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UNITED WATER CONSERVATION DISTRICT  
"Conserving Water Since 1927"

Legal Counsel  
Anthony H. Trembley

General Manager  
E. Michael Solomon

January 31, 2014

John Laird, California Secretary for Natural Resources  
1416 Ninth Street, Suite 1311  
Sacramento, CA 95814

Dear Mr. Secretary:

United Water Conservation District (UWCD or District) is in receipt of the letter addressed to you from Casitas Municipal Water District (Casitas) dated January 22, 2014, regarding the recent discovery of quagga mussels in Lake Piru, which is a part of the Santa Felicia Project that is owned and operated by United Water Conservation District (UWCD). Casitas' request that you require UWCD to cease water releases from the Santa Felicia Dam that are conducted in compliance with UWCD's license No. 2153 issued by the Federal Energy Regulatory Commission (FERC) for the Santa Felicia Project, among other statements in the letter, is of great concern to UWCD. UWCD respectfully submits that there exist serious questions regarding the legal authority to order such drastic action, but in any case UWCD urges that you decline Casitas's request. UWCD is evaluating the degree of infestation we are facing and intends to prepare and implement a quagga mussel control and management plan. These activities should be allowed to run their course.

On December 18, quagga mussels were discovered in Lake Piru, UWCD's water reservoir behind the Santa Felicia Dam. Our staff immediately contacted the California Department of Fish and Wildlife (CDFW) and samples were sent to the Bodega Marine Laboratory for analysis. The results came back positive for quagga mussel. Since that time, UWCD has been working very closely with CDFW in initiating response measures.

UWCD understands the seriousness of the situation and we are taking all appropriate action in a timely manner. Agencies and neighboring lakes were notified of the quagga discovery. We ceased participation in a joint boat tagging program to prevent the spread of mussels. Boaters entering the lake are given information on how to decontaminate their boats. Signs alerting the public to the discovery of quagga mussels are posted at the lake, and similar information is posted on the UWCD's website. Press releases were submitted to local newspapers. We have made every effort to share information with other California water agencies and operators of lakes and reservoirs, keeping them updated as new information becomes known. The District is aware of California Department of Fish and Game Code section 2301 and we are taking appropriate measures to ensure compliance.

UWCD engaged a very respected and knowledgeable consultant on quagga mussels to investigate the degree of the quagga infestation, which included a survey of the lake by divers on January 18 and 19. We are waiting for the findings report on the investigation which, among other things, will be used by UWCD to prepare a plan for control and management of quagga mussels at Lake Piru.



## UNITED WATER CONSERVATION DISTRICT

We also note that UWCD is required to perform continual release flows from the Santa Felicia Dam as a condition of our FERC license and the jeopardy biological opinion issued by the National Marine Fisheries Service (NMFS) related to the Southern California steelhead, under the Federal Endangered Species Act. Casitas' request that UWCD stop all water releases from the dam would place UWCD in non-compliance and potentially subject UWCD to penalties under the Federal Power Act of \$11,000 per day for each violation. In preliminary discussions with NMFS, unless quagga mussels are a threat to steelhead, which we believe they are not, NMFS and FERC are unlikely to approve cessation of water releases from the Santa Felicia Dam.

On January 29, 2014, while conducting an underwater survey of lower Piru Creek below the Santa Felicia Dam, UWCD found quagga mussels. The preliminary finds indicate low number and very low density. The suspected mussels were sent to Bodega Marine Laboratory. While UWCD has not yet received a confirmation, we are treating it as a quagga mussel find. CDFW was notified of the suspected find. Quagga mussels may already be in lower Piru Creek.

Casitas's letter states that Casitas is concerned that the UWCD's required FERC water releases from the dam could cause the Santa Clara River to be infested with quagga mussels. Specifically the letter emphasizes "...the possibility that mussels could rapidly populate the entire Santa Clara River system." We believe that such an event is unlikely in the near term because Piru Creek currently has no surface water hydrologic connection with other parts of the Santa Clara River system. A substantial amount of rain would need to fall for this connection to be created, and we do not expect this to happen soon based on current extended weather forecasts.

It is also very unlikely that mussels will populate the entire Santa Clara River system in the long term. The Santa Clara River system is flashy, experiencing brief, large flow events during the rainy season followed by periods of low to no flows that can be lengthy in duration. Current science indicates that quagga mussels require stable and consistently available water with low flow velocities to establish populations and successfully reproduce. While it is possible for quagga mussels to find isolated areas in the Santa Clara River that may periodically meet these requirements, we expect that periodic high flows in combinations with dry periods would effectively control these quagga mussels and prevent their spread throughout the river system.

Casitas also raises its concern that the quagga mussels could populate the Santa Clara River estuary, putting the mussels about two miles south of the Ventura River estuary. The only hydrologic connection between these two river systems is the Pacific Ocean. The Santa Clara River estuary consists of brackish water year around with salinity levels averaging between 1 and 16 parts per thousand depending on location and season (with highs recorded at more than 30 parts per thousand) (Stillwater 2011). The lower salinity levels occur at the upper end of the estuary where it is influenced by the freshwater flowing in from the river while the higher salinity levels are in the areas closer to the ocean. Research has shown that quagga mussels are killed by salinities exceeding 6 parts per thousand (Setzler-Hamilton et al., 1997). Based on this we do not expect quagga mussels to survive and populate the estuary even if any of their pelagic microscopic larvae (i.e., veligers) did make it to the estuary from Lake Piru.

Therefore, and setting aside legal questions related to Casitas's request, we do not view this as a crisis that requires immediate management actions as extreme as stopping water releases and believe that the best approach is for UWCD to complete its investigation, prepare a control and management plan, and then implement appropriate measures as prescribed in the plan.



UNITED WATER CONSERVATION DISTRICT

It is also worth noting that Santa Felicia Dam spills every five years on average and this is something over which UWCD has absolutely no control. A spill event would likely release quagga mussel veligers into lower Piru Creek and the Santa Clara River system. Stopping all releases from the Santa Felicia Dam thus will not ensure quagga mussels cannot enter the Santa Clara River. Even if they do, as explained above we do not expect mussels to populate the Santa Clara River system following spill events.

Regardless, we find it very difficult to visualize how quagga mussels in the Santa Clara River, approximately two miles south of the Ventura River estuary, could threaten the Ventura River estuary and Lake Casitas. We know of no confirmed report or science showing that quagga mussels are known to be transported by birds. The most likely source of quagga infestation for Lake Casitas is via an infested boat or boat trailer. We believe a more effective way to protect Lake Casitas from the introduction of quagga mussel is to establish a state-wide boat inspection program.

UWCD will continue to respond to this situation responsibly and work cooperatively with CDFW and others to implement measures to control and manage the situation.

Sincerely,

A handwritten signature in blue ink that reads "E. Michael Solomon".

E. Michael Solomon  
General Manager

Cc: Charlton H. Bonham, Director, California Department of Fish and Wildlife  
Susan Ellis, California Department of Fish and Wildlife  
Dwayne Maxwell, California Department of Fish and Wildlife  
Eloise Tavares, California Department of Fish and Wildlife  
E. Michael Soloman, General Manager, United Water Conservation District  
Sam Unger, Executive Director, Los Angeles Regional Water Control Board  
Anthony Spina, Protected Resources, National Marine Fisheries Service  
Gerard Maloney, FERC, San Francisco  
John Aedo, FERC, San Francisco  
John Krist, Ventura County Farm Bureau  
David Rowlands, City Manager, Fillmore  
Jaime Fontes, City Manager, Santa Paula  
Karen Burnham, Acting City Manager, City of Oxnard  
Mark Watkins, City Manager, San Buenaventura  
Steve Bennett, Chair, Ventura County Board of Supervisors  
Steve Wickstrum, General Manager, Casitas Municipal Water District

Setzler-Hamilton, E. M., D. A. Wright, and J. A. Magee. 1997. Growth and spawning of laboratory-reared zebra mussels in lower mesohaline salinities pp 141-154 in F. M. D'Itri editor, Zebra Mussels and Aquatic Nuisance Species. Lewis Publishers, CRC Press, Boca Raton. 638 pp.

Stillwater Sciences. 2011. City of Ventura special studies: Estuary Subwatershed Study assessment of the physical and biological condition of the Santa Clara River Estuary, Ventura County, California. Final Synthesis Report. Prepared by Stillwater Sciences, Berkeley, California for City of Ventura, California.