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Colorado River Drought Conditions and Response Measures

Chairman Huffman, Ranking Member Bentz, Representative Napolitano, and members of the subcommittee, thank you for the opportunity to discuss Metropolitan's work on the Colorado River. The Metropolitan Water District of Southern California (Metropolitan) is the largest treated drinking water provider in the United States. We are comprised of 26-member public agencies, including 14 cities, 11 municipal water districts, and one county water authority, that collectively serve drinking water to approximately 19 million people and businesses in more than 300 cities and numerous unincorporated communities in Southern California.

Metropolitan was created by the California Legislature in 1928 for the express purpose of building an aqueduct to provide Colorado River water to Southern California. Delivery of Colorado River water to Southern California began in 1941 and today, 80 years later, the Colorado River remains a cornerstone of Southern California's water supply portfolio.

As you are aware, the Colorado River is under strain and our reliance is being challenged by climate change and unprecedented drought. The Colorado River Basin has experienced historic drought conditions since 2000. Over the last two decades, the average annual flow of the Colorado River has declined by around one million acre-feet (AF). In addition to less snowpack and other precipitation, hotter temperatures have changed how the system behaves as well. In 2020, precipitation in the basin measured 84% of normal, but the runoff reaching the river and the reservoirs was only 33% of average. The higher temperatures resulted in drier soil that absorbed more water, plants bloomed earlier increasing evapotranspiration, and there were higher evaporation rates from the snowpack and reservoirs.

As was discussed at the October 15 hearing, the Bureau Reclamation's recently published forecasts show that Lake Powell may get so low that it could result in loss of power production at Glen Canyon Dam. Recently, the Secretary of the Interior declared the first ever water shortage in the lower basin, resulting in cuts in water deliveries to Arizona and Nevada as mandated under the 2007 Colorado River Interim Guidelines.

While California is not subject to water curtailments under the Interim Guidelines, we recognize that all of us across the West are 'one' when it comes to water. We must work together through a

'One Water' integrated approach to address water shortages. Metropolitan is committed to working cooperatively within California, and with the other basin states, the federal government, Mexico, tribes and other stakeholders to find the necessary solutions to minimize the impacts of reduced water supply reliability to all users.

Metropolitan's Approaches to Drought and Climate Change in the Colorado River Basin

Metropolitan imports about half of Southern California's water supply from the Colorado River via the Colorado River Aqueduct and Northern California via the State Water Project. We have significantly reduced our reliance on imported water through investments in local supply development and conservation. Starting in the early 1980s, we turned our focus towards helping our member agencies develop their own local supplies within the region to augment our imported supplies. We don't own any of these local projects, but we help finance them with programs designed to defray the costs once the projects are operating. For Metropolitan, these incentives have been a way to help our member agencies develop more than 100 local supply projects yielding over 470,000 AF of water per year. We have also worked to make water conservation a way of life in Southern California. Since 1990, Metropolitan has invested over $800 million in conservation programs providing rebates for toilets, turf removal, sprinklers and smart irrigation controllers, and custom efficiency projects for businesses and industries in our service area. These changes have helped cut the average per capita potable water use from about 205 gallons per day in 1990 to 120 gallons per day now. With both of our imported water supplies facing unprecedented drought, these investments are more important than ever.

Storage is also an important tool to help us adapt to changing water supply conditions and ensure reliability. In collaboration with our member agencies and others we have significantly expanded our region's storage capacity in recent decades. The cornerstone of this investment is Diamond Valley Lake, a $2 billion reservoir located in Riverside County that can hold 810,000 AF. We have also increased the amount of water stored in Lake Mead through the Intentionally Created Surplus program provided for in the 2007 Colorado River Interim Guidelines and 2019 Lower Basin Drought Contingency Plan. Thanks to these agreements in the wet water years of 2017 and 2019, we were able to conserve a significant amount of Colorado River water to build up its storage account in Lake Mead. Today we have nearly 1.3 MAF stored in Lake Mead, accounting for almost 17 feet of greater elevation.

As Peter Nelson, Chairman of the California Colorado River Board, discussed at the October 15 hearing, water year 2021 was the second driest on record in California. As the water year unfolded, and we had only a 5% state water project allocation, we began operating the Colorado River Aqueduct at its full eight pump flow capacity. We thought we would even need to withdraw some of our reserve in Lake Mead to meet demands in our service area. Then something unexpected happened, thanks to conservation in our region, demands for water did not materialize as we thought they would. Instead, we were able to store a modest amount of water

in Lake Mead during this very dry year. As the drought worsens across the West, we will need to work together to conserve water and develop local supplies to create a resilient water portfolio for the entire Colorado River basin.

Collaboration and Partnerships on the River

The ongoing drought has placed the Basin States in new and ominous territory. Augmenting supplies, reducing demands, and forging new partnerships is the only way to bring supplies and demands into balance on the River. Luckily the groundwork for the path forward is already in the place. The lower basin states of Arizona, California and Nevada have taken many steps to lower their overall demands on the Colorado River. The year 2019 saw the Lower Basin States divert the least amount of Colorado River water in over 50 years. Mexico has contributed to meeting the challenge by leaving water in Lake Mead as well.

As the junior water rights holder in California, Metropolitan has long recognized the benefits of collaboration and partnerships. The Quantification Settlement Agreement (QSA) in 2003 helped reduce California's lawful uses of Colorado River water down from 5.3 MAF to California's basic apportionment of 4.4 MAF. For Metropolitan, this meant reducing its historical use of Colorado River water from 1.25 MAF per year to 550 TAF per year, plus any water management programs we develop. Metropolitan has spent the last two decades fostering unique and innovative partnerships in order to augment its basic apportionment and to help fill its Colorado River Aqueduct, when needed. These programs include storage/exchange programs with other Colorado River users in California, including Coachella Valley Water District, Desert Water Agency, and Imperial Irrigation District (IID).

We have also recently entered into a settlement agreement with IID over the implementation of the Drought Contingency Plan. Under the settlement agreement, IID can store additional amounts of conserved water in Metropolitan's Lake Mead account. If Lake Mead continues dropping to a level requiring California to make a contribution under the Drought Contingency Plan, IID will help make that contribution. The agreement allows Metropolitan and IID to resume negotiating new solutions to address the imbalance on the Colorado River. We will work together to explore ways to improve Lake Mead's drought resilience and secure state and federal funding for the Salton Sea.

a. Agricultural Partnerships

Metropolitan has a long history of collaborating with farmers and agricultural districts. These win-win partnerships provide flexible and affordable water supplies for cities across Southern California. At the same time, the programs support the local agricultural economies by providing a stable source of income for farmers and funding system improvements for participating irrigation districts.

In 2005, we entered into a long-standing partnership with the Palo Verde Irrigation District. As part of this landmark land fallowing program, farmers are paid to refrain from irrigating between 7 and 28 percent of the valley's land at Metropolitan's call. This water is then made available to communities in our service area. As part of the program, Metropolitan invested $6 million in a fund administered by local authorities to provide benefits to the Palo Verde Valley community. To date, the money has been spent on activities including small business grants and keeping the local swimming pool open during local budget shortfalls. This 35-year agreement is a critical component of our commitment to finding innovative ways to expand our water resource portfolio.

We also have a partnership with Bard Water District. Bard is located within the Yuma Project in Southeast California and receives water from the Colorado River via the All-American Canal. Metropolitan and Bard Water District developed a seasonal fallowing program to augment water supplies for our service area and support Bard's agricultural economy. Under a seven-year agreement through 2026, participating farmers avoid planting lower-value, higher water-intensive crops during the spring and summer in exchange for financial incentives. In the winter and fall the farmers continue to plant higher-value crops, such as vegetables and lettuce varieties, which use less water. The conserved water is made available to Metropolitan for use in its service area, or to store in Lake Mead for future use. As part of the agreement, 25 percent of Metropolitan's payments fund improvements to Bard's water infrastructure.

Also located within the Yuma Project, Metropolitan developed a forbearance program with the Quechan Indian Tribe of the Fort Yuma Indian Reservation (Quechan Tribe). Under the terms of the agreement, Metropolitan provides incentive payments to the Quechan Tribe to limit its share of Colorado River water used on the reservation.

b. Interstate Partnerships

Over the past decade, Metropolitan has teamed up with Southern Nevada Water Authority, Central Arizona Water Conservation District and the Bureau of Reclamation to fund projects that conserve water for the benefit of the Colorado River. The system conservation effort, which adds water to Lakes Powell and Mead, was expanded to include Denver Water to fund projects in the Upper Basin states. These system conservation projects exceeded more than $20 million in investments and resulted in more than 500,000 AF left in the Colorado River system.

Dedicated funding is needed to help create or conserve even more water for the benefit of the system. Section 3b of the Lower Basin Drought Contingency Plan Agreement commits the Department of Interior to creating or conserving 100,000 AF of water per year or more. The conserved water will remain in storage in the Lower Colorado River to help reduce the likelihood of higher tier shortage reductions and stem the decline of Lake Mead toward critical low levels. We appreciate that funding for this work is included in House and Senate Fiscal Year 2022 appropriation bills and H.R. 3684, the Infrastructure Investment and Jobs Act. The

Bureau of Reclamation needs this funding to meet its obligations under the 2019 Drought Contingency Plan.

c. Partnerships with the Republic of Mexico

Metropolitan along with the Imperial Irrigation District, Southern Nevada Water Authority and Central Arizona Water Conservation District are funding conservation projects in the Republic of Mexico as part of Minutes 319 and 323 of the 1944 international treaty between Mexico and the United States referred to as the Mexican Water Treaty. Pursuant to that treaty, Mexico is allocated 1.5 million AF of available Colorado River flows. As part of Minute 319, we have collectively funded the conservation of nearly 100,000 AF of water in Mexico. Metropolitan looks forward to working with the Mexico to continue its successful binational partnership.

Innovation and Opportunities

More frequent and deeper droughts caused by climate change require new ways of thinking about stretching our limited supplies. An example of innovative thinking is the proposed partnership between Metropolitan, the Los Angeles County Sanitation District, the Southern Nevada Water Authority, Central Arizona Water Conservation District, and the Arizona Department of Water Resources to develop the largest wastewater purification facility in the United States. As discussed by Mr. Deven Upadhyay, Metropolitan's Assistant General Manager and Executive Officer, at a June Subcommittee hearing the Regional Recycled Water Project (RRWP) represents an opportunity for three states to improve their water supply reliability through a single project. It could transform how water is managed in the Colorado River basin and become a model for future interstate partnerships to address the impacts of climate change.

Metropolitan thanks Congresswoman Napolitano, Chairman Huffman, Congresswoman Susie Lee, and other members of the Committee for their leadership in the development of a new program to fund large-scale water recycling projects like the RRWP and appreciates their steadfast support for Reclamation's Title XVI water recycling program to fund local projects. Metropolitan supports H.R. 4099, the Large-Scale Water Recycling Project Investment Act, H.R. 1015, the Water Recycling Investment and Improvements Act, and H.R. 3684, the Infrastructure Investment and Jobs Act. Metropolitan appreciates these and other important federal investments that will help us build resilience to future challenges on the Colorado River.

One of the significant barriers that could impact the costs and recycling opportunities is the salinity levels of the Colorado River. The Colorado River Salinity Control Program has been effective at reducing the salinity of the Colorado River by more than 100 milligrams per liter or mg/L at Lake Havasu, but the Program is facing challenges. The largest single salinity control project, an injection well in the Paradox Valley, has been idle for 2 years, resulting in 110,000 tons of salt that had previously been controlled now entering the Colorado River. Metropolitan

urges Reclamation to consider operating the existing well at a safe level while it finds a long-term solution to control the salt in the Paradox Valley.

We want to partner with the Bureau of Reclamation and other stakeholders to help build a climate change resilient water supply and help identify and manage the various remediation efforts throughout the Colorado River Basin that will enable us to provide additional flexibility to federal, state, and local water managers.

Another innovative tool to help manage Colorado River supplies is the OpenET platform. OpenET utilizes satellite-driven evapotranspiration models to map consumptive water use within agricultural fields, ecosystems, and urban green areas. Metropolitan supports H.R. 4832, the Open Access Evapotranspiration Data Act, and proudly contributes to this work. Once completed, OpenET will provide a tool for credible, transparent, automated, and easily accessible data on consumptive water use across the western United States. Metropolitan thanks Representatives Lee, Stewart, and Huffman for introducing this bill.

a. Improving Water Reliability while Protecting the Environment

Supplying water reliably for the 40 million people that depend on the Colorado River means that infrastructure investments must bring both supply reliability and environmental benefits that carry far into the future. Historic dry conditions and the resulting decline of water supply throughout the Basin has contributed and will likely continue to contribute to significant economic, environmental and other impacts in the Colorado River Basin.

Metropolitan set a precedent with public/private partnerships that focus on environmental protection of entire ecosystems rather than individual species. The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) was created for the conservation of endangered and threatened species and their habitats. The program involves state and federal agencies, and stakeholders from Arizona, Nevada, and California representing water and power utilities, municipalities, Native American tribes, and conservation organizations. We are the largest non-federal contributor to the program. The LCR MSCP will result in the creation of over 8,100 acres of habitat and the stocking of 1.2 million native fish to augment existing populations. The program area extends over 400 miles of the lower Colorado River from Lake Mead to the border with Mexico, and includes lakes Mead, Mohave, and Havasu, as well as the historic 100-year floodplain along the main stem of the lower Colorado River. The 50 year program was executed in 2005 and is currently ahead of schedule. As of 2020, 80% of the habitat has been created and 40% of the native fish have been stocked in the mainstream.

The Salton Sea is California's largest inland lake and due to drought and unintended consequences of conservation, water levels have declined and caused an ecological and human health crisis. As the Sea has subsided, it has exposed 1,000s of acres of playa, that can create harmful dust during strong wind events. Nearby communities have been impacted by dust that exceeds clear air act standards. Metropolitan supports federal investments from this Committee

and others for dust mitigation and ecosystem management projects on the Salton Sea. This will help local communities and have long-lasting economic and ecological benefits in the basin.

b. Additional Federal Support Needed

The Colorado River is the lifeline of the American Southwest. Preparing for the challenges of the River's supply and demand imbalances will not be easy or inexpensive. Additional investments to help mitigate the impacts of climate change, improve supply reliability, and provide necessary infrastructure improvements and ecosystem benefits will be crucial. Strong federal leadership and significant federal funding is essential to ensuring success in meeting this challenge.

Metropolitan is prepared to work with the Bureau of Reclamation, the Basin States, the Republic of Mexico, Indian Tribes, environmental organizations, and all the other stakeholders on the Colorado River to find a path forward. The time to act is now.