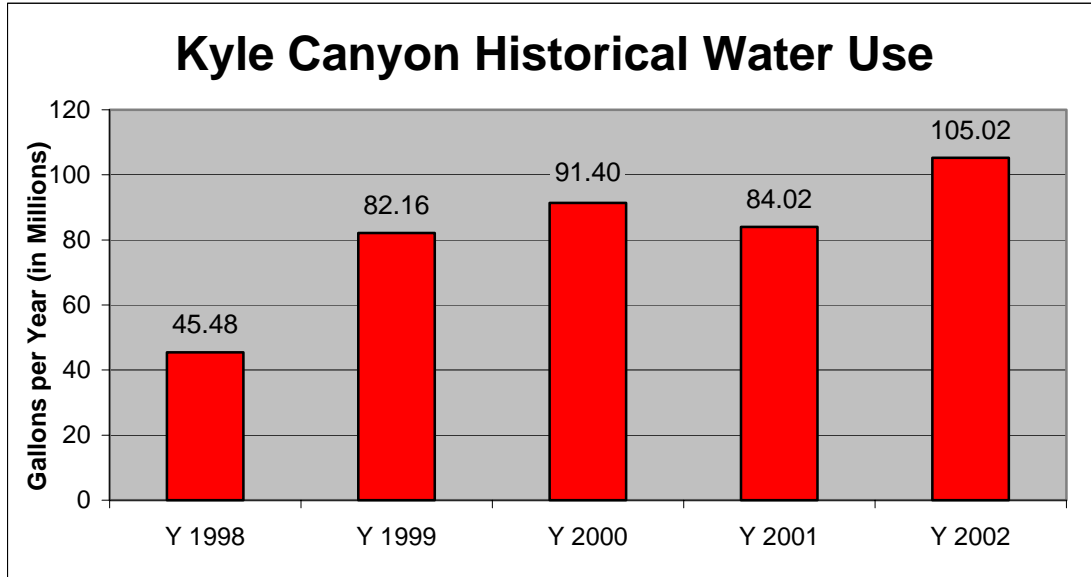


CHAPTER 2

Water Use and Precipitation

Kyle Canyon Water Use

As illustrated in the chart below, Kyle Canyon has had significant increases in water consumption since 1998. In 2002, the water system produced 105,023,000 gallons or about 323 acre-feet of water – an increase of 131% since 1998. In that time, the system has experienced a net decrease in the number of accounts (10 new service connections have been added, 35 accounts have been closed).



Based on its current population of 1,049¹ residents, Kyle Canyon's per capita water consumption is approximately 260 gallons² of water each day, or 94,863 gallons of water each year. When compared to Las Vegas Valley Water District single-family residential per capita water use, Kyle Canyon residents use an average 19 gallons more water each day (per person). Over the course of a year, this equates to approximately 6,935 gallons per individual resident or nearly 7,300,000 more gallons for the community.

This disparity between Kyle Canyon and in-valley consumption is a particular concern, when one considers other factors, including:

- Ÿ Several months out of each year, outdoor irrigation in Kyle Canyon – the largest contributor to water demands – is prohibitive due to snow and freezing conditions.
- Ÿ Generally cooler temperatures in summer months (averaging 15-30 degrees lower than Valley temperatures) are conducive to far less outdoor irrigation – water evaporates at a slower rate and plants are not overstressed by extreme temperatures).
- Ÿ A large percentage of the population is made up of part time residents that live in Kyle Canyon only seasonally, or on an irregular basis.

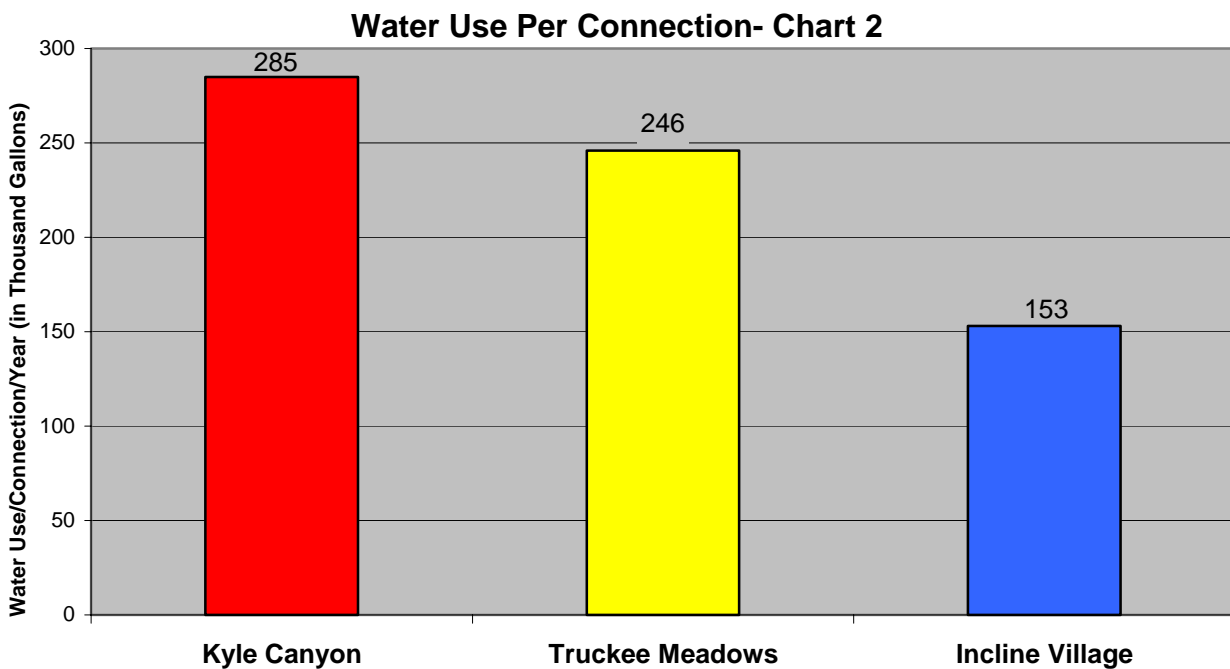
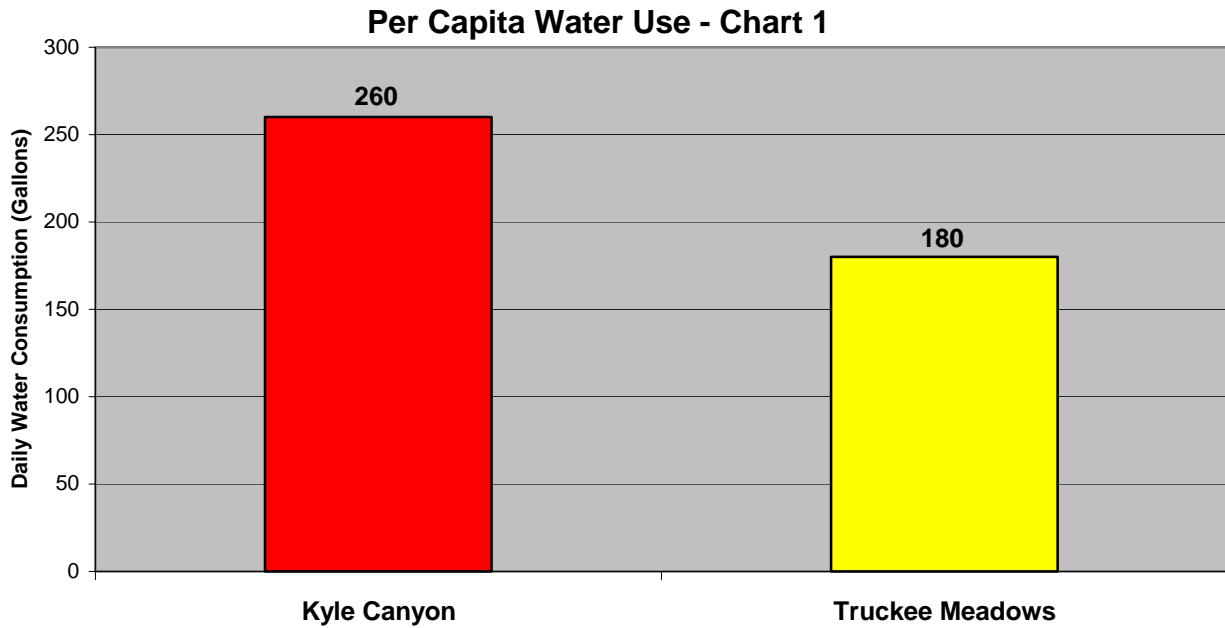
¹ Clark County Comprehensive Planning – July 1995

² Single-family residential water use only

These factors all indicate water demands on the Kyle Canyon water system should be far lower than water demands in the Las Vegas Valley.

Recognizing differences in living environments, a comparison was also made with similar mountain communities in Nevada. The charts below compare Kyle Canyon's water demands to Truckee Meadows¹ and Incline Village², two Northern Nevada communities.

As illustrated in *Charts 1 and 2 (below)*, Kyle Canyon is higher in per capita water use by comparison to Truckee Meadows, and higher than total water use per service connection as compared to Truckee Meadows and Incline Village

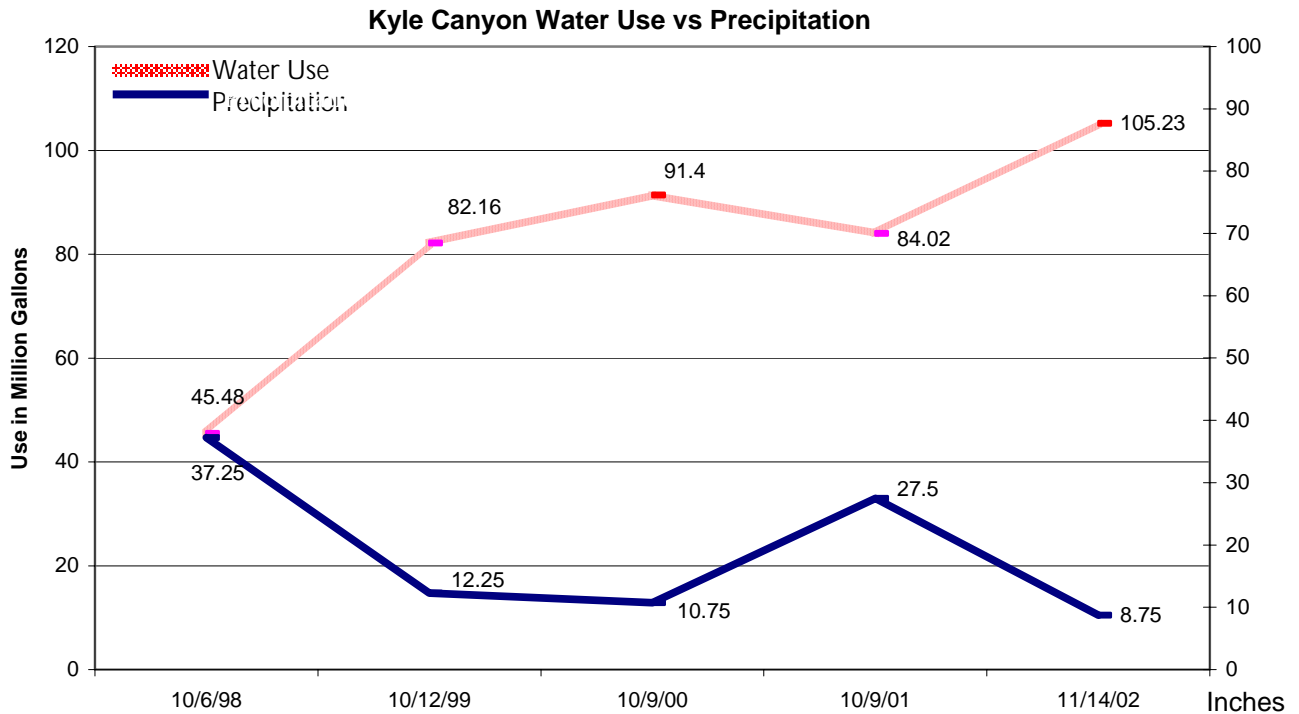


¹ Truckee Meadows Water Authority – Single-family residential water use

² Incline Village – Single-family residential water use

Precipitation:

As illustrated in the chart below, when precipitation goes down, Kyle Canyon’s water use historically goes up. Yearly water demands are inversely correlated to precipitation. For example, during the years 1998 through 2000, water use patterns increased, while precipitation declined. In 2001, an above average precipitation year, water demands reduced slightly. However, in 2002, water demands increased to a record high; 2002 was the lowest precipitation year on record since before 1986.



On average, Kyle Canyon receives approximately 24.8 inches of precipitation each year. However, for the years 1999 through 2002, Kyle Canyon received a record low averaging only 14.9 inches, nearly half of its average yearly precipitation.

Historically low precipitation for the last several years, which limits the amount of water naturally recharged into the groundwater aquifers, paired with several years of increasing water demands have stressed all three of Kyle Canyon’s groundwater wells. In 2002, the lowest precipitation and highest water demand year on record since 1986, the water table was approximately 40 feet lower than in normal years. This situation severely stressed Echo Well No. 3, contributing to multiple pumping problems.