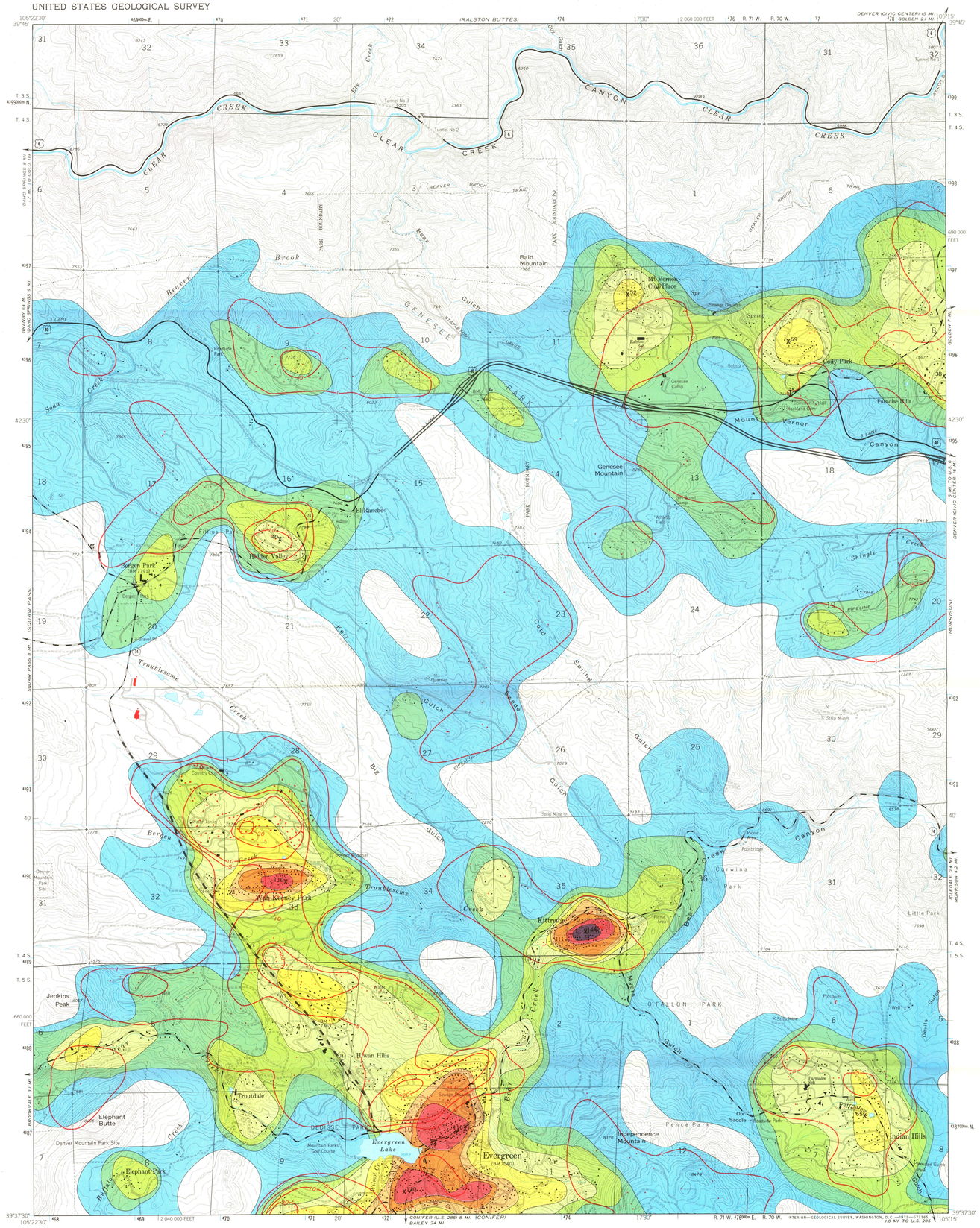


Base from U.S. Geological Survey, 1965
Photorevised in 1971
10,000-foot grid based on Colorado coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 13, shown in blue

TRUE NORTH
MAGNETIC NORTH
13½°
APPROXIMATE MEAN DECLINATION, 1972

SCALE 1:24 000
1 ½ 0 1 MILE
1 .5 0 1 KILOMETER
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

COLORADO
QUADRANGLE LOCATION

Constructed from Evergreen 7½-minute quadrangle, 1965; interim revision, 1971

HOUSES PER 100 ACRES

- More than 120
- 100 to 120
- 80 to100
- 60 to 80
- 40 to 60
- 20 to 40
- 10 to 20
- 5 to 10
- 1 to 5
- Less than 1

House built in 1965 or earlier

House built between 1965 and 1971

Lines showing increase in number of houses per 100 acres between 1965 and 1971

X38 Maximum number of houses per 100 acres in selected high concentrations

WHAT THIS MAP SHOWS AND HOW IT WAS MADE

Many environmental problems require knowledge of the distribution and density of population. This map depicts the distribution and density of houses integrated over 100-acre areas in the Evergreen quadrangle as one means of illustrating this environmental factor. It also shows the amount of increase in the density of houses during the 6-year period from 1965 to 1971.

Specifically the map shows the number of houses encompassed by a circle with an area of 100 acres (radius 1,177 feet, or a little less than ¼ mile) centered at any given point on the map. For example, if one chooses any point within the yellow area on the map and draws a 100-acre circle, he finds that 40 to 60 houses fall within it, or, if one had been standing in 1971 on the ground at any point included in the yellow area of the map, he would find 40 to 60 houses within a distance of about ¼ mile from that point. The increase in density of houses is shown by the red lines. If the center of a 100-acre circle is placed at any point between the lines labeled 1 and 5, it will include between one and five houses built between 1965 and 1971.

The map was prepared from the U.S. Geological Survey topographic map of the Evergreen quadrangle which was field checked in 1965 and for which an interim revision of culture was prepared from aerial photographs taken in 1971. This map, which is available from the Distribution Section, U.S. Geological Survey, Federal Center, Denver, Colo. 80225, shows houses standing in 1965 in black and those built between 1965 and 1971 in red.

A grid consisting of 1-inch squares (2,000 feet at map scale) was placed over the map (fig. 1), and a 100-acre circle was placed, using a clear plastic template, at each grid intersection (only one shown on fig. 1) and also at the center of each square formed by the lines of the grid, a total of nearly 800 points in the quadrangle. The total number of houses and the number of new houses within each circle were recorded at the center of the circle (black and red numbers, respectively, on fig. 1). Finally, the number of houses recorded at the centers of the circles was contoured by drawing lines (shown in black on fig. 1) to separate areas of different density of houses into the divisions shown on the explanation. The red lines showing only the houses built between 1965 and 1971 were drawn in the same way.

In counting houses, an effort was made to exclude schools, churches, places of business, outbuildings, and so forth, but no systematic field checks were made. No allowances were made for multifamily dwellings, a few of which are present in the quadrangle and which have some effect on the dwelling density, particularly in the highest density areas.

Because of the 100-acre size of the counting circle, areas of closely spaced houses smaller than 100 acres will not appear as densely populated as larger areas of similarly spaced houses. The method also tends to produce a bulls-eye effect with high values at the counting center which do not necessarily indicate closer spacing of immediately adjacent houses, but only that the *entire* adjacent counting circle has more houses. For this reason the map should be used for general planning purposes only.

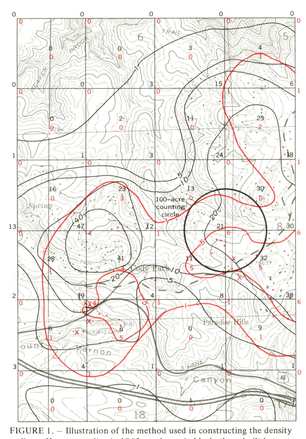
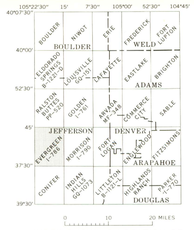


FIGURE 1. – Illustration of the method used in constructing the density lines. Houses standing in 1965 are shown in black; those built between 1965 and 1971 are shown in red. Red X's indicate buildings not counted because it is known that they are not dwellings.



INDEX SHOWING LOCATION OF EVERGREEN QUADRANGLE

MAP SHOWING APPROXIMATE DENSITY OF HOUSES IN THE EVERGREEN QUADRANGLE, JEFFERSON COUNTY, COLORADO

By
Bruce Bryant and John C. Reed, Jr.

1972