

Written Testimony of John Entsminger
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Before the
House Natural Resources Subcommittee on Water, Oceans and Wildlife
The Status of Drought Conditions Throughout the Western United States
May 25, 2021

Chairman Huffman, Ranking Member Bentz and members of the Committee. Thank you for inviting me to share perspectives on the devastating drought that plagues the Colorado River. I am pleased to be appearing with my colleague Mike Markus from Orange County whose testimony I also endorse. The Colorado River provides a vital and irreplaceable resource to 40 million people in communities across the seven Basin States and the Republic of Mexico. A historic drought has impacted the Colorado River system for the past twenty years, coinciding with particularly rapid population growth in the desert southwest and Mexico. In response, users of Colorado River water have invested billions of dollars to reduce consumption and increase resiliency. In Southern Nevada for instance, our population has risen 52% from approximately 1.5 million in 2002 to approximately 2.3 million today. Because Nevada's consumptive share of the Colorado has remained capped at only 300,000 acre feet, we were forced to adopt aggressive water conservation measures. Over the same period, we drove down Southern Nevada's overall consumption of Colorado River water by more than 23% through globally lauded use restrictions, conservation messaging, incentives, and rebate programs. Pressing our conservation objectives, we recently promoted legislation that bars the

use of Colorado River water to maintain non-functional turf by the end of 2026. The measure will save roughly 30,000 acre-feet per year of Colorado River water, 10% of our entire allocation. Southern Nevada is not alone, however, as municipal, industrial and agricultural sectors throughout the basin have stepped up to reduce diversions from the Colorado River.

The Seven Colorado River Basin States and users of Colorado River water recognized early in the drought that the Law of the River needed additional flexibility to encourage conservation and meet the challenges posed by declining system inflows. We embarked on what has now been two decades of creativity and interstate collaboration in Colorado River governance. To give just a few examples, the Southern Nevada Water Authority (SNWA), The Metropolitan Water District of Southern California (MWD), and The Central Arizona Water Conservation District (CAWCD) agreed to fund the construction of Brock Reservoir just above the border, a storage unit that has reduced unaccounted deliveries to Mexico contributing more than 440,000 acre-feet of water to Lake Mead.

In December 2007, Secretary of Interior Dirk Kempthorne approved the Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead (the Guidelines) at the request of the Basin States. Among many other important provisions, the Guidelines created ways for water users to bank water in Lake Mead and paved the way for important regional partnerships and programs to flourish. The Guidelines incentivized the storage of another 2.4 million acre-feet of water in Lake Mead (as of December 31, 2020) through a wide variety of municipal, agricultural and tribal conservation projects in the three Lower Basin states. The Basin States, working with the Secretary, the Colorado River

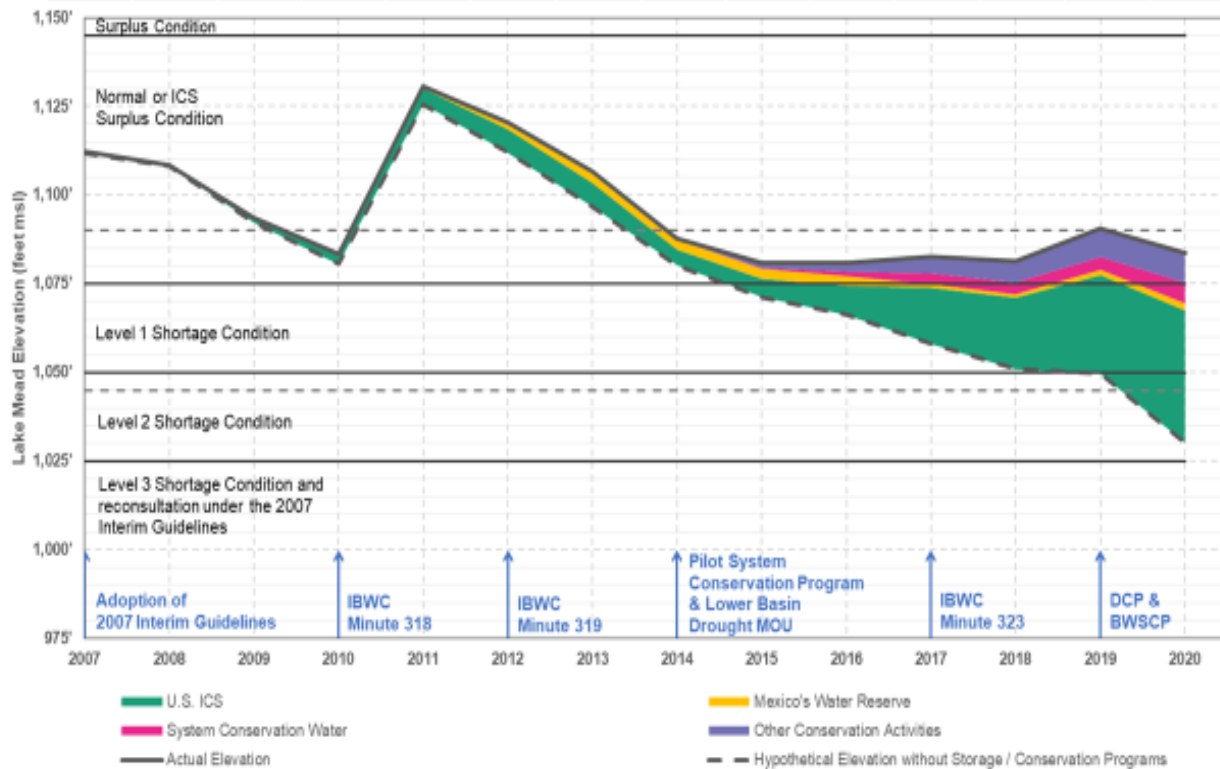
Tribes and other stakeholders now have the difficult job of updating these Guidelines to reflect the stark hydrologic realities we face. This will not be easy.

Another cooperative measure resulting in water left in the Colorado River System was 2014's Pilot System Conservation Agreement whereby SNWA, CAWCD, MWD, Denver Water and the Bureau of Reclamation agreed to fund projects that reduced existing consumption of Colorado River water in the Upper and Lower Basins through voluntary, compensated and temporary reductions in use. The System Conservation program was unique because the benefit of reduced consumption was the creation of water for the system as a whole and not for any one user or funder. Non-governmental organization funding was also secured. Through the end of 2019, more than 165,000 acre-feet of conserved water remained in Lake Mead, with additional water in Lake Powell resulting from projects implemented in the Upper Basin.

Minutes 318, 319, and 323, operational agreements implementing a 1944 Treaty with Mexico, enabled MX to store water in the United States as well, and by the end of 2020, Mexico had stored approximately 200,000 acre-feet in the U.S. All told, by the end of 2020, cooperation among the United States Government, Mexico, states, water users, tribes, and NGOs had resulted in nearly 4.0 million acre-feet of water being left in Lake Mead, contributing approximately 50 feet to Lake Mead's current elevation. In short, our situation would already have been dire had it not been for the difficult, diligent, proactive work of multistate stakeholders over the past twenty years. The basin's cooperative successes are graphically depicted in the following diagram prepared by the Bureau of Reclamation showing the impact of various conservation efforts on the elevation of Lake Mead over time.

Lake Mead Storage and Conservation

Lake Powell WY Release (maf)													
8.23	8.98	8.24	8.23	12.5	9.47	8.23	7.48	9.00	9.00	9.00	9.00	9.00	8.23



End of calendar year 2020 balances of U.S. ICS and Mexico's Water Reserve, system conservation water, and other conservation left in Lake Mead are provisional and subject to change. Total Lake Mead storage and conservation through 2020 is estimated to be approximately 4.0 maf.



The Bureau's recently issued May 24-Month Study, however, makes clear that in addition to re-doubling our collective conservation efforts, we must now seek in earnest, and without delay, to augment water supplies in the southwest. Water year 2021 observed unregulated inflows to Lake Powell through April 2021 are the lowest in recorded history. Assuming average hydrology over the next 24 months, an assumption only realized with increasing irregularity, Lake Mead's elevation two years from now is expected to be 1,047 feet,

lower than the second-tier shortage elevation of 1,050 feet, and leaving the lake with roughly 7,478,000 acre-feet of usable storage. To put that into perspective, Lake Mead's elevation at the end of April 2000 was approximately 1,209 feet, with 24,477,000 acre-feet of usable storage. Lake Powell's decline has been similarly dramatic. In April 2000, Lake Powell's elevation was 3,678 feet, and its usable storage was 21,044,755 acre-feet. By the end of April 2023, the Bureau's analysis suggests Lake Powell is most likely to be around 3,550 feet in elevation with usable storage of 7,618,000 acre-feet. Despite the efforts of so many for so long, in the absence of an overwhelmingly wet 2022 or 2023 water year the combined storage between the system's two great reservoirs as of April 2023 is projected to be approximately 1/3 of what it was in 2000. On average, approximately 1,500,000 acre-feet more water leaves the system than flows into it each year.

Reclamation's water recycling and reuse program (Title XVI of P.L. 102-575, as amended) provides authority for Reclamation to identify and fund opportunities to reclaim and reuse wastewaters and impaired ground and surface water in the 17 Western States and Hawaii. Since 1992, 53 projects have been authorized for up to \$20,000,000 in federal matching funds for the planning, design, and construction of water recycling and reuse projects in partnership with local government entities. Title XVI is a valuable program that improves efficiency, provides flexibility during water shortages, and diversifies water supplies. However, the program was not designed or funded to facilitate water reclamation and reuse on the massive scale necessary to meaningfully address the daunting challenges now faced in the Colorado River Basin.

An example of the sort of project that could fundamentally alter the Colorado River annual deficit noted above is a regional recycled water program being considered by MWD. SNWA has signed a memorandum of agreement to contribute 25% of the cost of this massive recycling effort making it a bistate project which will allow us to take MWD's Lake Mead water by exchange. MWD is evaluating whether it could produce 150 million gallons per day of fresh water (or roughly 168,000 acre-feet per year) from water that is currently being treated and discharged to the Pacific Ocean. The projected capital cost of the project is \$3.4 billion. Because MWD could use the treated water in Southern California to offset some of its demand on Colorado River resources, its program would be a critical tool to help sustain the Colorado River system, and it's likely to have broad appeal within the Basin, including possibly investments by other users of Colorado River water.

The past twenty years have convinced us that less and less Colorado River water will be available to distribute as temperatures continue to warm - that we must make do with less. While we will continue to invest in conservation and encourage others to do so as well, there is a significant, immediate, manifest need for federal assistance of large-scale, multi-state and regional projects to recycle and reuse water on a massive scale to enhance Colorado River sustainability. Title XVI was 1992's solution however it is simply inadequate to meet today's needs. We respectfully request that you develop legislation authorizing the use of federal funds for these purposes. I am happy to respond to any questions.