

February 1, 2010

Mr. Anthony Toto
Regional Water Quality Control Board
Central Valley Region
1685 E Street
Fresno, CA 93706

Subject: Comments re: Triennial Review of Beneficial Use Classifications
Tulare Lake Basin Water Quality Control Plan

Dear Mr. Toto:

In response to the Central Valley Regional Water Quality Control Board (CVRWQCB) December 15, 2009 public hearing notice and request for comments for the Triennial Review of the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), Southern California Edison (SCE) appreciates the opportunity to be included in the written responses that will be part of the final administrative record for the Basin Plan. In particular, SCE hereby contributes information relevant to any review or reconsideration of the WARM and COLD beneficial use classifications for the Kern River and Lake Isabella.

SCE has collected relevant information in the North Fork Kern River, Lake Isabella, and the lower Kern River in conjunction with the licensing and operation of its hydroelectric projects, including water temperature and fish community data. Based on this data, SCE submits the following comments and a summary of findings with respect to the water bodies under consideration.

NORTH FORK KERN RIVER

The North Fork Kern River above Lake Isabella (NFKR) is classified under the current Basin Plan (CVRWQCB 2004) for WARM and COLD beneficial uses. These current classifications are consistent with both temperature monitoring and modeling studies conducted by SCE for the Kern River No. 3 Hydroelectric Project located on the NFKR. Based on the water temperature data collected at various locations, a stream temperature model was calibrated and used to simulate water temperatures downstream of the Project intake (Fairview Dam) at various flows (SCE 1991). Analysis of historical water temperature data performed for the warm months showed that water temperatures in the unimpaired flows of the river upstream of Fairview Dam were frequently above 20°C daily mean temperature, which is considered the upper limit water temperature at which rainbow trout continue to grow and, thereby, too warm at times to support a COLD classification. At other times, daily mean water temperatures were less than 20°C, but warm enough to result in temperatures that would exceed 20°C within a few miles downstream (SCE 1991).

Modeling was performed for both normal and hotter than normal meteorological conditions, and then verified through five years of monitoring (SCE 2003a). Daily mean water temperatures of 20°C or less could be sustained only up to six kilometers downstream of Fairview Dam for water temperatures at Fairview Dam of 17°C or less. Otherwise, during the warmest periods,

water temperatures cannot be maintained at this distance downstream of the dam, due to natural warming. Moreover, fish sampling conducted by SCE for relicensing and compliance showed that the fish community type generally corresponded to these temperature regimes, with coldwater fish most abundant upstream of Fairview Dam and for a distance of 6 km downstream, and warm water fish dominating the fish community from 6 km downstream of Fairview Dam. Accordingly, the most appropriate beneficial use classification for that portion of the NFKR is WARM.

LAKE ISABELLA

Lake Isabella is currently classified for WARM and COLD beneficial uses. Water temperatures in Lake Isabella were studied by SCE (2003b) and exceeded 20°C during the summer months (June through September) in the top 5.7 meters of the reservoir. During this period, a temperature gradient existed between the surface waters and the rest of the water column; however, thermal stratification (a gradient of 1°C/m) was not found. During August and September, data collected showed that the entire water column of the reservoir was warmer than 21°C. Although Lake Isabella is stocked with trout and salmon by the California Department of Fish and Game (CDFG), the fish community is primarily characterized by centrarchids and other warm water non-native fish, as evidenced by US Department of Agriculture-Forest Service (USDA-FS) monitoring data reported in comments by Terrell (2009).

LOWER KERN RIVER

The lower Kern River from Lake Isabella downstream to SCE's Kern River No.1 Hydroelectric Project Powerhouse (KR1 PH) is currently classified for both WARM and COLD beneficial uses. Water is discharged from Lake Isabella to the Kern River at two locations: one outlet is at the deepest part of the reservoir near the Main Dam and the other is at the Auxiliary Dam at an elevation about 21.7 m higher than that of the Main Dam outlet. The Main Dam outlet discharges into the diverted reach of the river and the Auxiliary Dam outlet discharges into the Borel Canal, which conveys the water to the Borel Powerhouse and the Kern River about seven miles downstream of the Main Dam. As discussed above, Lake Isabella does not stratify during the warmer months and water temperatures in the lake are generally warm. As such, the water temperatures of Lake Isabella largely determine the water temperatures in the Borel Project area of the Kern River (SCE 2003b).

Flows released from Lake Isabella during the summer months reflect the dispatch of water for agricultural uses, resulting in higher than normal summer flows (typically ranging up to nearly 2,000 cfs, on average). Nevertheless, despite these artificially high flows, the water temperatures downstream of Lake Isabella remain warm in the summer. Water temperatures measured in association with the relicensing of the Borel Project (SCE 2003b) were generally 20°C or higher from mid-June through September. Consequently, the fish community between Lake Isabella and the KR1 PH is typified by the native pikeminnow-hardhead-sucker assemblage (Moyle 2002) and introduced centrarchids, which are generally associated with warm water (>19°C summer temperatures), and therefore consistent with the current WARM beneficial use classification. Otherwise, trout were found to be rare in this reach during recent surveys and are stocked by CDFG only between Borel Powerhouse and Democrat Dam (SCE 2003b, Appendix U). Trout are also occasionally found in the Borel canal, between the project intake and the Borel Powerhouse, but these salmonids represent fish introduced into Lake Isabella.

The lower Kern River between Democrat Dam and KR1 PH has been studied extensively by SCE (1994, 2008, and 2009). Water temperatures in this reach are always warm during the summer months. Water temperatures at Democrat Dam were 20°C or warmer during July through September in 1999 through 2007 (SCE 2008). Water temperatures in June frequently exceeded 20°C, as well. The fish community in this reach consists of the native pikeminnow-hardhead-sucker assemblage and introduced centrarchids (SCE 2009). Accordingly, this fish community and the associated summer water temperatures are consistent with a WARM beneficial use classification.

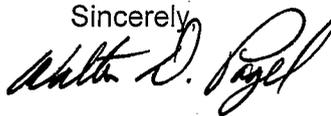
SUMMARY

In summary, the current combined WARM and COLD classifications for Lake Isabella and the sections of the Kern River described above (as opposed to any alternative suggestion for an exclusively COLD classification) are appropriate and consistent with (i) the physical conditions and fish communities in those sections, (ii) a considerable amount of sampled and modeled temperature data in those sections, and (iii) the stated management objectives of the resource agencies with jurisdiction over those sections.

Previous comment letters pertaining to this matter were provided to the CVRWQCB by CDFG (Loudermilk 2007) and USDA-FS (Terrell 2009). Mr. Loudermilk states that no changes should be made to the WARM and COLD beneficial uses for the Kern River. Ms. Terrell suggests support for classifications of WARM and COLD beneficial uses in the Kern River by reach, as generally discussed in this document. SCE supports these classifications, as they generally represent the physical conditions and fish communities of the reaches of the Kern River and are therefore, appropriate.

Thank you for the opportunity to comment on the Tulare Lake Basin Plan during this Triennial Review process. We would be pleased to participate in any continued discussions of beneficial uses for the Kern River during future proceedings. If you have any questions in this regard, please contact Mr. Brian McGurty at brian.mcgurty@sce.com or at (909) 394-8718.

Sincerely,



Enclosure: Literature Cited

cc: D. McClure, CRWQCB
W. Lifton, Entrix
B. McGurty, SCE

Literature Cited

- Central Valley Regional Water Quality Control Board (CVRWQCB). 2004. Water Quality Control Plan for the Tulare Lake Basin. Second Edition, Revised January 2004 (with Approved Amendments). Sacramento, CA.
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- SCE. 1994. Kern River No. 1 Water Power Project (FERC Project No. 1930) Application for New FERC License for Major Project – Existing Dam. Rosemead, CA.
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- SCE. 2008. Final Kern River No. 1 Hydroelectric Project (FERC No. 1930) Temperature Monitoring Summary Report. San Dimas, CA.
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