



**U.S. House of Representatives**

**Natural Resources Subcommittee on Water and Power**

**United States House of Representatives**

**Testimony provided on**

**Water Quality and the Colorado River Lower Basin**

**May 27, 2009**

**By**

**Roger K. Patterson, Assistant General Manager**

**Metropolitan Water District of Southern California**

**700 N. Alameda Street  
Los Angeles, CA 90012**

Chairwoman Napolitano, Ranking Member McMorris-Rogers, distinguished Members of the House Natural Resources Subcommittee on Water and Power, thank you for this opportunity to testify regarding water quality within the Colorado River Lower Basin. My name is Roger Patterson and I am Assistant General Manager for Strategic Water Resources for the Metropolitan Water District of Southern California.

For more than 80 years Metropolitan has provided imported water to the Southern California region from the Colorado River and the State Water Project originating in Northern California. Our mission is to provide high quality, reliable drinking water supplies primarily for municipal and industrial use.

Metropolitan is the nation's largest provider of imported water to an urban area. The population today in our service area is 19 million and it is projected to rise to 25 million within the next 25 years. Metropolitan is comprised of 26 member public agencies that serve an area spanning 5,200 square miles and six southern California counties.

### **Water Quality and the Colorado River Lower Basin**

As one of Metropolitan's two sources of imported water for the Southern California region, the protection of this source water is of vital importance. We continue to be vigilant in monitoring and protecting all source waters. In this regard, Metropolitan monitors a number of source water issues in the Colorado River. These issues and our recommendations for action include:

### ***Moab Uranium Mill Tailings***

There are approximately 16 million tons of uranium mill tailings located in a 100-year flood plain along the shore of the Colorado River just north of Moab, Utah. Uranium is a human carcinogen and levels in drinking water are regulated. On April 20, 2009, the U.S. Department of Energy (DOE) began moving the tailings to a specially constructed disposal cell in Crescent Junction, Utah, approximately 30 miles north of the mill tailings site. The estimated completion date was 2028; however, with \$108 million in recent funding provided under the American Recovery and Reinvestment Act, it is our understanding that the completion date may now be 2025. According to DOE, interim preventative measures including the construction of a berm around the tailings and realignment of the Moab Wash will help prevent the tailings being washed into the River while the clean-up efforts are underway.

### ***Recommended Action***

Metropolitan is encouraged by DOE's decision to accelerate the clean-up; however, we urge the federal government to provide additional funding to further expedite the clean-up to protect the millions of downstream users of the river.

### ***Perchlorate Remediation in Henderson, Nevada***

In the late 1990's it was determined that manufacturing activities at Henderson, Nevada – principally the Kerr-McGee facility (now Tronox) -- were responsible for perchlorate contamination of the lower Colorado River system. Perchlorate has been shown to interfere with the thyroid gland's ability to produce hormones necessary for normal growth and development. In October 2007, the State of California set a drinking standard for

perchlorate at 6ppb. Remediation efforts at the Henderson site, under the direction of the Nevada Division of Environmental Protection and in conjunction with EPA Region IX, began in 1999 and have proven successful with levels of perchlorate decreasing from a high of approximately 1,000 pounds per day to less than 100 pounds per day entering the Colorado River. Accordingly, levels entering Metropolitan's system dropped from 9 ug/L (parts per billion) to less than 2 ppb. The success of remediation efforts will ensure that water supplies in the Colorado River region meet California's drinking water standards. In January of this year, Tronox filed for Chapter 11 bankruptcy protection. It is Metropolitan's understanding that Tronox intends to reorganize while continuing company operations including remediation of the perchlorate plume. It is also our understanding that insurance coverage for remediation activities will remain in effect through 2010; and, starting in January 2011 there will be a cost-sharing arrangement between Tronox, Anadarko, and the US Navy to cover perchlorate clean-up costs. The outcome of the bankruptcy case is unknown; consequently, if remediation efforts are terminated as a result of Tronox's financial situation, we anticipate that perchlorate levels will increase to previous levels which are above California's drinking water standards.

#### *Recommended Action*

In light of this uncertainty, Metropolitan urges EPA Region IX to take immediate and appropriate actions to ensure remediation efforts and the protection of downstream users continue.

### ***Chromium 6 Remediation near Topock, Arizona***

A groundwater plume contaminated with chromium 6 exists adjacent to the Colorado River near Topock, Arizona. Recent maximum concentrations of chromium 6 in this plume have been as high as 16,000 ug/L. Currently there are no drinking water standards for chromium 6; however it is regulated under the Total Chromium standard at 50 ug/L (parts per billion). This plume exists as a result of past disposal practices of chromium 6 (an anti corrosive agent) used at the Pacific Gas and Electric Topock Gas Compressor Station. Interim measures including pumping and treating water from extraction wells located at the leading edge of the plume have been implemented to protect the river. A draft corrective measures/feasibility study has been developed that describes treatment alternatives for groundwater cleanup. An Environmental Impact Report (EIR) is being developed, and along with a decision on the groundwater treatment alternative, is expected to be completed in 2010. The California Department of Toxic Substance Control and the U.S. Department of Interior are the lead regulatory agencies on the project. A number of stakeholders, including Native American tribes that have raised numerous concerns related to environmental and cultural impacts, as well as, protection of the river are also involved.

### ***Recommended Action***

Metropolitan urges that the federal regulatory agencies expedite the EIR process and implementation of final groundwater cleanup.

### ***Quagga Mussel Infestation in the Colorado River Lower Basin***

Quagga mussels were discovered in Lake Mead in January of 2007 and have spread throughout most of the Lower Colorado River and into Colorado River water users'

conveyance systems. Due to the risk of infrastructure colonization, Metropolitan has undertaken aggressive actions to help contain quagga mussels. Metropolitan has spent \$10 million on facility upgrades and currently spends approximately \$5 million annually in maintenance costs. It will be necessary for all Colorado River water users to fund similar containment strategies unless and until more effective, long-term solutions are found to contain the invasive mussels.

### *Recommended Action*

Metropolitan urges the federal government to provide urgently needed funding to design and install the necessary infrastructure and to support research and development for more effective control of the invasive mussels. Federal support is also needed to ensure that research funds are allocated to address issues stemming from the rapid growth and proliferation rate of quagga mussels in the Colorado River due to warmer temperatures and a longer growing season in the Southwest. Basic research is needed to better understand the biology of invasive mussels in the Southwest. This will help ensure the development of additional and more effective control strategies for both the power and water industries.

### ***Uranium Mining in the Grand Canyon Area & Uranium Exploration in the Grand Canyon National Park Area***

There has been a significant increase in uranium mining claims in recent years throughout the Western United States, including areas proximate to the Grand Canyon National Park and the Colorado River. Uranium is a regulated radioactive constituent with significant health concerns associated with it. Therefore, without close oversight, mining activities may pose a threat to drinking water supplies. Additionally, uranium exploration and mining in

areas near the Colorado River can potentially impact the public's confidence in the safety and reliability of this important water supply. In a March, 2008 letter to then-Secretary of the Interior Dirk Kempthorne, Metropolitan expressed concern regarding these issues. A copy of that letter is attached. Over the past year, members of this Subcommittee have been actively engaged in a number of important actions to protect areas around the Grand Canyon and Colorado River from potential adverse effects of future mining activities. We commend Representative Raul Grijalva (AZ) for his leadership in introducing the Grand Canyon Watersheds Protection Act of 2009 (H.R. 644). We also commend Representative (Chairman) Nick Rahall (WV) and the members of the Natural Resources Committee for issuing an emergency resolution in June 2008 to direct the Secretary of Interior to temporarily withdraw areas around the Grand Canyon from future mining uses. However, despite these concerns and actions, recent reports indicate federal authorization for continued uranium exploration in areas next to the Grand Canyon and tributary to the Colorado River.

#### *Recommended Action*

Metropolitan recommends that the federal government carefully evaluate the potential impact on Colorado River water quality prior to any authorization of mineral exploration or mining in areas near the Colorado River or its tributaries. Environmental impact analyses conducted for proposed mining interests should also include broad stakeholder review, including that of downstream users of Colorado River water.

### ***Nutrient Loading***

With increased population growth and urbanization in the Colorado River Basin, additional sources of nutrient loading into the Colorado River are anticipated in the future. Key nutrient sources include agricultural and urban runoff, discharges from wastewater treatment plants, and overflow from septic systems. Increased nutrient loading creates numerous challenges for drinking water providers due to its potential to stimulate algal growth. Algal growth can affect consumer acceptability by creating undesirable tastes and odors in water, impact public health through toxic algae blooms, and create operational and maintenance challenges for drinking water conveyance and treatment facilities. In addition, nutrient loading may provide an increasing food source that may lead to the proliferation of quagga mussels and other invasive species. The U.S. Environmental Protection Agency (EPA) recognizes the harmful effects of excessive nutrients in water bodies and has been engaged in efforts to work with states in developing improved numeric nutrient criteria.

### ***Recommended Action***

Metropolitan supports EPA's national efforts to address nutrient pollution and recommends that increased attention be placed to advance Colorado River nutrient regulatory criteria to be protective of all designated uses. Metropolitan also supports the federal government's participation in efforts to improve municipal wastewater treatment systems and infrastructure along the Colorado River to protect and maintain the river's water quality.

### ***Salinity***

By some estimates, concentrations of salts in the Colorado River cause approximately \$350 million in quantified damages in the United States each year. The federal government and



the seven basin states have been working as partners since 1974 to manage the Colorado River's salinity. The Program reduces salinity by preventing salts from dissolving and mixing with the River's flow. Irrigation improvements (sprinklers, gated pipe, lined ditches) and vegetation management reduce the amount of water needed to transport salts. Point sources such as saline springs are also controlled. The federal government, basin states, and contract participants spend close to \$50 million annually on salinity control programs. This program has proven to be very successful and cost effective. Salinity control projects have reduced salinity concentrations of Colorado River water on average by over 100 mg/L or \$264 million per year in avoided damages.

#### *Recommended Action*

Metropolitan urges that Congress appropriate \$17,500,000 for salinity control programs identified by the Bureau of Reclamation for its FY 2010 budget and \$1,500,000 for salinity control programs identified by the Bureau of Land Management for its FY 2010 budget. We appreciate and support recent Congressional legislation in the Farm Bill that created the Basin States Program and urge the Department of the Interior to transmit the Planning Report that describes the implementation of the Basin States Program to the Congress.

#### **Conclusion**

For the past 80 years, Metropolitan has built and maintains state-of-the-art treatment and delivery systems and we remain committed to providing the highest quality drinking water to our 26 member agencies and the 19 million people who live within our 5,200-square-mile service area in Southern California. Metropolitan monitors for more than 120 constituents

and performs more than 320,000 quality tests each year at our water quality laboratory in La Verne, one of the most sophisticated water quality facilities in the nation.

Metropolitan urges continued and greater collaboration and partnerships with governmental agencies, non-governmental organizations and other entities to design and implement solutions that provide benefits in multiple areas, including water delivery, reliability and quality.

Thank you.



**MWD**

*METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA*

March 25, 2008

The Honorable Dirk Kempthorne  
Secretary of the Interior  
United States Department of the Interior  
1849 C Street, N.W.  
Washington DC 20240

Dear Secretary Kempthorne:

Uranium Exploration in the Colorado River Basin

The Metropolitan Water District of Southern California (Metropolitan) is a regional public agency and is the primary wholesale provider of supplemental water to Southern California. Metropolitan supplies water from the Colorado River, through our Colorado River Aqueduct, and from Northern California, through the California State Water Project, to over 18 million people within our 5,200 square-mile service area. We are committed to providing high quality drinking water to our customers.

Metropolitan recently became aware of a significant increase in uranium mining claims in the Grand Canyon National Park area, as well as throughout a number of Western states. This increased interest and potential for mining of uranium in areas near the Colorado River and its tributaries may be cause for concern. Metropolitan relies on high quality Colorado River supplies and any activity that may threaten the quality of that supply is a critical issue for our organization.

We understand the need for energy exploration and the important economic benefits that may be realized from mining these resources. If adequate controls are not in place, however, mining activities could have the potential of contaminating drinking water sources. Uranium is a regulated radioactive constituent with significant health concerns associated with it. In addition to the public health impacts, exploration and mining of radioactive material near a drinking water source may impact the public's confidence in the safety and reliability of the water supply.

Metropolitan has been actively involved in advocating for the remediation of the 16 million-ton pile of uranium mill tailings near Moab, Utah. The results of previous mining activities in this area have led to this large waste pile approximately 750 feet from the Colorado River, with cleanup efforts projected to take decades and cost several hundreds of millions of dollars. It is

The Honorable Dirk Kempthorne

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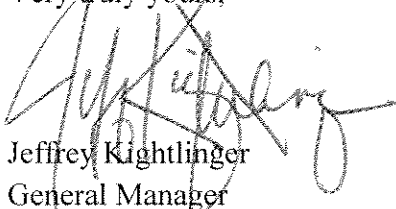
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our hope that a similar threat does not result from future uranium mining activities in the Colorado River Basin.

We respectfully request any federal authorization of mineral exploration or mining in areas near the Colorado River or its tributaries to be contingent on a comprehensive environmental impact analysis, including identification of specific measures taken for source water protection, with full public review from all affected stakeholders, including Metropolitan. We strongly believe that all efforts possible should be made to ensure that the public's drinking water sources are safeguarded. We know that the protection of the Colorado River is as important an issue to you as it is to Metropolitan. Please exercise your full authority over mining claims in the Colorado River Basin to prevent any potential for deterioration of this important water supply for millions of people.

Should you have any questions regarding Metropolitan or our concerns, please contact me at (213) 217-6211. Thank you very much for your attention to this important issue.

Very truly yours,



Jeffrey Kightlinger  
General Manager

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cc: The Honorable Janet Napolitano, Governor of Arizona  
The Honorable Arnold Schwarzenegger, Governor of California  
The Honorable Jim Gibbons, Governor of Nevada  
The Honorable Barbara Boxer, United States Senator  
The Honorable Dianne Feinstein, United States Senator  
The Honorable Raul Grijalva, U. S. House of Representatives  
The Honorable Jim Matheson, U. S. House of Representatives  
The Honorable Grace Napolitano, U. S. House of Representatives

Patricia Mulroy, General Manager  
Southern Nevada Water Authority

Herb Guenther, Director  
Arizona Department of Water Resources

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Gail Kimbell, Chief  
United States Forest Service

Jim Caswell, Director  
United States Bureau of Land Management