INTRODUCTION
For much of its past, the area now known as Clark County was little more than a collection of scarce watering holes for various trails through the Mojave Desert. With the coming of the railroad in 1905, the privately operated Las Vegas Land and Water Company was formed to build and operate the area’s first system for conveying local spring water. In these early years, the community viewed its supply of artesian water as virtually inexhaustible and more than adequate to meet the needs of any growth that might occur.¹

In 1922, the Colorado River Compact defined the geographic areas of the upper and lower basins of the Colorado River, apportioning 7.5 million acre-feet of water per year (AFY) to each. Of the Lower Basin’s 7.5 million AFY, the Boulder Canyon Project Act authorized the apportionment of 300,000 AFY to Nevada, 2.8 million AFY to Arizona and 4.4 million AFY to California. At the time, Nevada’s negotiators viewed 300,000 AFY as more than a reasonable amount; Southern Nevada had no significant agricultural or industrial users, and groundwater seemed plentiful.²

These conditions changed significantly over time. By 1940, local resource managers began expressing concerns about limited groundwater supplies, water waste and declining groundwater levels. While the Colorado River Compact and subsequent construction of Hoover Dam in 1936 made Colorado River water a viable future resource, the lack of infrastructure and sufficient funding for capital improvements precluded any immediate use to support development in the growing region.

In 1947, the Nevada Legislature created the Las Vegas Valley Water District (LVVWD) to help manage local water supplies. The LVVWD acquired the assets of the Las Vegas Land and Water Company and began operations in 1954 as the municipal water purveyor for Las Vegas and unincorporated Clark County.

Shortly thereafter, LVVWD entered into agreements with what is now known as Basic Water Company (BWC) for the expansion of BWC’s small industrial water line to deliver Colorado River water to the LVVWD service area.

Given the astonishing pace of growth that occurred over the next several years and the limits of the existing pipeline, LVVWD initiated formal engineering studies for new facilities to import additional Colorado River water into the Las Vegas Valley from Lake Mead. This effort ultimately resulted in the construction of the Alfred Merritt Smith Water Treatment Facility and associated intake, pumping and transmission facilities (collectively referred to as the Southern Nevada Water System or SNWS), which became operational in 1971. The SNWS was first expanded in 1982 (and again in the years to follow) in response to increasing demands.

By the latter part of the 20th century, water planners estimated that the region would soon reach the limits of its Colorado River apportionment.³ In 1989, as a result of profound uncertainty created by population growth and future resource availability, the LVVWD filed applications for unappropriated groundwater in eastern Nevada and began storing its remaining unused Colorado River water for future use (see Chapter 2). During this time, the community also implemented its first significant conservation effort—Operation Desert Lawn. The program resulted in ordinances by the local municipalities restricting landscape irrigation during the hottest times of the day.

CREATION OF SNWA
By the end of the 1980s, resource challenges had reached a critical point; with the new decade, local leaders began to aggressively explore different options for extending and managing water resources, while meeting the ongoing demands of the community.
A Century of Change

With the birth of Las Vegas in 1905 as a way station for the San Pedro, Los Angeles and Salt Lake Railroad, Southern Nevada began to attract a large number of residents and businesses.

From an estimated population of more than 40,000 in 1950 to nearly 2.3 million in 2018, the Southern Nevada region has experienced change faster than almost any other region in the nation during this same time. Population density in the Las Vegas area is the highest in the interior western U.S.4

Today, Southern Nevada is home to 74 percent of Nevada’s total population. The region uses less than five percent of all water available for use in the state.

One of the most significant events to occur during this time was the formation of the Southern Nevada Water Authority (SNWA) in 1991 through a cooperative agreement among seven water and wastewater agencies:

- Big Bend Water District
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Water Reclamation District
- Las Vegas Valley Water District

Today, these seven agencies provide water and wastewater service to more than 2.2 million residents in the cities of Boulder City, Henderson, Las Vegas and North Las Vegas, and portions of unincorporated Clark County (Figure 1). Since its inception, SNWA has worked to acquire and manage water supplies for current and future use; construct and operate regional water facilities; and promote conservation.

Water Supply Acquisition and Management

Since 1991, SNWA has worked diligently to develop and manage a flexible portfolio of diverse water resource options resulting from years of in-state, interstate and international collaborations. These resources include groundwater and surface water rights in the state of Nevada, Colorado River water, as well as temporary resources that are stored in the form of storage credits. A detailed summary of the SNWA Water Resource Portfolio is provided in Chapter 3.

Construction and Operation of Regional Water Facilities

To meet the community’s current and long-term water resource needs, SNWA is responsible for constructing and operating regional water facilities, including the SNWS, which was expanded in 2002 to include the River Mountains Water Treatment Facility. The SNWA has completed several improvements and expansions to these facilities over the years to increase capacity to 900 Million Gallons per Day (MGD). Pumping facilities and state-of-the-art treatment and laboratory facilities were also constructed and updated to ensure the availability of high-quality, reliable water supplies. These efforts were phased, coming online just in time to meet demands.
The SNWA is responsible for managing Southern Nevada’s long-term water resources, constructing and operating facilities and encouraging water conservation.
As discussed in Chapter 2, SNWA recently put its new raw water intake (Intake No. 3) into production and is working to construct a new Low Lake Level Pumping Station at Lake Mead. Together, these facilities will preserve access to existing Colorado River water supplies. These efforts are in response to extraordinary drought conditions in the Colorado River Basin and to offset risk associated with future Lake Mead water level declines.

### Water Conservation

The SNWA and its member agencies have worked diligently over the years to maximize the availability of existing water supplies and reduce overall water demands. The community’s first water conservation plan was adopted in 1995 and the SNWA’s current plan was adopted in 2019. During this time frame, the community has consistently set and achieved aggressive water conservation goals.

To promote conservation efforts, SNWA developed and implements a comprehensive water conservation program consisting of regulation, pricing, education and incentives designed to work together to improve water efficiency and reduce demands. The SNWA member agencies also implemented a number of water use and development ordinances, which have since become a permanent part of the community’s overall conservation effort. Information on Southern Nevada’s conservation efforts is provided in Chapter 3. Detailed program information and other conservation resources are available online at snwa.com.

### 2019 Water Resource Plan and Water Budget

The SNWA’s 2019 Plan provides a comprehensive overview of water resources and demands in Southern Nevada, and discusses factors that will influence resource availability and use over a 50-year planning horizon. The plan does not intend to specifically address all aspects of water resource management and development; rather, it serves as a companion to other detailed planning documents, including:

- SNWA Major Construction and Capital Plan
- SNWA Water Conservation Plan
- Regional Water Quality Plan for the Las Vegas Valley Watershed
- Annual Operating Plan for the Las Vegas Valley Watershed
Since its formation in 1991, the SNWA has worked closely with its member agencies to meet the region’s long-term water demands by acquiring and managing current and future water supplies; constructing and operating necessary facilities; and promoting conservation. In addition, SNWA has developed partnerships with other Colorado River Basin States (Basin States), working collaboratively to maximize opportunities for the flexible use of Colorado River resources.

These efforts will continue to be of paramount importance in the years to come, particularly as climate change and drought are anticipated to reduce the availability of supplies, and as economic expansion continues in Southern Nevada. These challenges, as well as SNWA's associated response efforts, are discussed in Chapter 2. The balance of this document provides a comprehensive overview of the SNWA Water Resource Portfolio (Chapter 3); a detailed discussion of how SNWA plans to meet current and future regional water demands (Chapter 4); and a discussion on environmental initiatives underway to support water resource development and management efforts (Chapter 5).

CHAPTER SUMMARY

The SNWA Water Resource Plan is an important tool designed to help SNWA anticipate and plan for future water supply and related facility needs, which have changed significantly over the years.

ENDNOTES

4 Metropolitan Statistical Area Distance Profiles 2010, U.S. Census Bureau.
7 “Southern Nevada Water Authority 1991 Cooperative Agreement,” between Big Bend Water District, City of Boulder City, City of Henderson, City of Las Vegas, City of North Las Vegas, Clark County Water Reclamation District (previously Clark County Sanitation District), and Las Vegas Valley Water District. Amended 1994 and 1996.