake rainbow trout are a California Species of Special Concern. A petition to list them as threatened or endangered was filed in 2004 and is currently under review by the U.S. Fish and Wildlife Service.

In a letter from Neil Manji, current Regional Manager for DFG, to Charles Rich (October 3, 2011) Mr. Manji states, "We believe that low lake levels have impacted Eagle Lake's ecology and the survival of Eagle Lake rainbow trout." DFG asked that the Division take action to reduce the export of water from Eagle Lake basin in order to help preserve public trust values, specifically by closing the valve on the outlet pipe in the Bly Tunnel. Pursuant to the letter from DFG, the Lassen County Board of Supervisors wrote to Mr. Rich urging the Division to act swiftly regarding the valve closure.

The Division interprets DFG's request as acknowledgement that losses through the Bly Tunnel have an adverse impact on the water levels and the public trust resources of Eagle Lake, including the fishery and the recreational uses. Therefore, the Division finds that the intentional release of water through the Bly Tunnel constitutes an unreasonable method of diversion. For this reason, the Division requests that the Bureau of Land Management close the valve on the outlet pipe in the Bly Tunnel at Eagle Lake at its earliest opportunity. The Division recommends that, following closure of the valve, BLM take whatever precautions necessary to prevent tampering with the outlet valve. The Division also recommends that, to the extent possible, BLM monitor the changes in the water level of Eagle Lake, the hydrostatic pressure at the tunnel plug, the outflow from the tunnel, and the flow in Willow Creek. The Division further recommends that BLM, with the assistance of the California Department of Fish and Game, monitor for any potential adverse impacts to the public trust resources of Willow Creek.

If you have any questions regarding this matter, please contact David LaBrie of my staff at (916) 341-5343, dlabrie@waterboards.ca.gov or by mail at P.O Box 2000, Sacramento, CA 95812-2000.

Sincerely,

ORIGINAL SIGNED BY:

James W. Kassel, Assistant Deputy Director
Division of Water Rights