

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
27 - Fallon-Lovelock Area

MLRA 27 - Fallon-Lovelock Area



Figure 27-1: Location of MLRA 27 in Land Resource Region D

Introduction

This area is almost entirely in Nevada (fig. 27-1). It makes up about 12,565 square miles (32,560 square kilometers). The towns of Lovelock, Fallon, Yerington, and Hawthorne are in this MLRA. Interstate 80 crosses the north part of this area. The Fallon Naval Air Station is in the area. The Stillwater and Fallon National Wildlife Refuges and the Pyramid Lake, Walker River, and Lovelock Indian Reservations also are in the area.

Physiography

This area is in the Great Basin Section of the Basin and Range Province of the Intermontane Plateaus. Isolated mountain ranges trending north to south are separated by broad, aggraded desert plains and valleys. The mountains are uplifted fault blocks with steep side slopes. The mountains and valleys are dissected by the Humboldt, Truckee, Carson, and Walker Rivers and their tributaries. Elevation generally ranges from 3,300 to 5,900 feet (1,005 to 1,800 meters) in valleys, but on some mountain peaks it is more than 7,870 feet (2,400 meters).

The extent of the major Hydrologic Unit Areas (identified by four-digit numbers) that make up this MLRA is as follows: Central Lahontan (1605), 45 percent; Central Nevada Desert Basins (1606), 32 percent; and Black Rock Desert-Humboldt (1604), 23 percent. The major rivers in the area are, from north to south, the Humboldt River, the Truckee River, the Carson River, and the Walker River. The Humboldt River terminates in the Humboldt Sink, the Truckee River terminates in Pyramid Lake, the Carson River terminates in the Carson Sink (after flowing through the Lahontan Reservoir), and the Walker River terminates in Walker Lake (after flowing through the Weber Reservoir).

Geology

Almost half of this area has surface deposits of alluvial valley fill. The rest has andesite and basalt rocks of different ages. Mesozoic and Tertiary intrusives are concentrated along the western border of the area, and Lower Volcanic Rocks (17 to 43 million years old) are common on the eastern side of the area. Also, some scattered outcrops of Mesozoic sedimentary and volcanic rocks and tuffaceous sedimentary rocks are in the mountains within the interior of this MLRA.

Climate

The average annual precipitation is 5 to 10 inches (125 to 255 millimeters) in most of the area but is as much as 19 inches (485 millimeters) on high mountain slopes. Most of the rainfall occurs as high-intensity, convective thunderstorms during the growing season. The amount of precipitation is very low from summer to midautumn. The precipitation in winter occurs mainly as snow. The average annual temperature is 43 to 54 degrees F (6 to 12 degrees C). The freeze-free period averages 155 days and ranges from 110 to 195 days, decreasing in length with elevation.

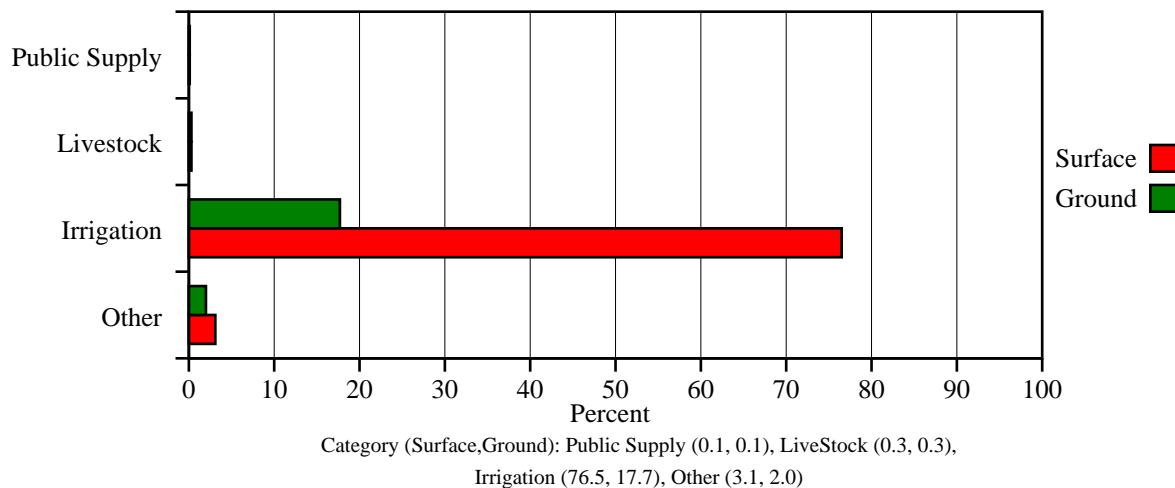
Water

The total withdrawals average 425 million gallons per day (1,610 million liters per day). About 20 percent is from ground water sources, and 80 percent is from surface water sources. The amount of precipitation is very low, and water for irrigation is obtained principally from diversions on the four large rivers in the area and from water stored in the Lahontan, Rye Patch, and Weber Reservoirs. The irrigated areas are mainly near Fallon, Lovelock, and Yerington. The surface water is generally suitable for most uses, but local water-quality problems result from high concentrations of total dissolved solids and sediment loads in irrigation return flows. Pyramid Lake and Walker Lake are terminal lakes used principally for recreation. Much of the Truckee River is diverted for irrigation, so the Pyramid Lake level is falling, causing problems for native fish species that use the Truckee River and the lake.

Ground water is scarce and of poor quality in the major valleys. Limited supplies of ground water of good or fair quality in some of the outlying valleys are being rapidly developed for irrigation. The basin fill aquifers contain very soft to very hard water that typically has total dissolved solids of less than 500 parts per million (milligrams per liter). Ground water pumped from the lower elevations in the valleys, nearer the playa lakes and sinks, typically has more than 1,000 parts per million (milligrams per liter) total dissolved solids.

A volcanic rock aquifer in western Churchill County, in the Carson Sink desert, has ground water suitable for most uses. Arsenic levels, however, exceed the 50 parts per billion (micrograms per liter) standard for drinking water.

MLRA 27 Water Use by Category



Soils

The dominant soil orders in this MLRA are Aridisols and Entisols. The soils in the area dominantly have a mesic soil temperature regime, an aridic soil moisture regime, and mixed mineralogy. They generally are well drained, are loamy or sandy and commonly skeletal, and are shallow to very deep. Shallow Argidurids (Cleaver series) formed in alluvium on fan piedmonts. Very deep Natrargids formed in loess- and ash-mantled alluvium on fan piedmonts (Dorper series) and in alluvium on fan remnants and lake terraces (Jerval series). Shallow Haplargids (Old Camp and Theon series) formed in residuum and colluvium on hills, plateaus, and mountain slopes. Very deep Torripsamments formed in alluvium on sand sheets (Hawsley series) and in sandy eolian material on dunes (Isolde series). Very shallow Torriorthents (Singatse series) formed in residuum and colluvium on hills and mountain slopes. Very deep Torriorthents formed in alluvium on alluvial fans and terraces (Bluewing and Trocken series) and in mixed alluvium and lacustrine sediments on basin floors, alluvial flats, and terraces (Mazuma series).

Biology

This area supports desert shrub vegetation. Shadscale is widespread. It is mixed with Bailey greasewood on uplands and with black greasewood and seepweed on the lower sites. Grasses are generally sparse, although Indian ricegrass is prominent on the sandy soils. Fourwing saltbush, winterfat, spiny hopsage, wolfberry, ephedra, dalea, and bud sagebrush are common shrubs. Basin wildrye, creeping wildrye, alkali sacaton, saltgrass, black greasewood, rubber rabbitbrush, and big saltbush are important plants on saline bottom lands and terraces. A few tule marshes support cattail, bulrushes, sedges, and rushes. Big sagebrush, along with scattered Utah juniper and singleleaf pinyon, is associated with Thurber needlegrass, basin wildrye, Sandberg bluegrass, and squirreltail on some shallow soils on the higher alluvial fans and mountain slopes.

Some of the major wildlife species in this area are feral horse, mule deer, antelope, kit fox, bobcat, black-tailed jackrabbit, antelope ground squirrel, kangaroo rat, bushy-tailed woodrat, desert mouse, Pacific rattlesnake, gopher snake, whip-tailed lizard, sagebrush lizard, sage grouse, chukar, loggerhead shrike, Brewer's sparrow, sage thrasher, blue-grey gnat-catcher, and American kestrel. The Lahontan cutthroat trout and cui-ui are two threatened and endangered fish species in the lower reaches of the Truckee River.

Land Use

More than two-thirds of this area is federally owned land, large tracts of which are used for training and testing purposes by the Armed Forces. The rest is in farms and ranches. Livestock production on rangeland is the principal agricultural enterprise. A small percentage of the area is used for irrigated alfalfa (including alfalfa seed), grain, garlic, or onions.

The major soil resource concerns are wind erosion and the content of salts and sodium in the soils. Conservation practices on cropland generally include irrigation water management, toxic salt reduction, and crop residue management. These practices help to reduce the hazard of wind erosion and increase the available water capacity of the soils. Conservation practices on rangeland generally include development of watering facilities and prescribed grazing.

MLRA 27 Land Use by Category

