

Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin

MLRA Explorer Custom Report

D - Western Range and Irrigated Region
26 - Carson Basin and Mountains

MLRA 26 - Carson Basin and Mountains



Figure 26-1: Location of MLRA 26 in Land Resource Region D

Introduction

This area (shown in fig. 26-1) is in Nevada (75 percent) and California (25 percent). It makes up about 6,520 square miles (16,890 square kilometers). The cities of Carson City, Reno, and Sparks, Nevada, are in this MLRA. Interstate 80 crosses the central part of this area. The Plumas, Humboldt-Toiyabe, and Inyo National Forests occur in the area. The Washoe and Reno-Sparks Indian Reservations and the western part of the Walker River Indian Reservation also are in the area.

Physiography

Almost all of this area is in the Great Basin Section of the Basin and Range Province of the Intermontane Plateaus. Isolated north-south trending mountain ranges are separated by aggraded desert plains. The mountains are uplifted fault blocks with steep side slopes. Most of the valleys are drained by three major rivers flowing east across this MLRA. A narrow strip along the western border of the area is in the Sierra Nevada Section of the Cascade-Sierra Mountains Province of the Pacific Mountain System. The Sierra Nevada Mountains are primarily a large fault block that has been uplifted with a dominant tilt to the west. This structure leaves an impressive wall of mountains directly west of this area. Parts of this eastern face, but mostly just the foothills, mark the western boundary of this area. Elevation ranges from 3,900 to 6,550 feet (1,190 to 1,995 meters) in valleys and is as high as 13,100 feet (3,995 meters) on mountain crests.

The extent of the major Hydrologic Unit Areas (identified by four-digit numbers) that make up this MLRA is as follows: Central Lahontan (1605), 72 percent; Northern Mojave-Mono Lake (1809), 16 percent; North Lahontan (1808), 7 percent; and Central Nevada Desert Basins (1606), 5 percent. The Truckee River originates at Lake Tahoe and runs through Reno, Nevada, on its way

east to its terminus just outside this area in Pyramid Lake. The headwaters of the Carson River run through Carson City, Nevada. This river flows to its terminus just outside this area in the Carson Sink, below the Lahontan Reservoir. The East and West Walker Rivers join to form the Walker River in the southern tip of this area. The Walker River flows into Weber Reservoir and then on to its terminus, Walker Lake, just outside this area.

Geology

Mesozoic and Tertiary intrusives are common in this area. These rocks are granitic near the Sierra Nevada Mountains on the west side but are typically andesite and basalt in the rest of the area. There are some young tuffaceous sediments in this MLRA, and a complex of Mesozoic sediments and volcanic rocks occurs on the edges of uplifted fault blocks. Alluvium fills the valleys between the mountains. The major rivers in the area have reworked the alluvium, forming prominent terraces and flood plains. There is a level line evident on the higher slopes marking the former extent of glacial Lake Lahontan.

Climate

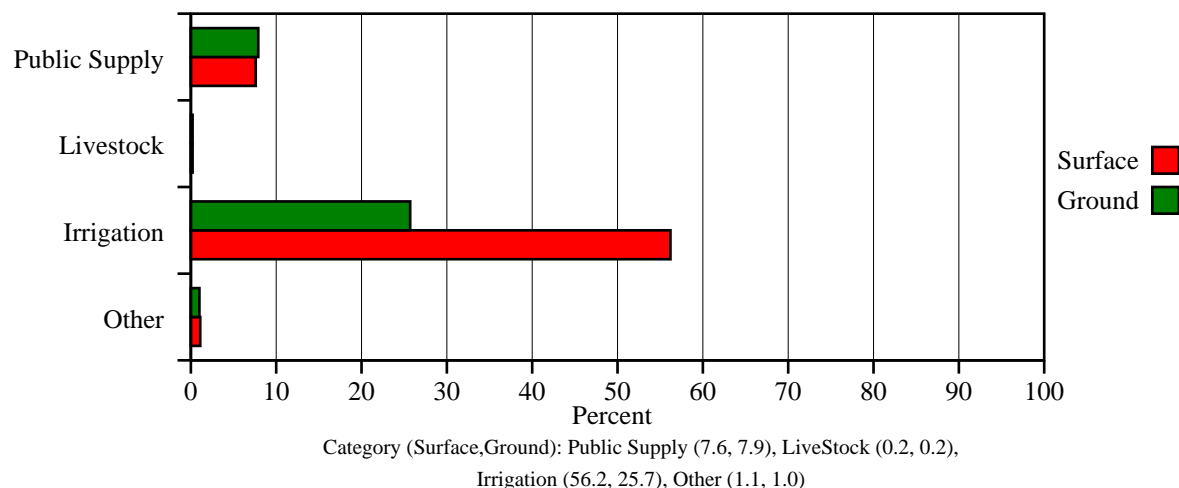
The average annual precipitation in this area is 5 to 36 inches (125 to 915 millimeters), increasing with elevation. Most of the rainfall occurs as high-intensity, convective storms in spring and autumn. Precipitation is mostly snow in winter. Summers are dry. The average annual temperature is 37 to 54 degrees F (3 to 12 degrees C). The freeze-free period averages 115 days and ranges from 40 to 195 days, decreasing in length with elevation.

Water

The total withdrawals average 935 million gallons per day (3,530 million liters per day). About 35 percent is from ground water sources, and 65 percent is from surface water sources. The low precipitation in the valleys provides little water, but a few large rivers that have their source in high mountains outside the area supply water for irrigation and other uses along the course of the rivers. The reservoirs used principally for storing irrigation water include Washoe Lake in the headwaters of the Carson River and Weber Reservoir on the Walker River in Nevada and Bridgeport Reservoir and Topaz Lake on the Walker River in California. Surface water from mountain runoff is generally of excellent quality and is suitable for all uses.

Limited quantities of ground water in valley fill are being rapidly developed for urban, industrial, and agricultural uses. The alluvial deposits along the larger streams contain the most ground water. This water is of good quality, although the total dissolved solids can exceed the Nevada drinking water standard of 1,000 parts per million (milligrams per liter) in some areas. The basin fill aquifer typically has moderately hard to very hard water with a concentration of 150 to 1,000 parts per million (milligrams per liter) total dissolved solids.

MLRA 26 Water Use by Category



Soils

The dominant soil orders in this MLRA are Aridisols and Mollisols. The soils in the area dominantly have a mesic soil temperature regime, an aridic or xeric soil moisture regime, and mixed or smectitic mineralogy. They generally are well drained, are clayey or loamy and commonly skeletal, and are very shallow to moderately deep. Argixerolls (Duco and Ister series) formed in residuum and colluvium on hills and mountain slopes. Argidurids (Fulstone, Reno, and Smedley series) and very deep Haplocambids (Haybourne series) formed in alluvium on alluvial fans, terraces, and piedmonts. Haplargids (Old Camp and Xman series) and Argidurids (Lapon series) formed in residuum and colluvium on hills, plateaus, and mountain slopes.

Biology

This area supports shrub-grass vegetation characterized by big sagebrush. Low sagebrush and Lahontan sagebrush occur on some soils. Antelope bitterbrush, squirreltail, desert needlegrass, Thurber needlegrass, and Indian ricegrass are important associated plants. Green ephedra, Sandberg bluegrass, Anderson peachbrush, and several forb species also are common. Juniper-pinyon woodland is typical on mountain slopes. Jeffrey pine, lodgepole pine, white fir, and manzanita grow on the highest mountain slopes. Shadscale is the typical plant in the drier parts of the area. Sedges, rushes, and moisture-loving grasses grow on the wettest parts of the wet flood plains and terraces. Basin wildrye, alkali sacaton, saltgrass, buffaloberry, black greasewood, and rubber rabbitbrush grow on the drier sites that have a high concentration of salts.

Some of the major wildlife species in this area are mule deer, coyote, beaver, muskrat, jackrabbit, cottontail, raptors, pheasant, chukar, blue grouse, mountain quail, and mourning dove. The species of fish in the area include trout and catfish. The Lahontan cutthroat trout in the Truckee River is a threatened and endangered species.

Land Use

About two-thirds of this area is federally owned. The rest is used mainly for farming, ranching, urban development, industrial enterprises, and transportation. Grazing of livestock on native grasses and shrubs is the principal agricultural enterprise. About 2 percent of the total area, principally in valleys along the major streams, is used for irrigated hay, grain, tame pasture, onions, potatoes, or garlic. About one-tenth of the area is forestland on mountain slopes. Some areas formerly used for farming are being converted to urban uses.

The major soil resource concerns are maintenance of the content of organic matter and productivity of the soils and the accelerated erosion resulting from recreational activities and construction. In some areas the content of salts and sodium in the soils is a concern. Forest and rangeland health is an additional management concern.

Conservation practices on cropland generally include irrigation water management and crop residue management. Prescribed grazing, brush management, and watering facilities are important on rangeland. Pasture and hay provide seasonal feed for livestock. In areas of forestland, forest stand improvement, forest site preparation, properly located forest trails and landings, and firebreaks can help to reduce the effects of catastrophic wildfires and the damage caused by insects and disease.

MLRA 26 Land Use by Category

