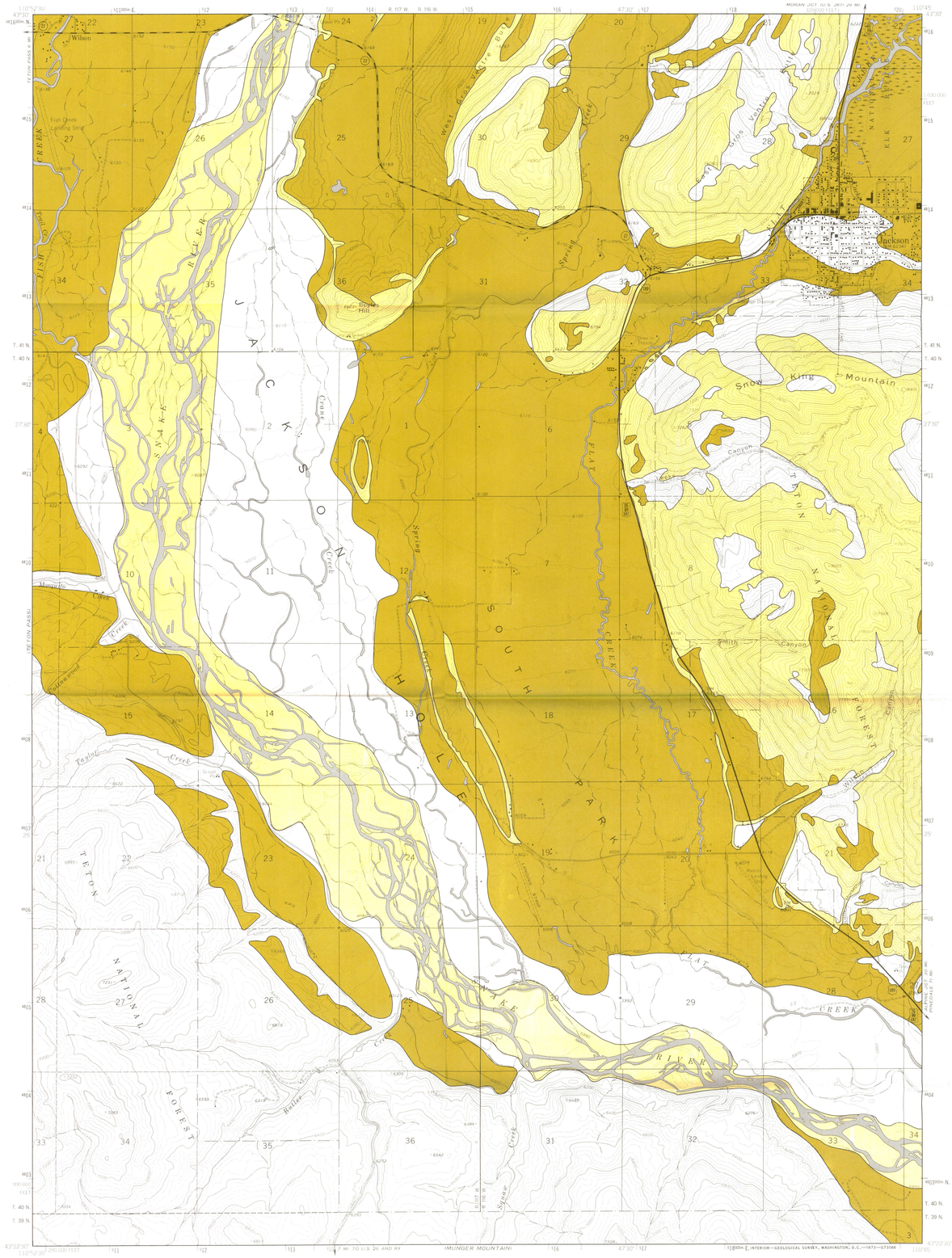
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



Base from U.S. Geological Survey, 1963
10,000-foot grid based on Wyoming coordinate system, west zone
1000-meter Universal Transverse Mercator grid, zone 12

SCALE 1:24 000

WYOMING
QUADRANGLE LOCATION

MAP SHOWING DISTRIBUTION OF LOAMY SOILS IN THE JACKSON QUADRANGLE, TETON COUNTY, WYOMING

By
J. D. Love

1973

EXPLANATION

- CONTINUOUS LAYERS OF LOAMY SOIL
- PATCHY AND IRREGULAR DEPOSITS OF LOAMY SOIL
- THIN SOIL OR BARE ROCK

DISTRIBUTION AND SIGNIFICANCE OF LOAMY SOILS

Fertile loamy soil is important to the economy of Jackson Hole in general and of the Jackson quadrangle in particular. This soil has played a dominant role in man's ability to survive and prosper in this remote area and harsh climate. Excellent mountain hay, which grows in this loamy soil, has become the most valuable single plant crop, being used to feed cattle, horses, and elk during the long winters.

The loamy soil is unevenly distributed throughout the quadrangle, but the distribution can be divided generally into three categories – continuous layers, patchy and irregular deposits, and thin soil or bare rock – as shown on the map.

CONTINUOUS LAYERS OF LOAMY SOIL

Large areas in the Jackson quadrangle are covered by continuous layers of loamy soil. This soil is in part a light-gray loess (windblown silt) and in part dark-gray fine-grained clayey, silty, and sandy stream deposits that are rich in vegetative material. The loess, which is very fertile, was carried in by southwesterly and westerly winds from Idaho, and, during a period of many years, accumulated in sufficient thickness to blanket the flatter parts of the landscape. Some of it was piled into drifts, in places as much as 50 feet thick, on the leeward sides of buttes, ridges, and mountain crests (as at the south end of East Gros Ventre Butte). Most of the silt that originally fell on the exposed uplands was washed down onto the valley floors and became intermixed with the clay, silt, and sand of the stream-deposited material.

These valley deposits are the sites of extensive irrigated hay meadows – an indication of how rich the loess now is in plant food. Even though irrigated, the meadows continue to be productive because they are well drained and thus avoid a buildup of alkali.

Those loess remnants on low rolling hills above the present streams originally supported a thick growth of native grass, but most of this was plowed up and replaced by dry-farm (not irrigated) crops of grain.

Prior to 1965-70, good hay land was the most valuable kind of rural land in the quadrangle. This situation is now changing as homes are being built across several former meadows.

PATCHY AND IRREGULAR DEPOSITS OF LOAMY SOIL

In some areas, the deposits of loamy soil are irregular, discontinuous, and change abruptly in thickness. The vegetation reflects the soil distribution – where the soil is thick, vegetation is abundant; where it is thin or absent, vegetation is sparse. These lands are used chiefly for grazing.

Two types of terrain are included in this category: rolling hills southwest and northeast of the Snake River, and a flat flood plain northeast of the Snake River. The rolling uplands support dense growths of aspen and some conifers, whereas the flat areas tend to be swampy and have more willows than grass. The vegetation in both types of terrain is important to the wildlife, as well as to domestic animals, for it supplies browse, many kinds of grass, and shelter.

THIN SOIL OR BARE ROCK

Some of the land in the Jackson quadrangle has little or no soil; these areas include both bottomland and uplands. The bottomland is the gravel-covered flood plain of the Snake River, which supports large cottonwood trees. The trees are important to the balance of nature here for they provide shade and shelter for domestic animals and wildlife, as well as browse for elk, deer, and moose. The uplands are nearly all bare bedrock that does not rapidly break down into soil. On the downwind side of some ridges, thin deposits of windblown soil accumulate along with drifts of winter snow. As a result, these sheltered localities are more abundantly watered as well as more fertile; vegetation such as conifers and aspen tend to concentrate there.

For sale by U.S. Geological Survey, price 75 cents