

THE PUGET SOUND REGION

A PORTFOLIO

OF

THEMATIC COMPUTER MAPS

John W. Mairs

Eugene A. Hoerauf

Department of Geography



THE CENTER FOR PACIFIC NORTHWEST STUDIES

Occasional Paper Number Three

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PREFACE

The publication of an atlas of computer maps of a special region is as yet a most unusual event, even though individual computer-produced (or computer-derived) maps have become commonplace in a good many recent textbooks.

By happy circumstance the keen interest of Professor John Mairs, of the Department of Geography, and of Mr. Gene Hoerauf, the department's cartographer, in computer mapping, and the availability on campus of a set of tapes covering the 1970 Censuses of Population and Housing quickly persuaded us that here was an opportunity to produce a publication that would (1) demonstrate the utility of computer maps and (2) add measurably to our understanding of certain social and demographic conditions of the Puget Sound Region, in particular the spatial patterns and distribution of these.

For these and other reasons it is gratifying to be able to introduce the present publication and to note that this would not have been possible but for the financial support afforded by the Research Advisory Committee of Western Washington State College through the good offices of Dr. Herbert C. Taylor, Jr., Dean of Research and Grants. This support is gratefully acknowledged.

James W. Scott, Director
Center for Pacific Northwest Studies

INTRODUCTION

In April of 1970 the United States Bureau of the Census conducted the nationwide decennial Census of Population and Housing. The questionnaire completed for each housing unit contained a wealth of detail about the household members and the conditions of their housing. Computer processing has made it possible to group and analyze this basic data, and to make it available at various levels of aggregation from the individual city block in large cities to entire states. In addition to publishing a selection of the census information thus derived, the basic data has been made available on magnetic tape capable of being read into computers for further analysis through various statistical routines and graphical display methods. This portfolio of computer printed and drawn representations of census data provides an illustration of the joining of basic data in machine-readable form with computer graphical display programs.

The area selected for representation is the twelve county region bordering on Puget Sound and adjacent waters (see Map No. 1). The census data for this area are available at three levels of aggregation: each county forming a unit, each county divided into Census County Divisions (CCDs), and each county CCD subdivided into Enumeration Districts (EDs) or their equivalent in large cities. In using the census information for statistical analysis and/or graphical display of population and housing characteristics a decision must be made regarding the most suitable level of aggregation. Although the smallest areal unit (EDs in this case) would allow the maximum amount of detail to be achieved, other factors must be considered; these include computer hardware and software capabilities and limitations (processing time, program size, printer resolution, plotter capability, etc.), and, if intended for publication, the capabilities and costs of the reproduction

methods available. For the Puget Sound Region the CCD level proved the most suitable for maintaining maximum detail yet staying within the restraints of the facilities and funding available. The outlines of the CCDs as used in the computer programs for this publication are shown on Map No. 1.

The Census County Divisions are the first level of subdivision of counties. They are relatively stable statistical areas established by the Census Bureau after consultation with county and state officials. Boundaries of CCDs are drawn along features that are easily located and relatively permanent, e.g. roads, powerlines, streams, and ridges. In deciding the area to include in particular CCDs, consideration is given to the trade or service area of the principal settlements and in some instances to major land or physiographic differences. Institutions, military installations and other special situations are often accorded CCD status regardless of the population included. In the Puget Sound Region, Northern State Hospital, Ft. Lewis Military Reservation, and the several Indian Reservations make up entire CCDs. Larger incorporated places are generally not divided into several CCDs but are tabulated as single units. In this region there exist CCDs ranging in population from more than one half million in Seattle to only nineteen persons at the Nisqually Indian Reservation in Thurston County (see Map No. 1).

When a CCD or a particular category of census information involves a small number of people, the data may be suppressed. Suppression is the Census Bureau's method of meeting confidentiality requirements established by the Bureau. Whenever the number of people reporting a particular characteristic about themselves or their housing becomes so small that it is possible for another person to identify them, the data are generally suppressed from the public records. For example, if the lack of plumbing facilities among non-

white households were being counted in a census unit (block, enumeration district, CCD, etc.) which contained only one non-white family, the information would likely be suppressed to protect the privacy of that family. A set of special codes is inserted into the released data to replace items which the Census Bureau has decided require suppression. Thus the user of the data, be it published or on computer tapes, is informed that the particular item is not available.

In the Puget Sound Region most CCDs contain a sufficiently large population so that few cases of suppression are encountered. In the set of computer-produced displays of census data included in this portfolio suppression codes were found in only three categories of information. In two cases, Housing Values (No. 10) where data were missing for two CCDs, and Rent Levels (No. 11) where one CCD lacked a count, the missing data had little effect on the graphics produced. In the distribution of Vacant Rental Units (No. 12) the information for nearly one-fifth of the CCDs was suppressed. The lack of data for so many areas has a noticeable effect on the graphics but the particular information was considered sufficiently significant for the subject to be included.

A wide variety of computer programs have been written to produce graphic displays of data. Computer graphics commonly are produced via one of three methods: using the computer printer to print standard or overprinted symbols on selected areas of the computer print-out; having a computer program calculate the instructions to drive a line plotter to draw graphics; having a computer program direct the beam of electrons in a CRT (cathode ray tube) to draw lines on the screen (similar to the television picture tube). The present portfolio makes use of two of these methods, the computer printer and the computer-driven line plotter.

Each of the census data distributions is presented in a standard format: on the left page is a map produced through a computer printer graphics program; on the right page is a three-dimensional representation of the same census data drawn by a line plotter. The computer printer graphics program used was the SYMAP program originally written by Howard T. Fisher while at Northwestern Technological Institute, and further developed at Harvard University. It was necessary to code the outline of each of the 165 Census County Divisions of the region in order to provide the geographic data base required by the SYMAP program. This process, call "digitizing", involves converting the often irregular CCD boundaries to a series of points which when connected by straight lines will yield a close approximation to the original boundaries. When the coordinate locations of the points needed to define each of the outlines are read into the computer along with the appropriate census data value for each CCD, the program computes the print locations and symbols for each unit and prints a choropleth map with CCDs as areal units. The program uses the set of symbols commonly found on the typewriter keyboard, singly and in overprinted combinations, to produce areas of tonal gradations from white (no symbols) to very dark. The program user has a number of electives available to define the area to be displayed, set the size of the display, alter the set of symbols used in printing the map, adjust the data value levels for each set of symbols and otherwise control the program to yield the desired results. Each of the maps produced by SYMAP for the portfolio was printed at a scale of about one to five hundred thousand (one inch represents about eight miles) so that the smaller CCDs would be allotted several print locations by the program. This map was then combined with an outline overlay and photographically reduced to the present size.

The three-dimensional representation on the right page of each set was produced by a line plotter. Its instructions were computed via SYMVU, another Harvard-developed graphics program. SYMVU uses a data matrix provided directly by the user or one produced through the SYMAP program; the latter method was used here. To produce the desired results a second type of SYMAP program had to be run, this one designed to produce an isoline map from the data rather than a choropleth map as described above. A data matrix computed to give a choropleth map results in a SYMVU plot with a series of nearly flat surfaces yielding a stepped appearance. The data matrix from an isoline version of SYMAP produces a sloping surface between locations assigned data values. To produce an isoline SYMAP each CCD was represented by a single coordinate location at the center of the unit to which the census data value was assigned. The program then computed values for the data matrix positions (print locations) between these specified points. The completed data matrix is passed to the SYMVU program which computes the instructions for the line plotter to produce a three-dimensional representation of the statistical surface formed by the original data. As with SYMAP, the SYMVU user has a number of options available. These control the size of the plotted surface, the direction from which it is viewed, the matrix direction along which lines are drawn and other factors affecting the surface appearance. The appearance of the statistical surface thus drawn is considerably enhanced by the ability to superimpose a second plot of the same data but with lines drawn at right angles to the first. This modification to the SYMVU program was originated and implemented by a Computer Center staff member at Western Washington State College.

This project grew out of the conviction that the mass of data presented on the 1970 Census Summary Tapes would reach the widest audience -- professional, academic and lay -- if it were made available in graphic form; the ability of

the computer to manipulate large amounts of data and produce graphic displays makes it feasible to do this. The digitizing of the geographic data base and the developing of expertise in retrieving the desired data from the census tapes require some time and effort, but once these are accomplished the entire range of information on population and housing becomes easily accessible in graphic form. Experience with this project leads to the conclusion that linking the vast quantities of data being collected to computer display programs may assume increasing importance as a means of making this information available in an easily comprehended form.

Converting the census data into graphic form presents the information but does not explain the distributions revealed. Perusal of the distributions on the following pages will raise questions regarding the spatial character of the region's population as well as the social and economic levels of segments of that population. It is hoped that study of the census data presented in this portfolio may lead to research to provide answers to these questions.

Acknowledgements

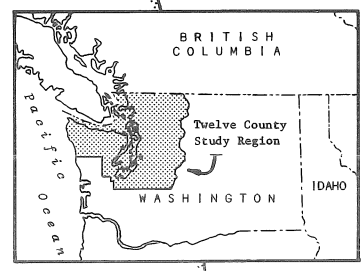
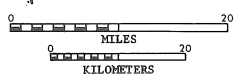
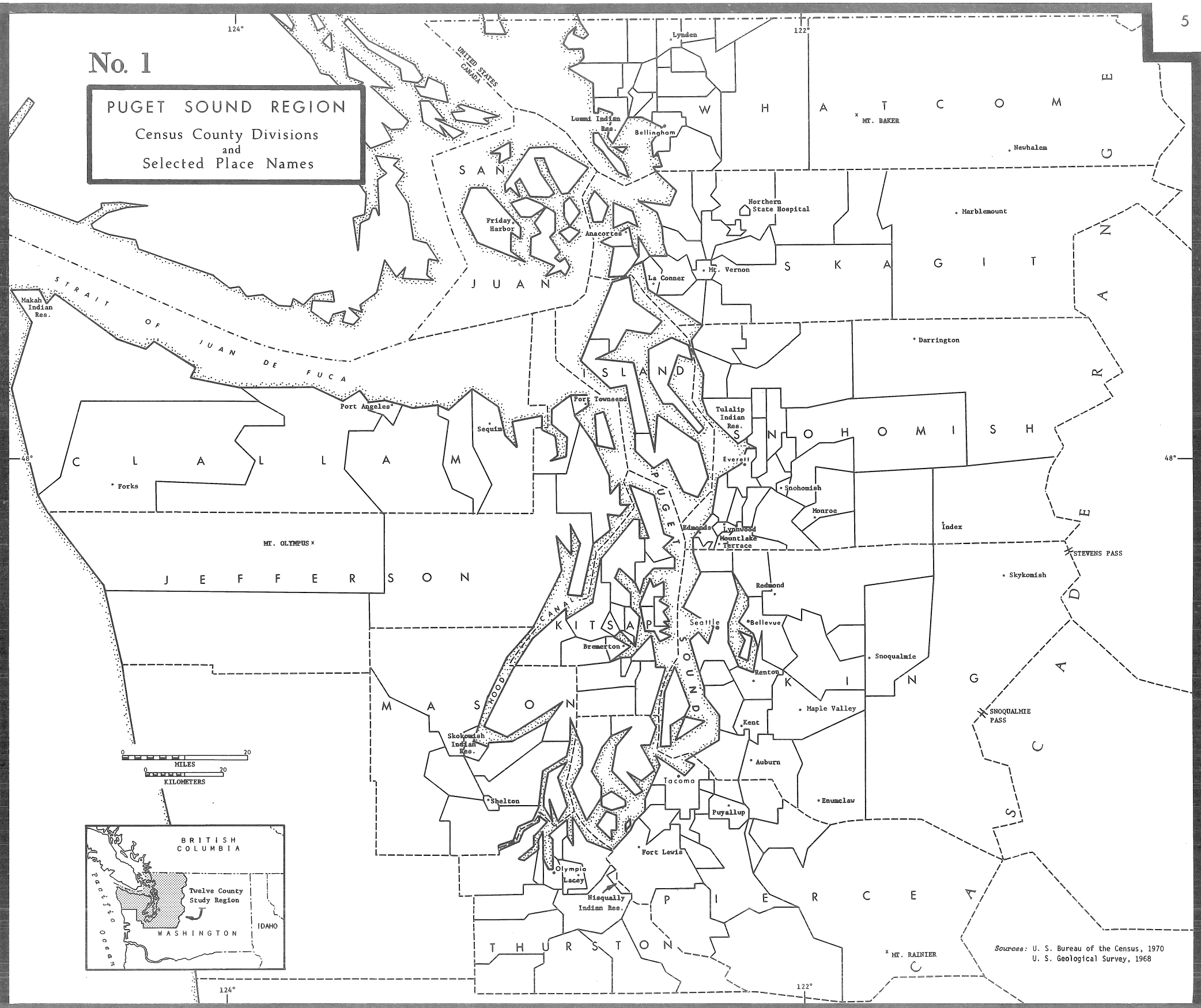
The authors of this portfolio wish to express their appreciation to the following individuals: to Dr. Herbert C. Taylor, Dean for Research and Grants, who made available funds for publishing this work; to Dr. James W. Scott, Director of the Center for Pacific Northwest Studies, for his support in publishing the project as one of the Center's Occasional Papers; to the staff of the W.W.S.C. Computer Center, especially Bent Faber and Don Hicks, for their technical contributions and patience; and to Peter Powers who digitized the initial geographic data base. Also, special thanks to Carole Hoerauf and Nancy Mairs for subsequent digitizing and typing.

REFERENCES

- Computer Center, Western Washington State College.
SYMVU at WWSC: user instructions and special features. Document No. APD 5. Bellingham, Washington, 1973.
- Laboratory for Computer Graphics and Spatial Analysis.
SYMAP V: users' reference manual. Cambridge, Massachusetts, Harvard University, 1971.
- _____. *SYMVU version I: users' reference and operator's manual*. Cambridge, Massachusetts, Harvard University, 1971.
- Peuker, T. K. *Computer cartography*. Research Paper No. 17. Washington, D.C., Commission on College Geography, Association of American Geographers, 1972.
- U.S. Bureau of the Census. *1970 census users' guide*. Washington, D.C., 1970.

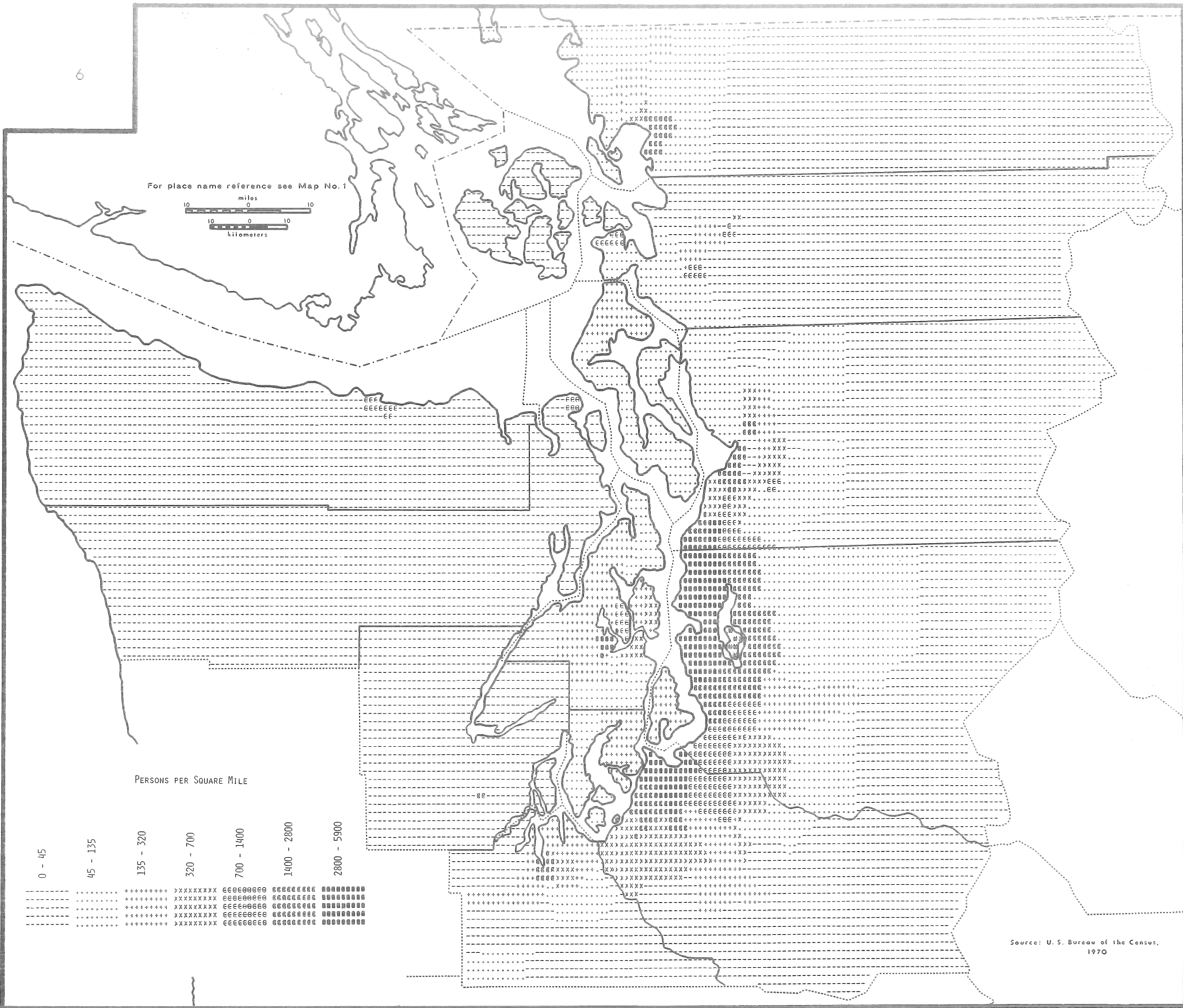
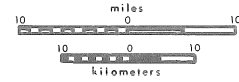
No. 1

PUGET SOUND REGION
 Census County Divisions
 and
 Selected Place Names

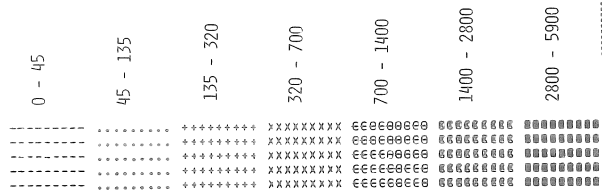


Sources: U. S. Bureau of the Census, 1970
 U. S. Geological Survey, 1968

For place name reference see Map No. 1

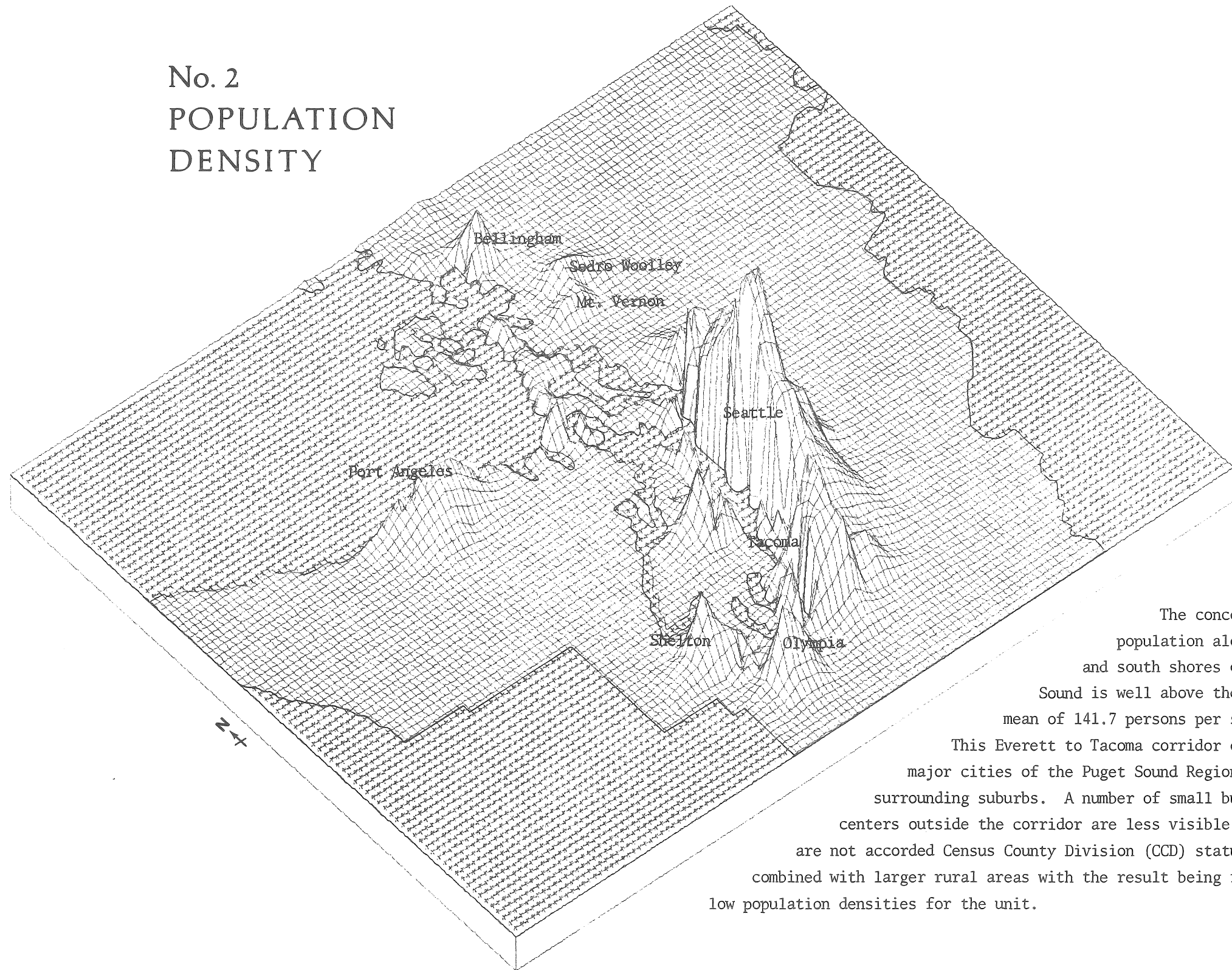


PERSONS PER SQUARE MILE



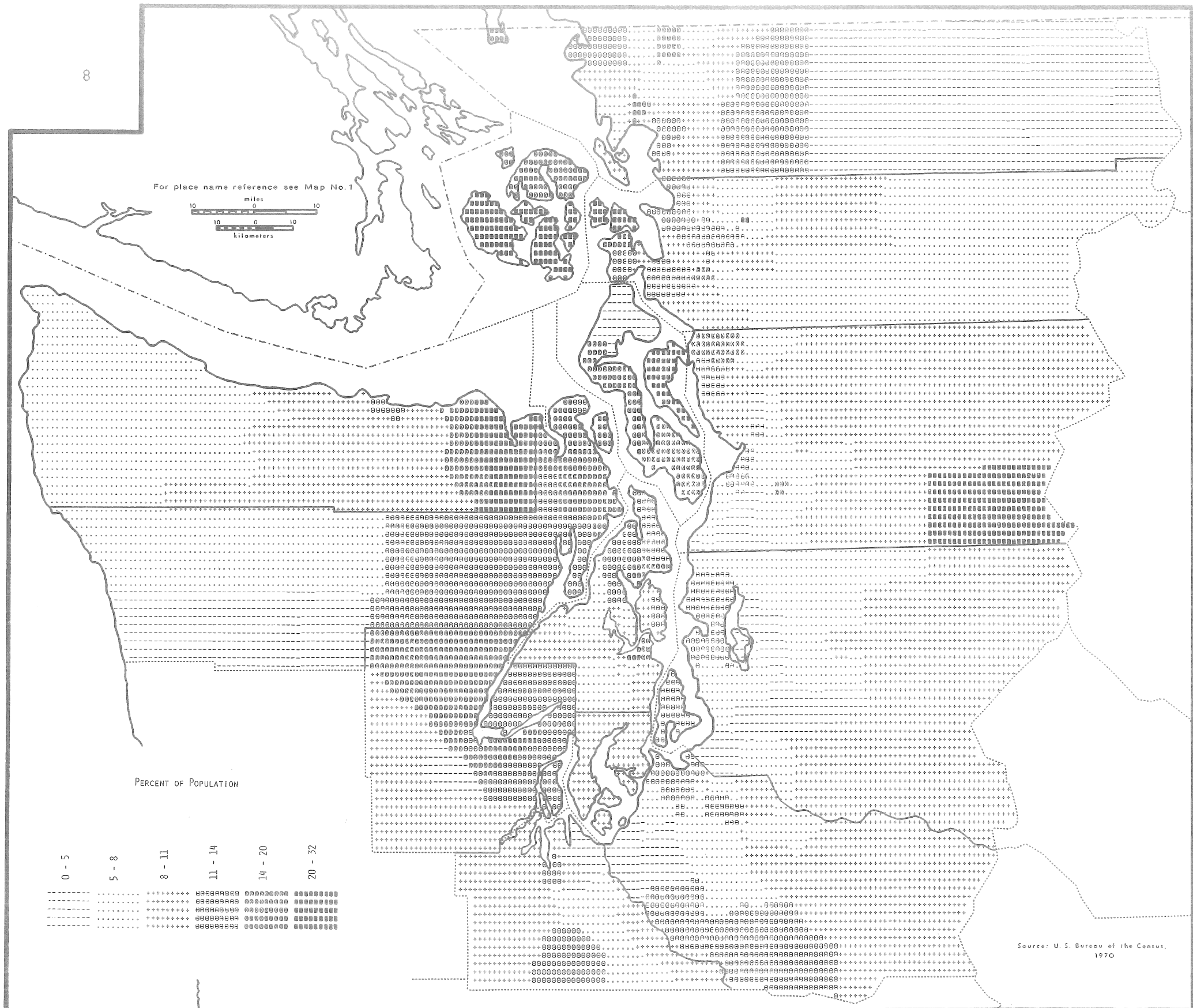
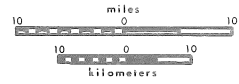
Source: U. S. Bureau of the Census, 1970

No. 2 POPULATION DENSITY



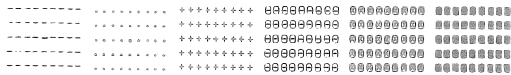
The concentration of population along the east and south shores of Puget Sound is well above the regional mean of 141.7 persons per square mile. This Everett to Tacoma corridor contains the major cities of the Puget Sound Region and their surrounding suburbs. A number of small but important centers outside the corridor are less visible because they are not accorded Census County Division (CCD) status; they are combined with larger rural areas with the result being relatively low population densities for the unit.

For place name reference see Map No. 1



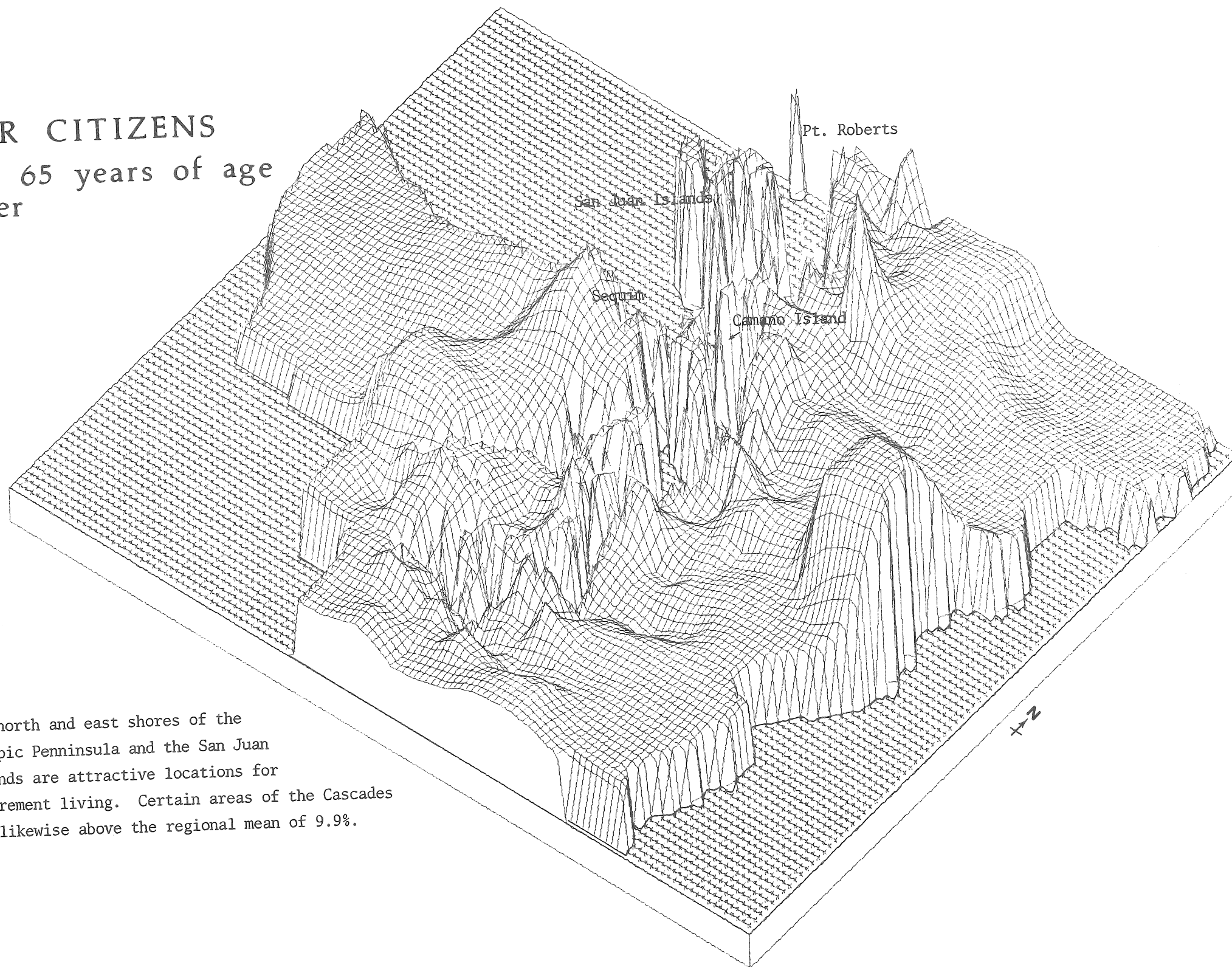
PERCENT OF POPULATION

0 - 5
5 - 8
8 - 11
11 - 14
14 - 20
20 - 32



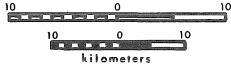
Source: U. S. Bureau of the Census, 1970

No. 3
SENIOR CITIZENS
persons 65 years of age
and over

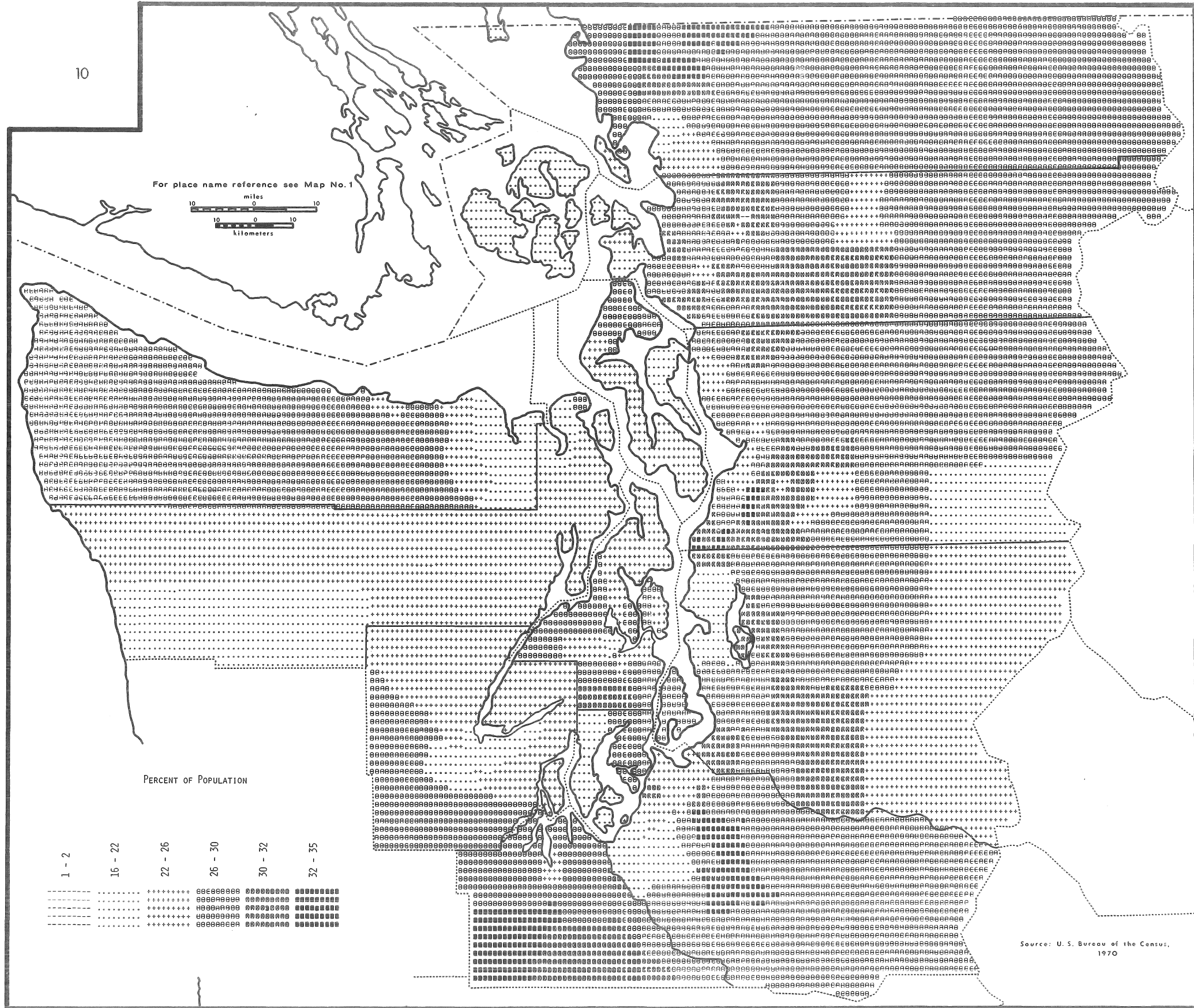


The north and east shores of the Olympic Peninsula and the San Juan Islands are attractive locations for retirement living. Certain areas of the Cascades are likewise above the regional mean of 9.9%.

For place name reference see Map No. 1

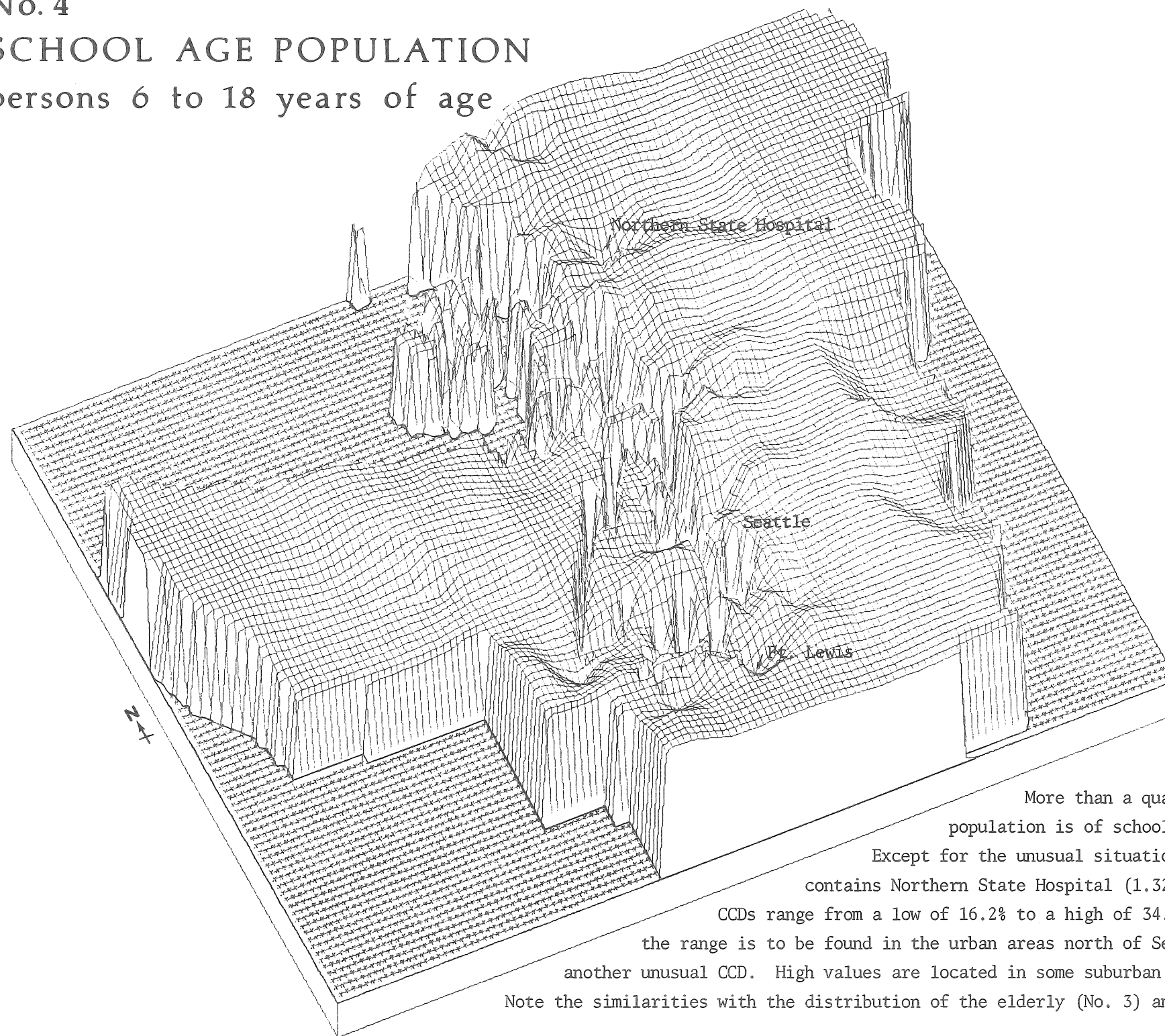


PERCENT OF POPULATION



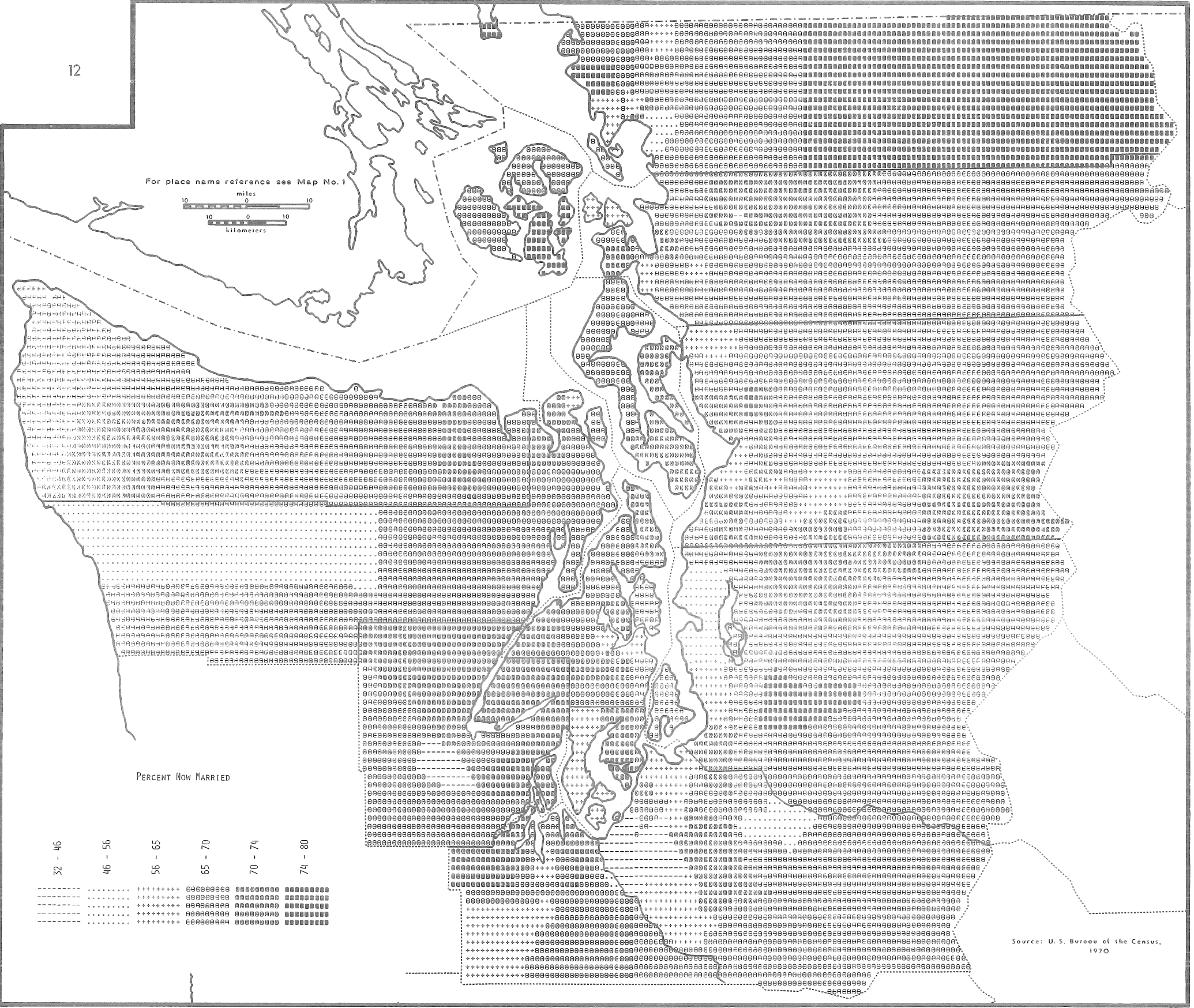
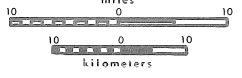
Source: U. S. Bureau of the Census, 1970

No. 4
 SCHOOL AGE POPULATION
 persons 6 to 18 years of age



More than a quarter of the regional population is of school age (mean = 26.9%). Except for the unusual situation of the CCD that contains Northern State Hospital (1.32% school age), the CCDs range from a low of 16.2% to a high of 34.9%. The low end of the range is to be found in the urban areas north of Seattle, and at Ft. Lewis, another unusual CCD. High values are located in some suburban and rural farm areas. Note the similarities with the distribution of the elderly (No. 3) and with mobile homes (No. 13)

For place name reference see Map No. 1

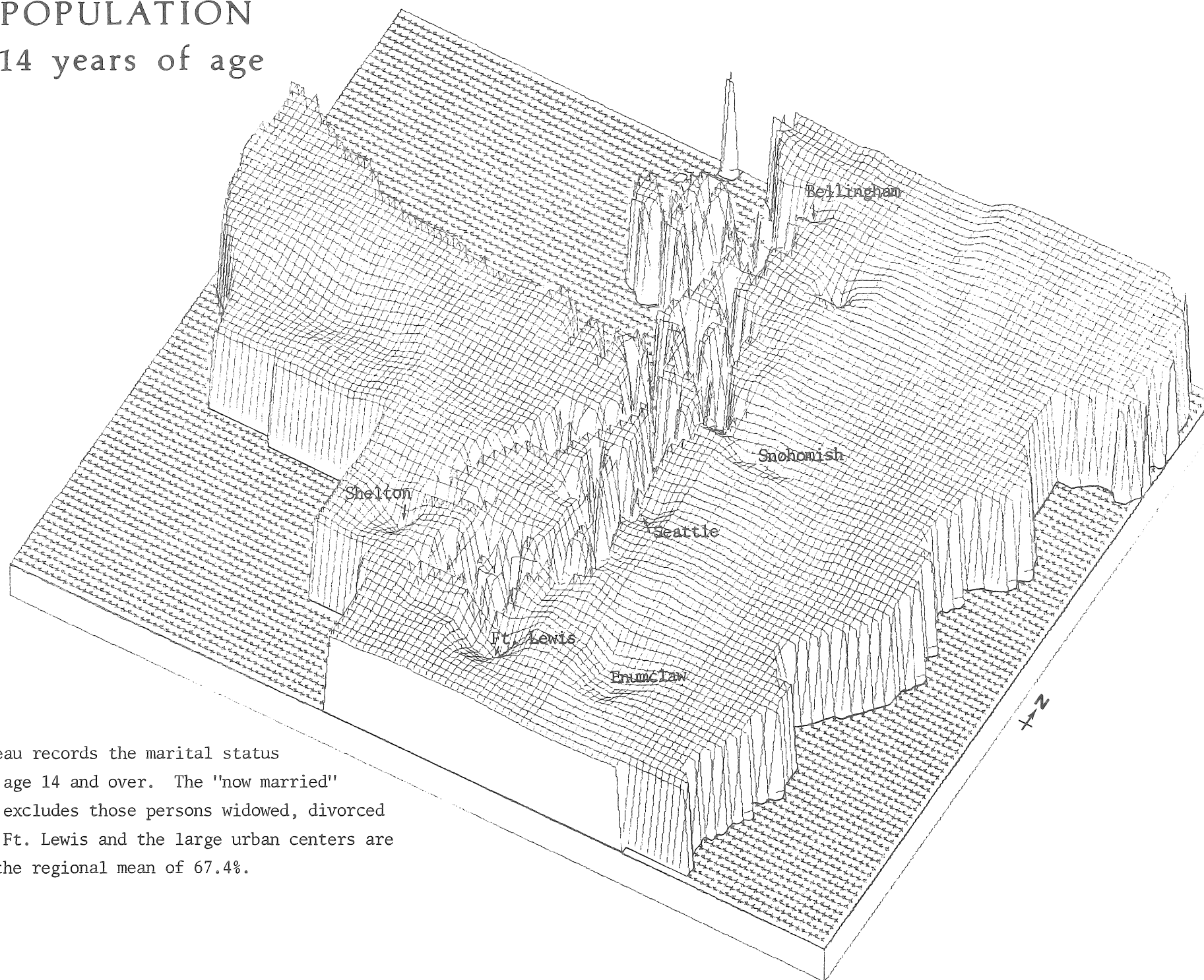


PERCENT NOW MARRIED

32 - 46	46 - 56	56 - 65	65 - 70	70 - 74	74 - 80
.....	-----	++++++	#####	#####	#####
.....	-----	++++++	#####	#####	#####
.....	-----	++++++	#####	#####	#####
.....	-----	++++++	#####	#####	#####

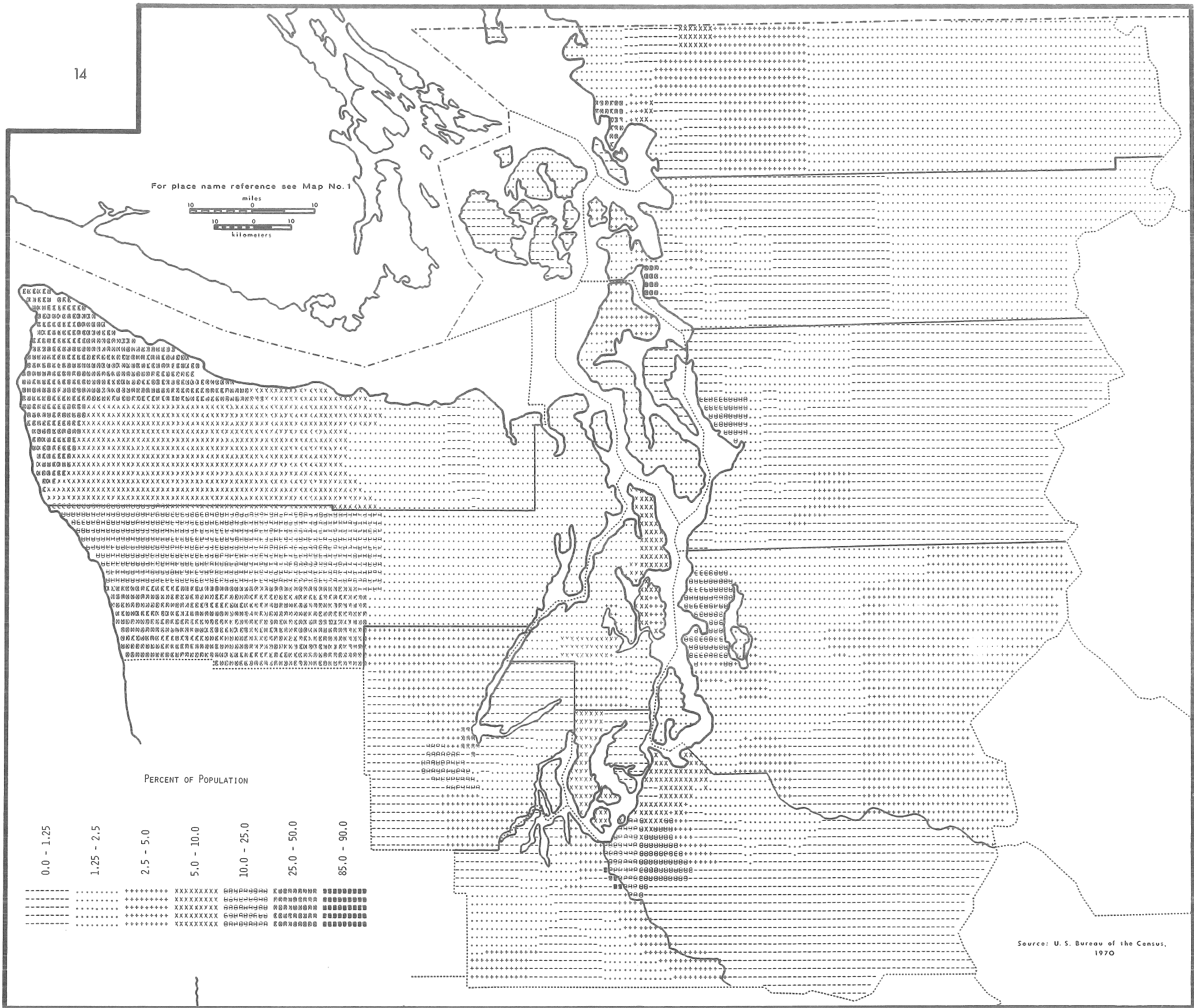
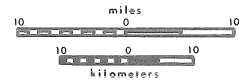
Source: U. S. Bureau of the Census, 1970

No. 5
MARRIED POPULATION
of persons 14 years of age
and over



The Census Bureau records the marital status of all persons age 14 and over. The "now married" classification excludes those persons widowed, divorced or separated. Ft. Lewis and the large urban centers are notably below the regional mean of 67.4%.

For place name reference see Map No. 1



PERCENT OF POPULATION

0.0 - 1.25

1.25 - 2.5

2.5 - 5.0

5.0 - 10.0

10.0 - 25.0

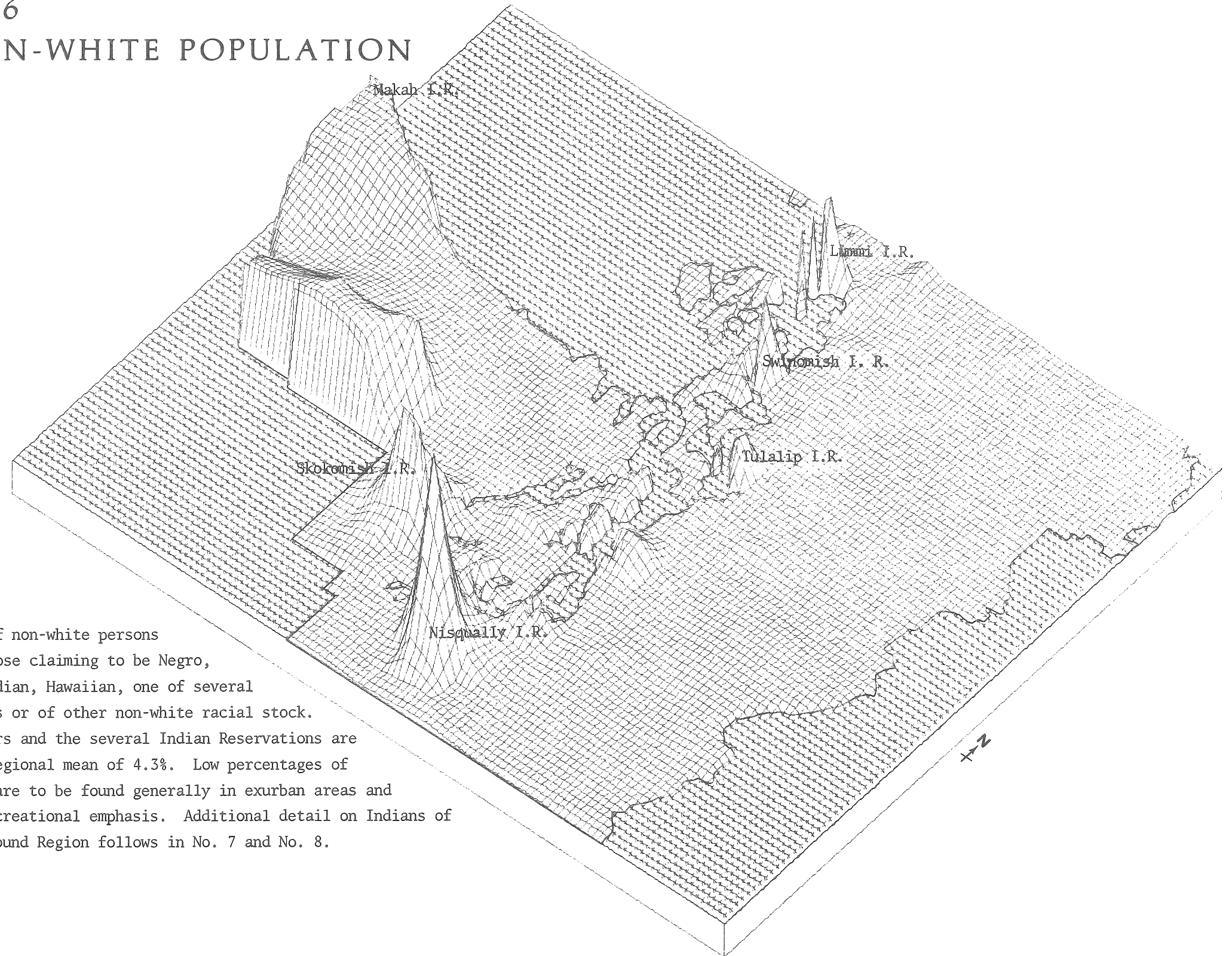
25.0 - 50.0

50.0 - 90.0



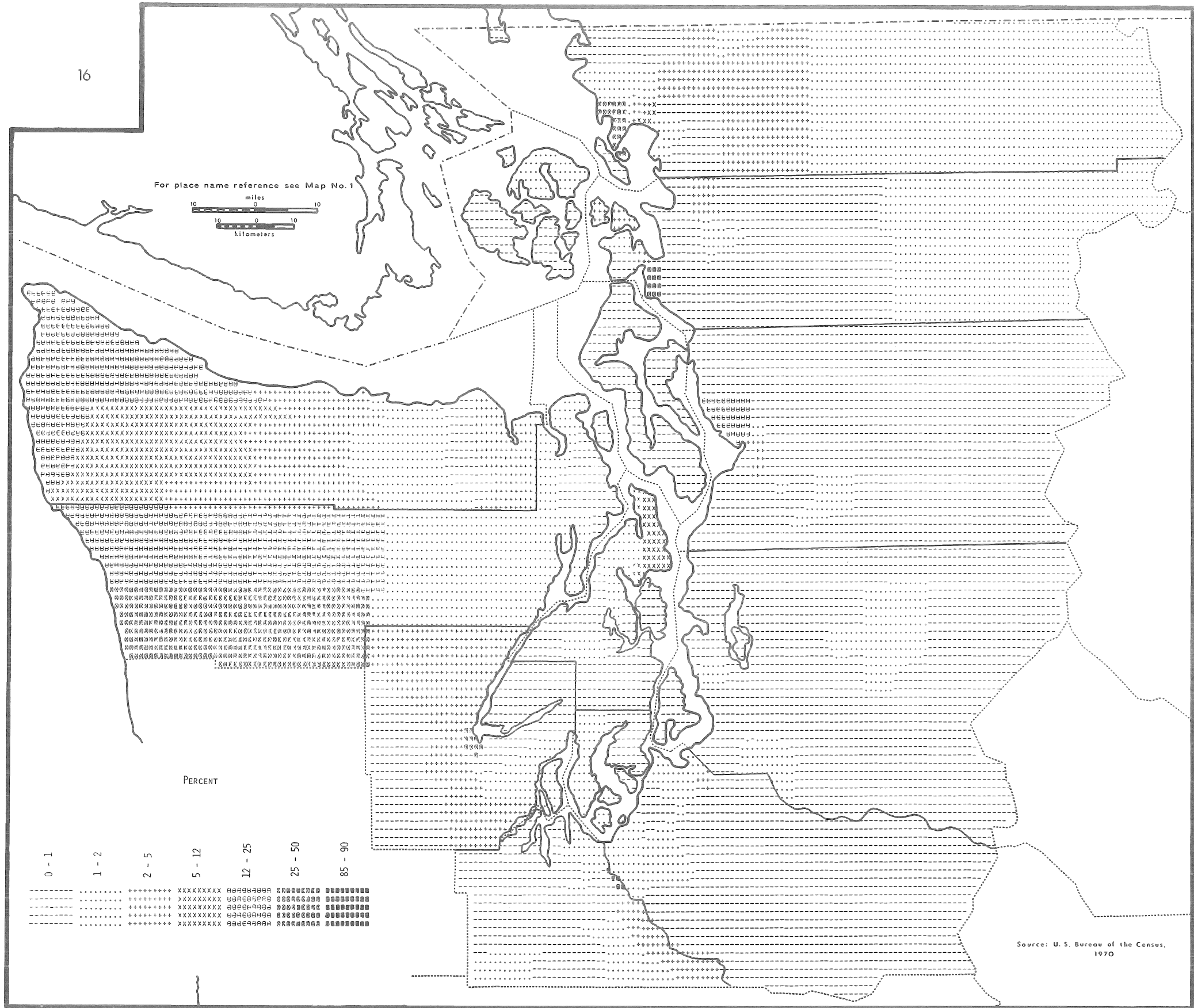
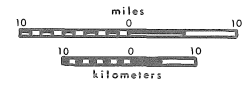
Source: U. S. Bureau of the Census, 1970

No. 6 NON-WHITE POPULATION



The count of non-white persons includes those claiming to be Negro, American Indian, Hawaiian, one of several Asian groups or of other non-white racial stock. Urban centers and the several Indian Reservations are above the regional mean of 4.3%. Low percentages of non-whites are to be found generally in exurban areas and areas of recreational emphasis. Additional detail on Indians of the Puget Sound Region follows in No. 7 and No. 8.

For place name reference see Map No. 1

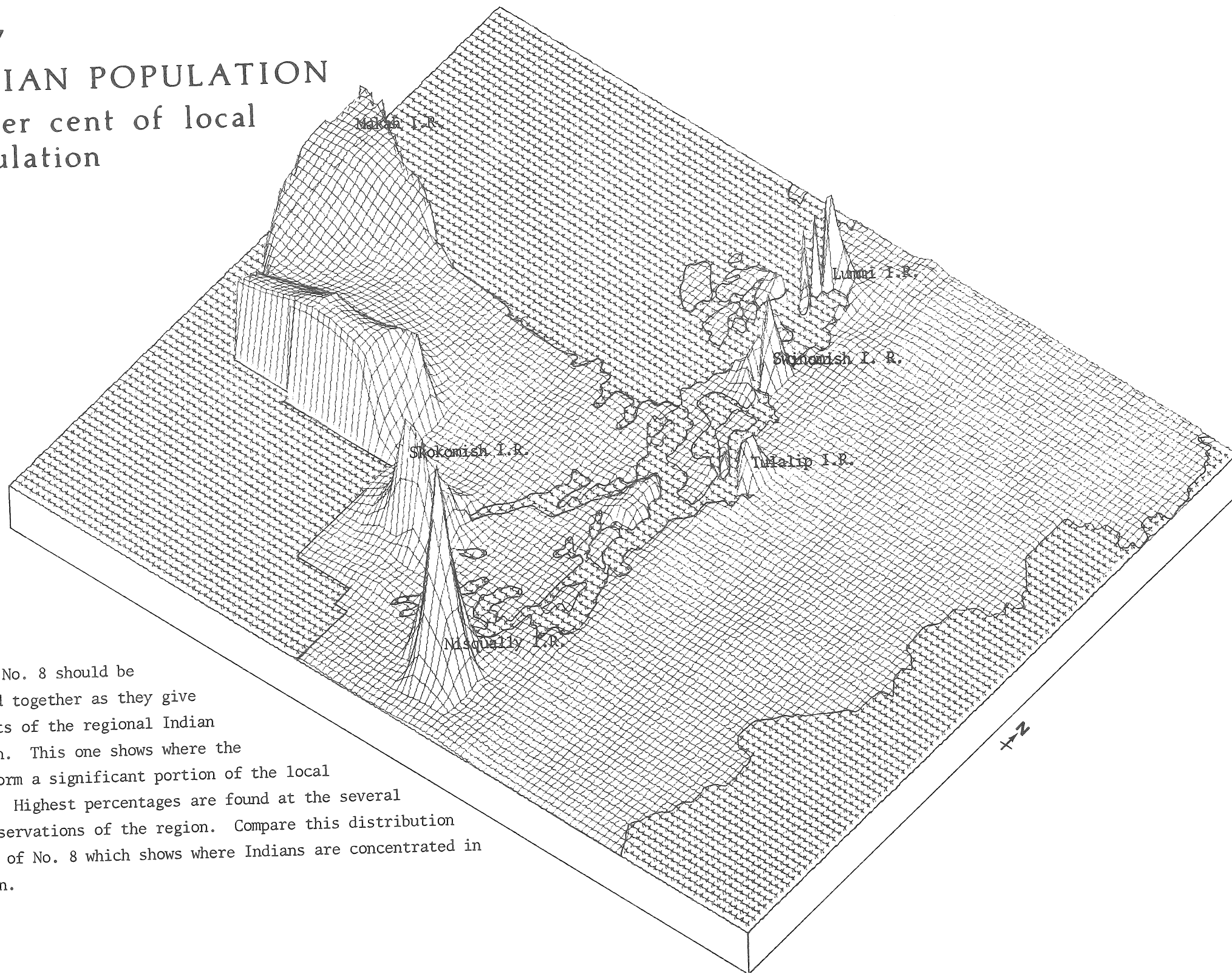


PERCENT

0 - 1	1 - 2	2 - 5	5 - 12	12 - 25	25 - 50	85 - 90
-----	+++++	XXXXXXXX	BBBBBBBB	OOOOOO	OOOOOO
-----	+++++	XXXXXXXX	BBBBBBBB	OOOOOO	OOOOOO
-----	+++++	XXXXXXXX	BBBBBBBB	OOOOOO	OOOOOO
-----	+++++	XXXXXXXX	BBBBBBBB	OOOOOO	OOOOOO

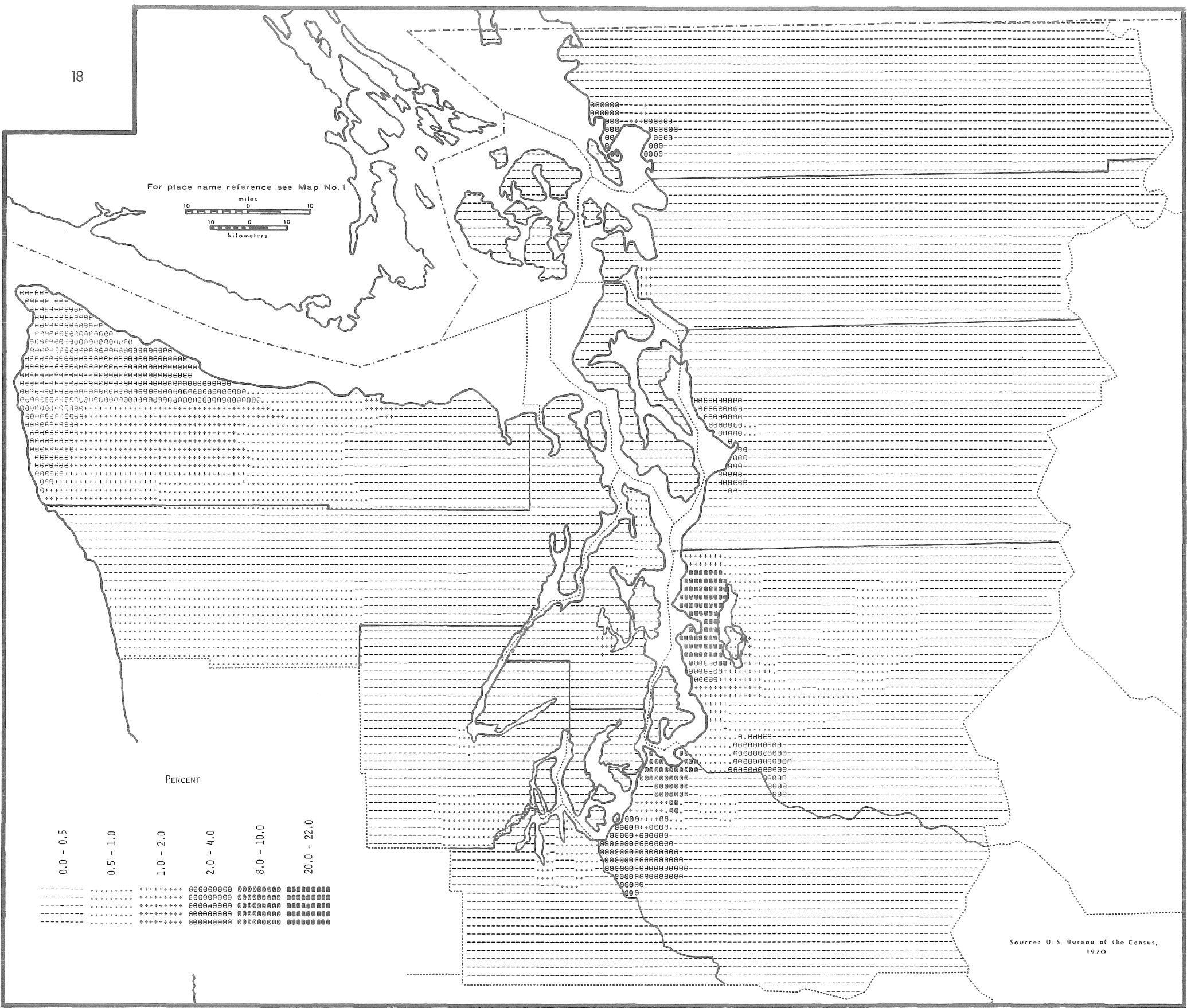
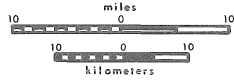
Source: U. S. Bureau of the Census, 1970

No. 7
 INDIAN POPULATION
 as per cent of local
 population



No. 7 and No. 8 should be considered together as they give two aspects of the regional Indian population. This one shows where the Indians form a significant portion of the local populace. Highest percentages are found at the several Indian reservations of the region. Compare this distribution with that of No. 8 which shows where Indians are concentrated in the region.

For place name reference see Map No. 1



PERCENT

0.0 - 0.5

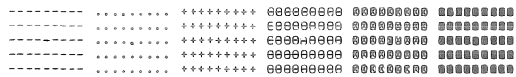
0.5 - 1.0

1.0 - 2.0

2.0 - 4.0

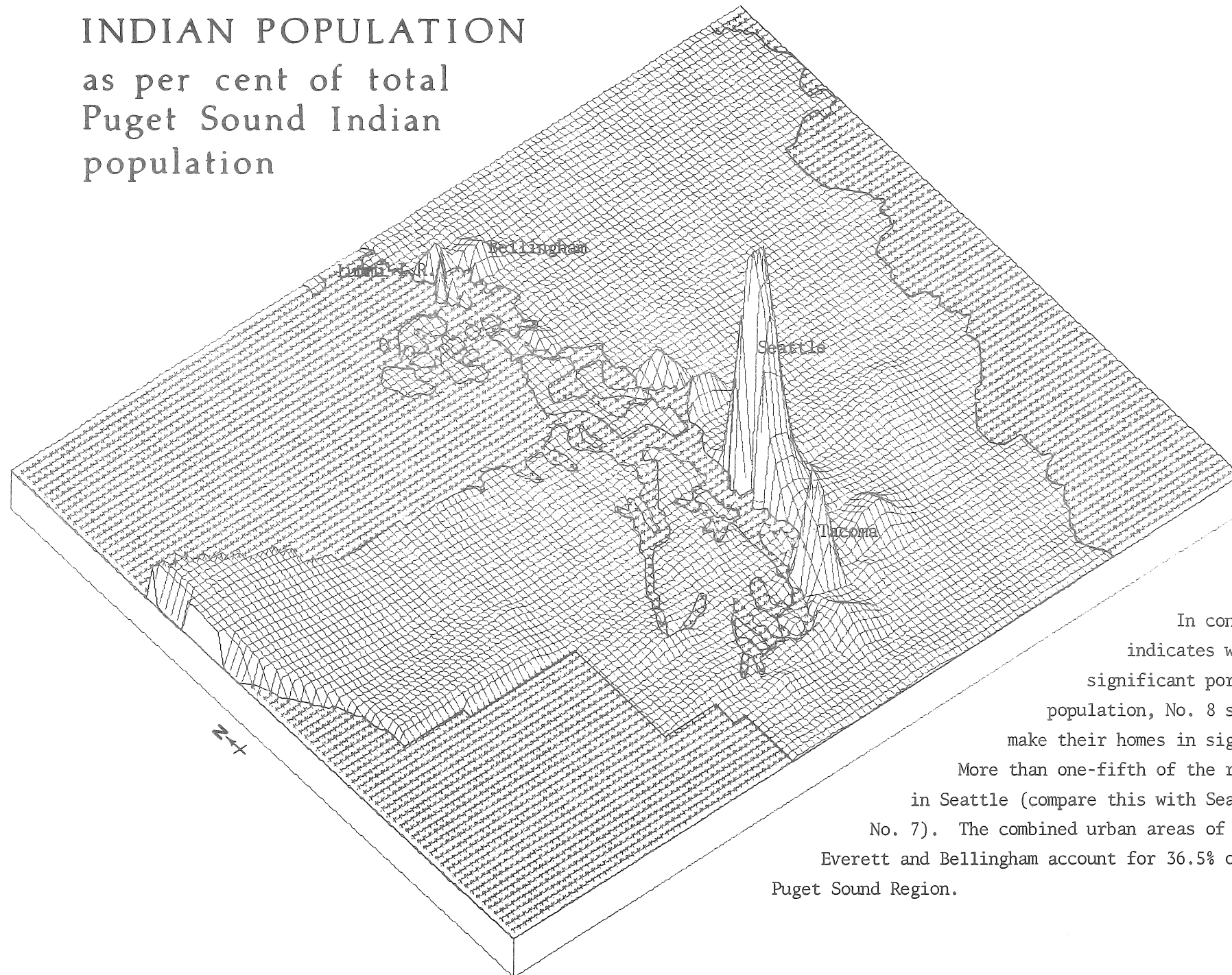
8.0 - 10.0

20.0 - 22.0



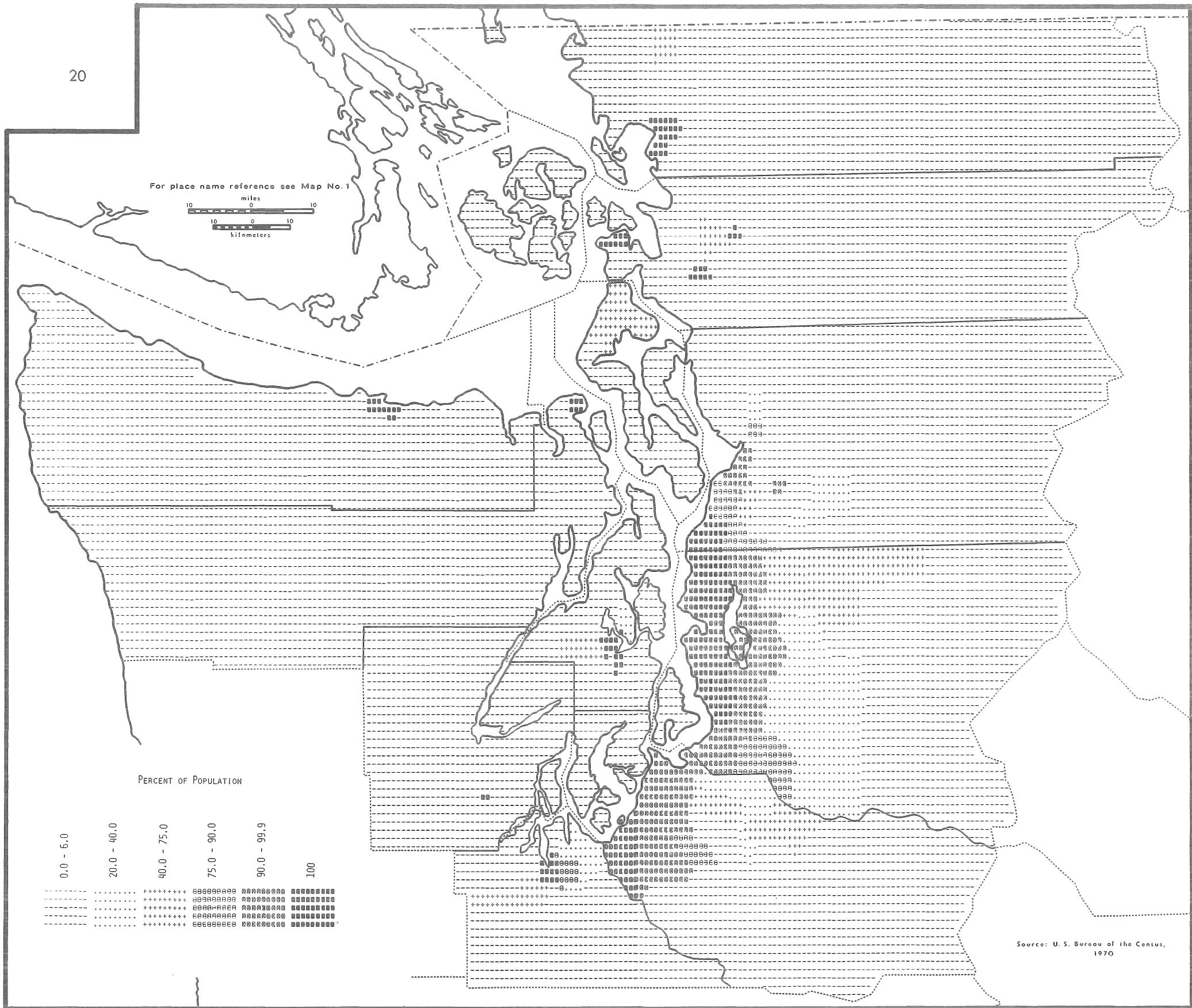
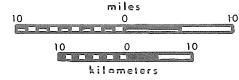
Source: U. S. Bureau of the Census, 1970

No. 8
 INDIAN POPULATION
 as per cent of total
 Puget Sound Indian
 population

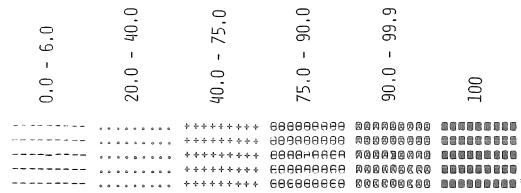


In contrast to No. 7 which indicates where Indians form a significant portion of the local population, No. 8 shows where Indians make their homes in significant numbers. More than one-fifth of the region's Indians live in Seattle (compare this with Seattle in distribution No. 7). The combined urban areas of Seattle, Tacoma, Everett and Bellingham account for 36.5% of the Indians of the Puget Sound Region.

For place name reference see Map No. 1

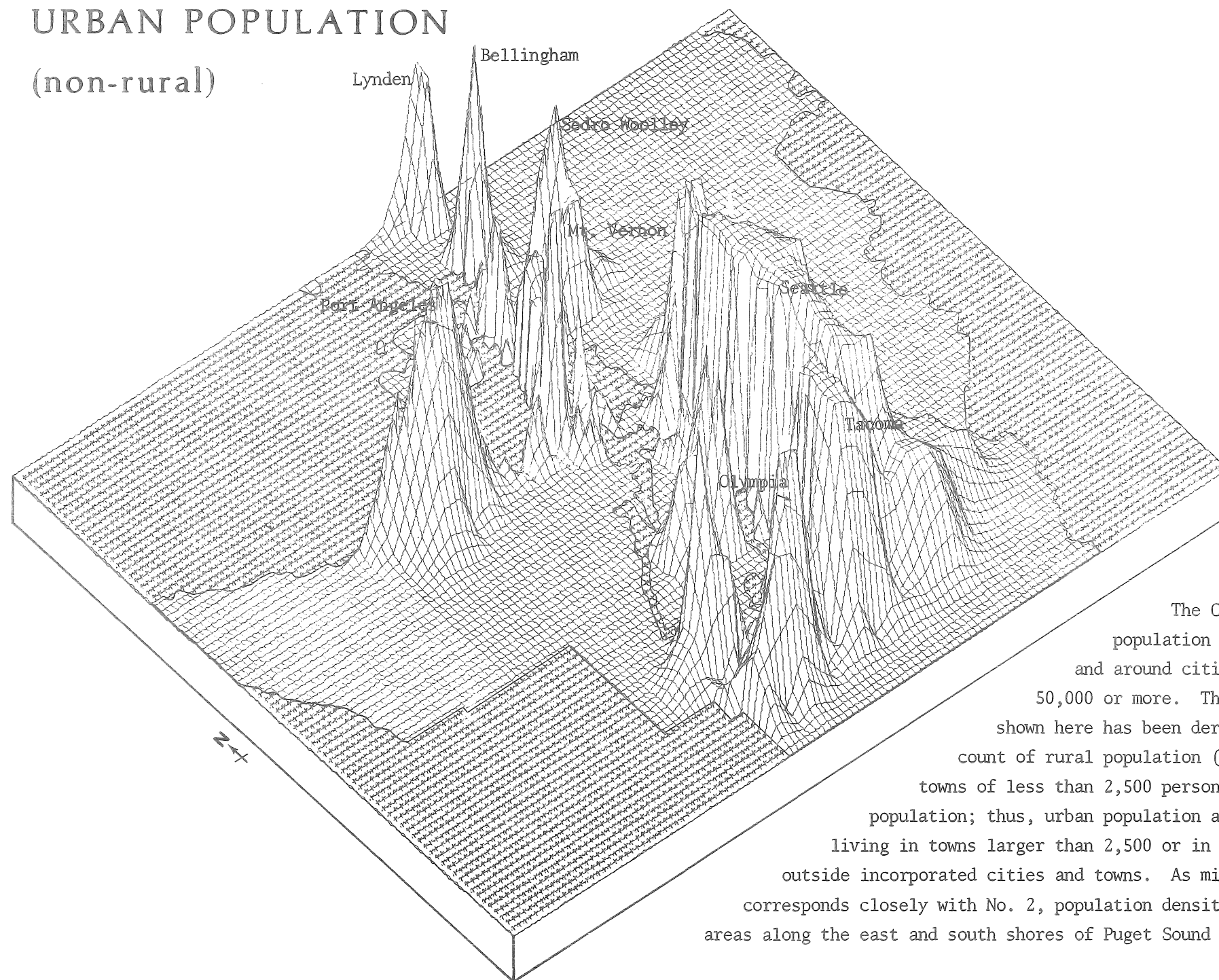


PERCENT OF POPULATION



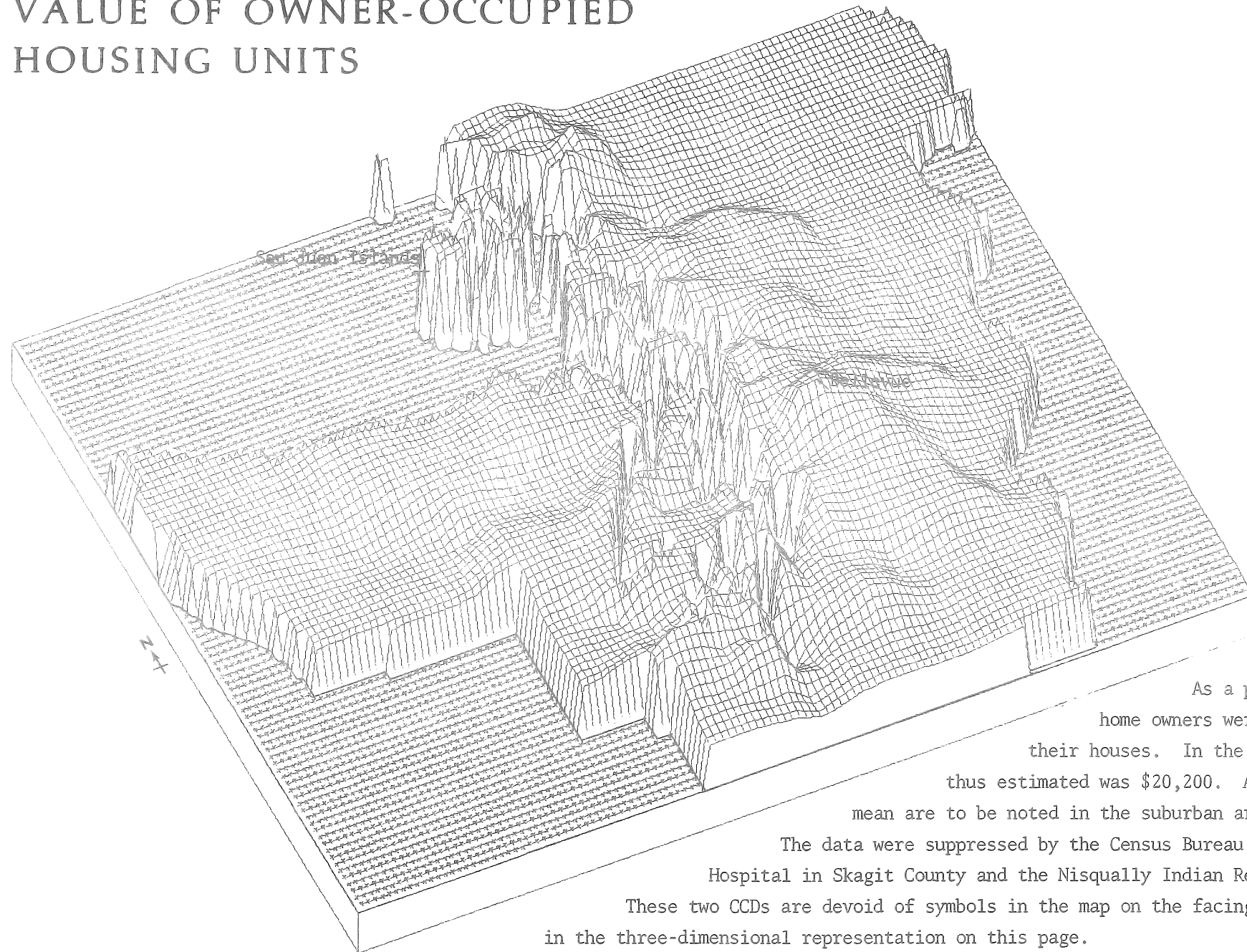
Source: U. S. Bureau of the Census, 1970

No. 9
 URBAN POPULATION
 (non-rural)



The Census Bureau gives urban population tallies only for CCDs in and around cities with a population of 50,000 or more. The urban distribution shown here has been derived by subtracting the count of rural population (dispersed settlement and towns of less than 2,500 persons) from the total CCD population; thus, urban population as used here means persons living in towns larger than 2,500 or in suburban developments outside incorporated cities and towns. As might be expected this corresponds closely with No. 2, population density; the heavily populated areas along the east and south shores of Puget Sound stand out.

No. 10
 VALUE OF OWNER-OCCUPIED
 HOUSING UNITS

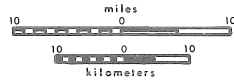


As a part of the census questionnaire, home owners were asked to estimate the value of their houses. In the Puget Sound Region the mean value thus estimated was \$20,200. Areas with values well above this mean are to be noted in the suburban areas around the major cities.

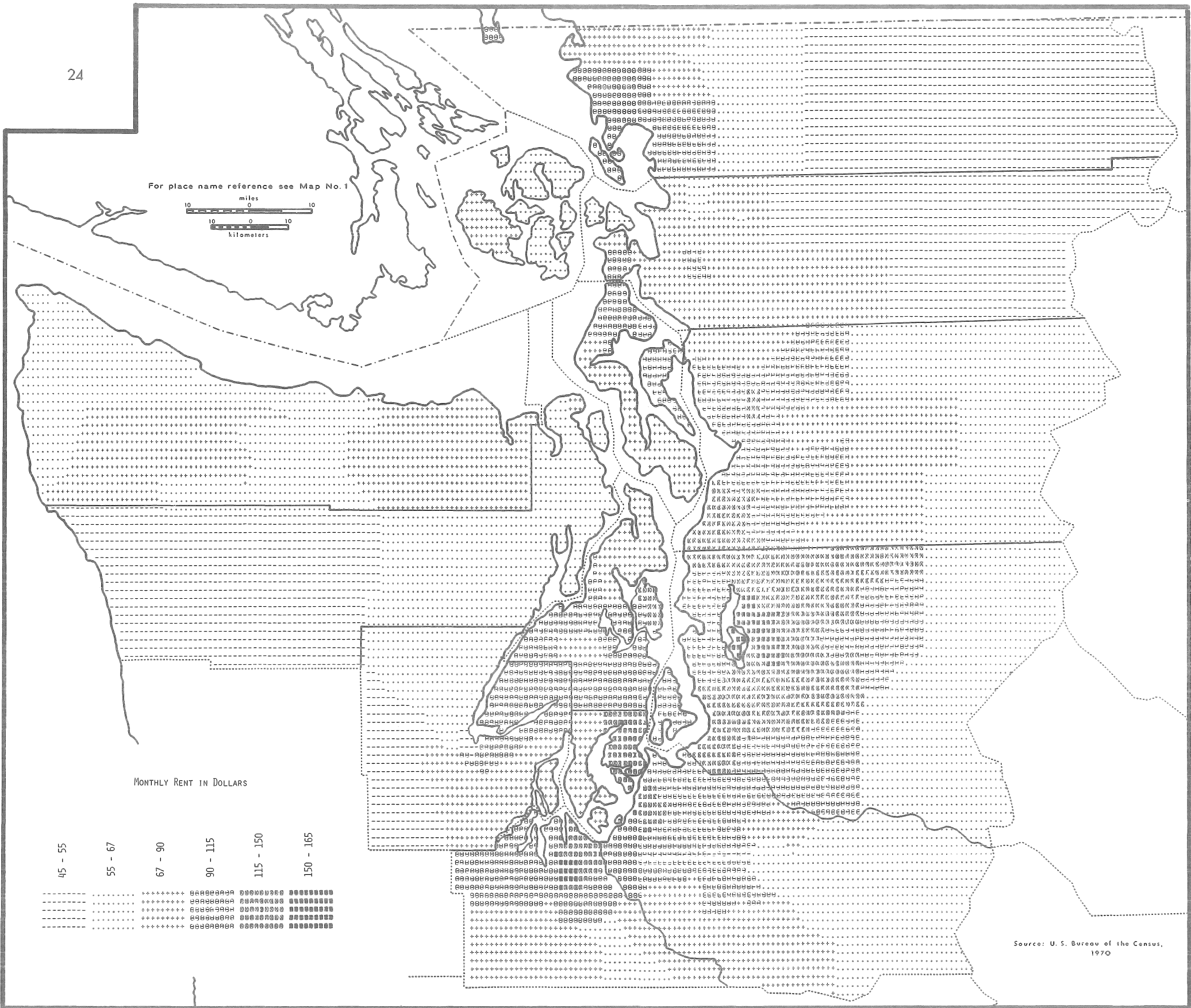
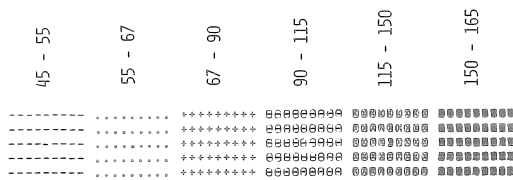
The data were suppressed by the Census Bureau for two CCDs: Northern State Hospital in Skagit County and the Nisqually Indian Reservation in Thurston County.

These two CCDs are devoid of symbols in the map on the facing page and depicted as depressions in the three-dimensional representation on this page.

For place name reference see Map No. 1

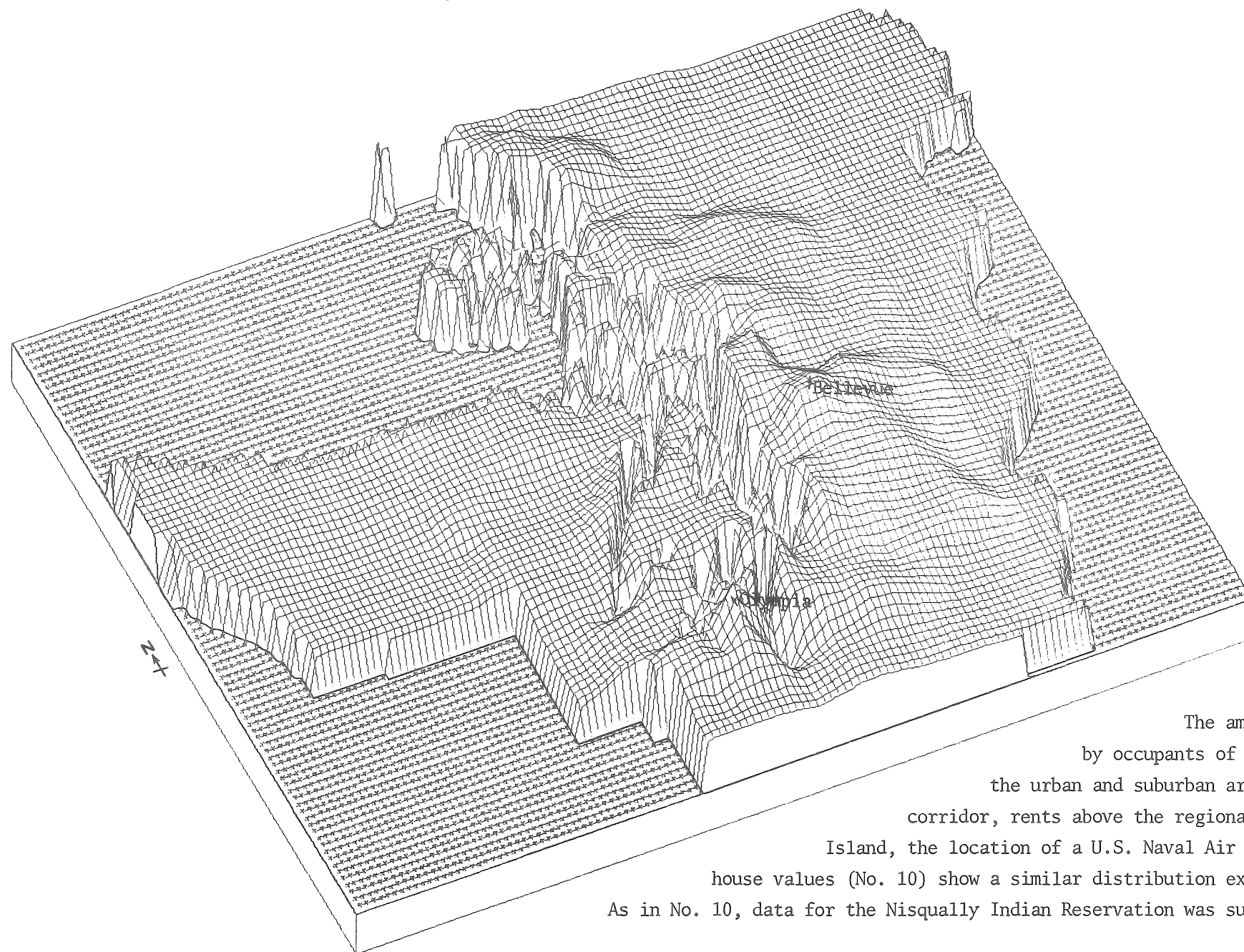


MONTHLY RENT IN DOLLARS



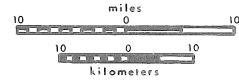
Source: U. S. Bureau of the Census, 1970

No. 11 AVERAGE RENTS



The amount of rent paid was reported by occupants of rental units. In addition to the urban and suburban areas in the Everett to Tacoma corridor, rents above the regional mean of \$91 exist on Whidbey Island, the location of a U.S. Naval Air Station. Note that rents and house values (No. 10) show a similar distribution except for the San Juan Islands. As in No. 10, data for the Nisqually Indian Reservation was suppressed by the Census Bureau.

For place name reference see Map No. 1



PERCENT OF RENTAL UNITS

0 - 6

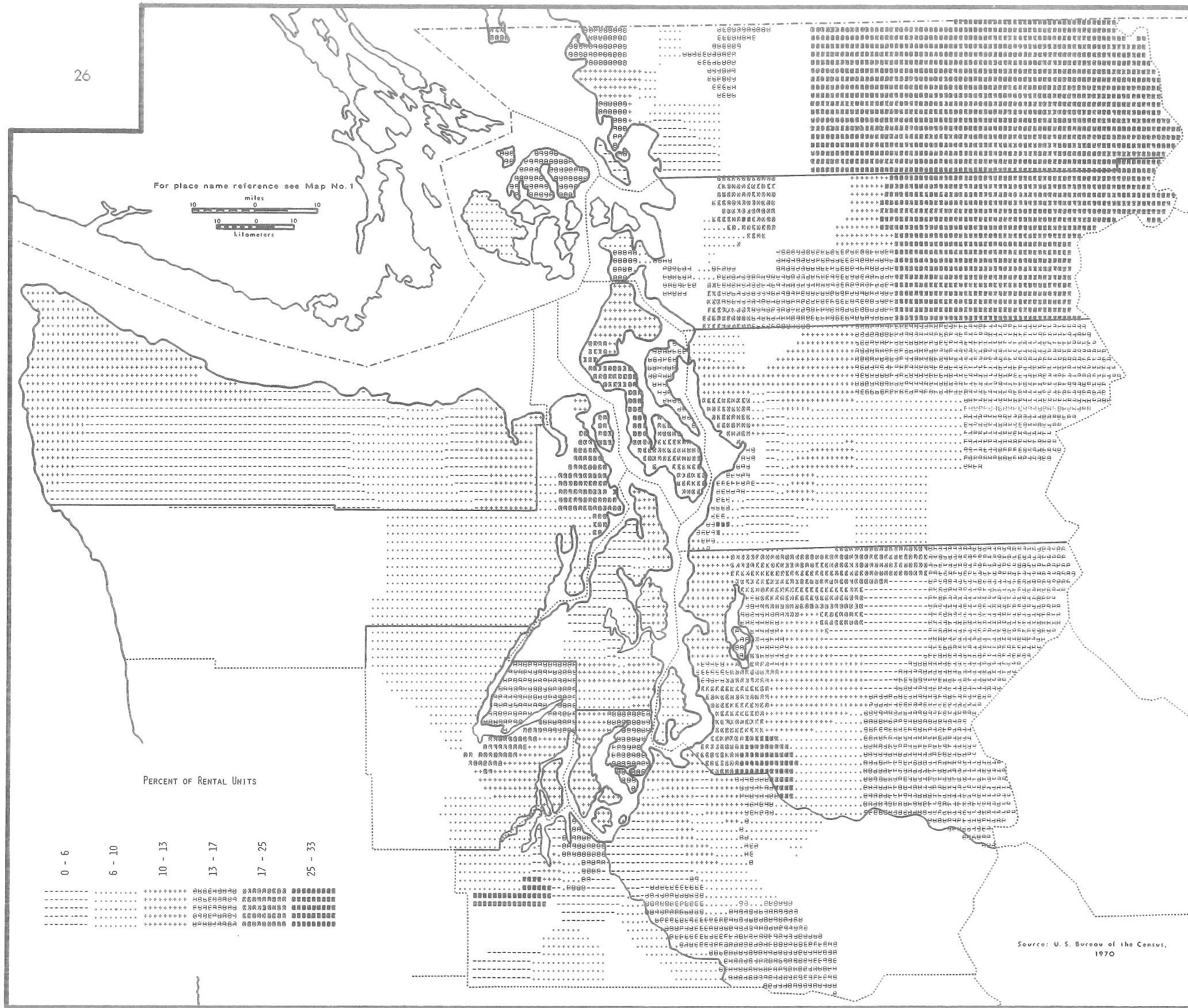
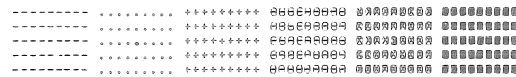
6 - 10

10 - 13

13 - 17

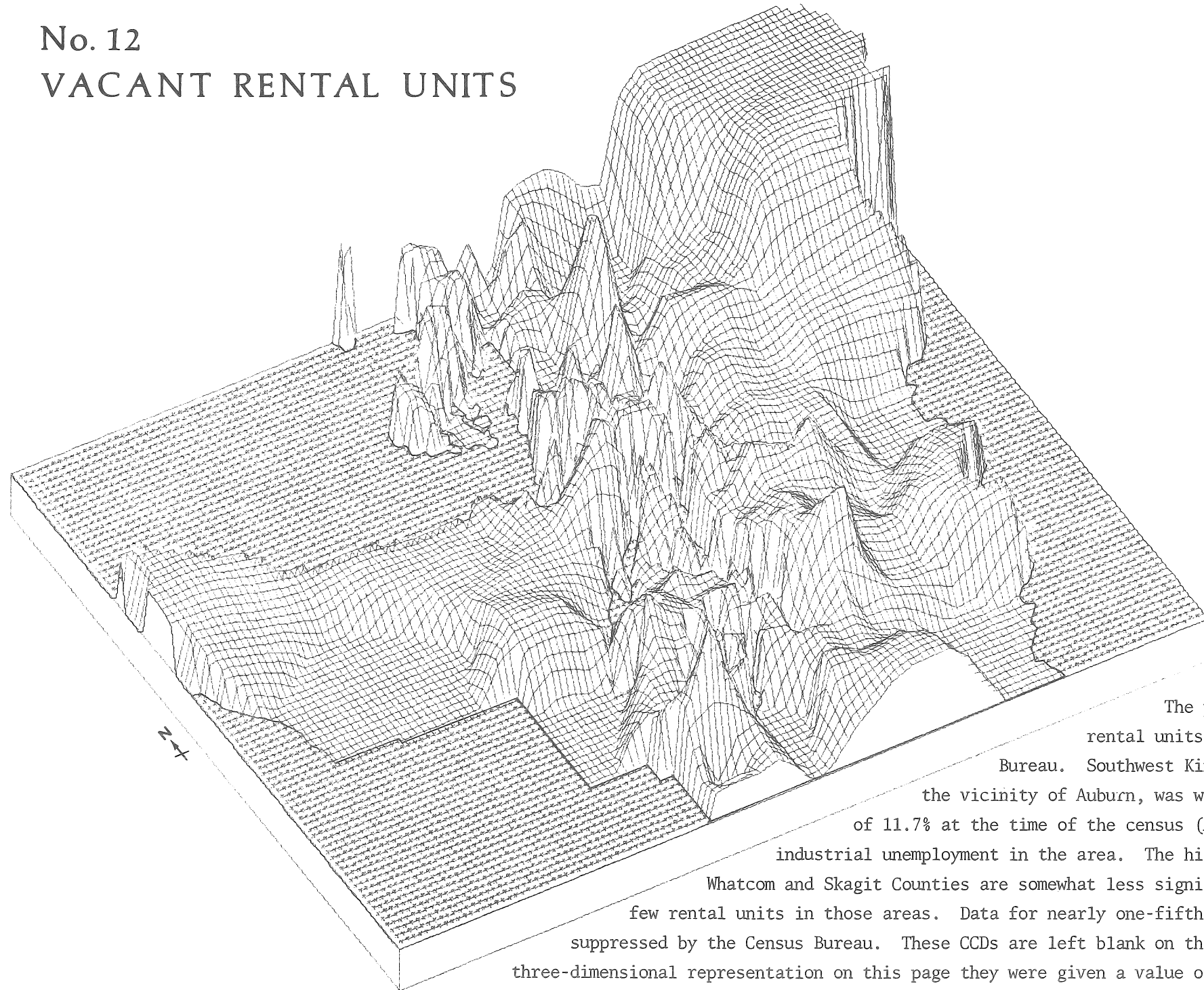
17 - 25

25 - 33



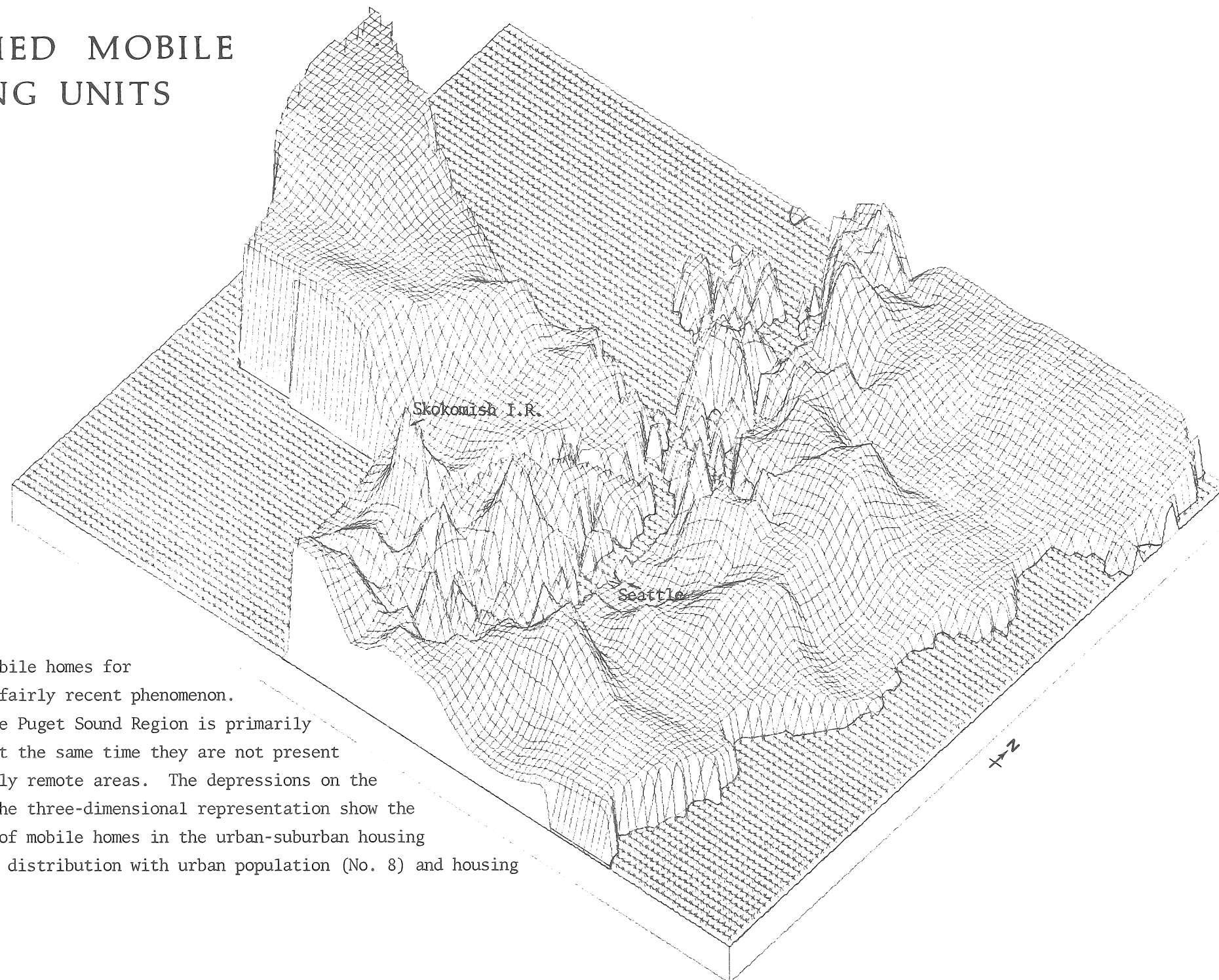
Source: U. S. Bureau of the Census, 1970

No. 12
VACANT RENTAL UNITS



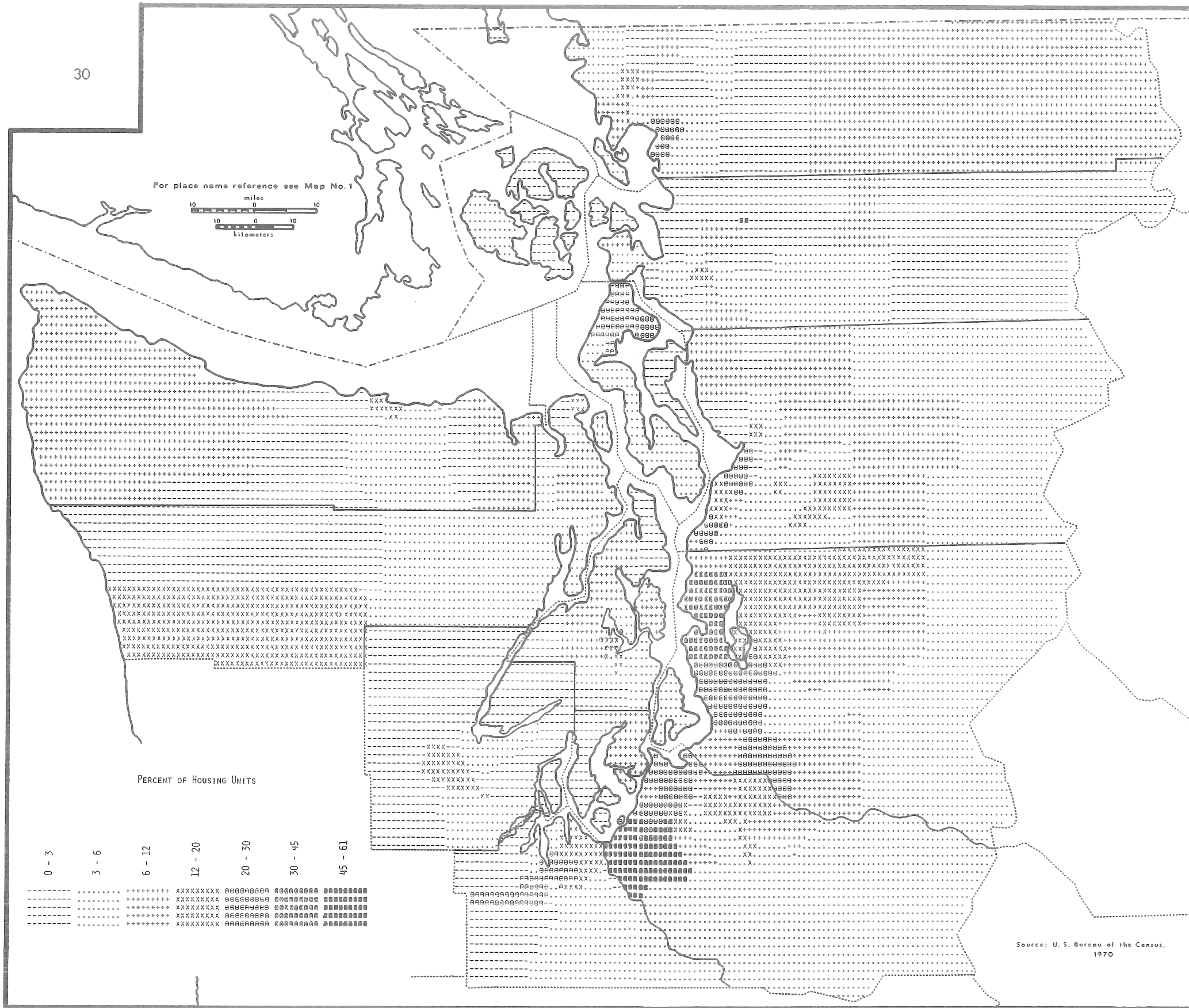
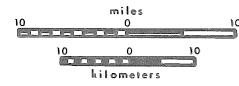
The presence of vacant year-round rental units was recorded by the Census Bureau. Southwest King County, particularly in the vicinity of Auburn, was well above the regional mean of 11.7% at the time of the census (April, 1970), a period of high industrial unemployment in the area. The high values found in eastern Whatcom and Skagit Counties are somewhat less significant as there are relatively few rental units in those areas. Data for nearly one-fifth (19.4%) of the CCDs were suppressed by the Census Bureau. These CCDs are left blank on the map to the left; in the three-dimensional representation on this page they were given a value of zero, thus contributing to the uneven appearance of the statistical surface.

No.13 OCCUPIED MOBILE HOUSING UNITS



The design and use of mobile homes for year-round housing is a fairly recent phenomenon. Their distribution in the Puget Sound Region is primarily exurban in character. At the same time they are not present in large numbers in really remote areas. The depressions on the statistical surface of the three-dimensional representation show the relative insignificance of mobile homes in the urban-suburban housing situation. Compare this distribution with urban population (No. 8) and housing density (No. 19).

For place name reference see Map No. 1



PERCENT OF HOUSING UNITS

0 - 3

3 - 6

6 - 12

12 - 20

20 - 30

30 - 45

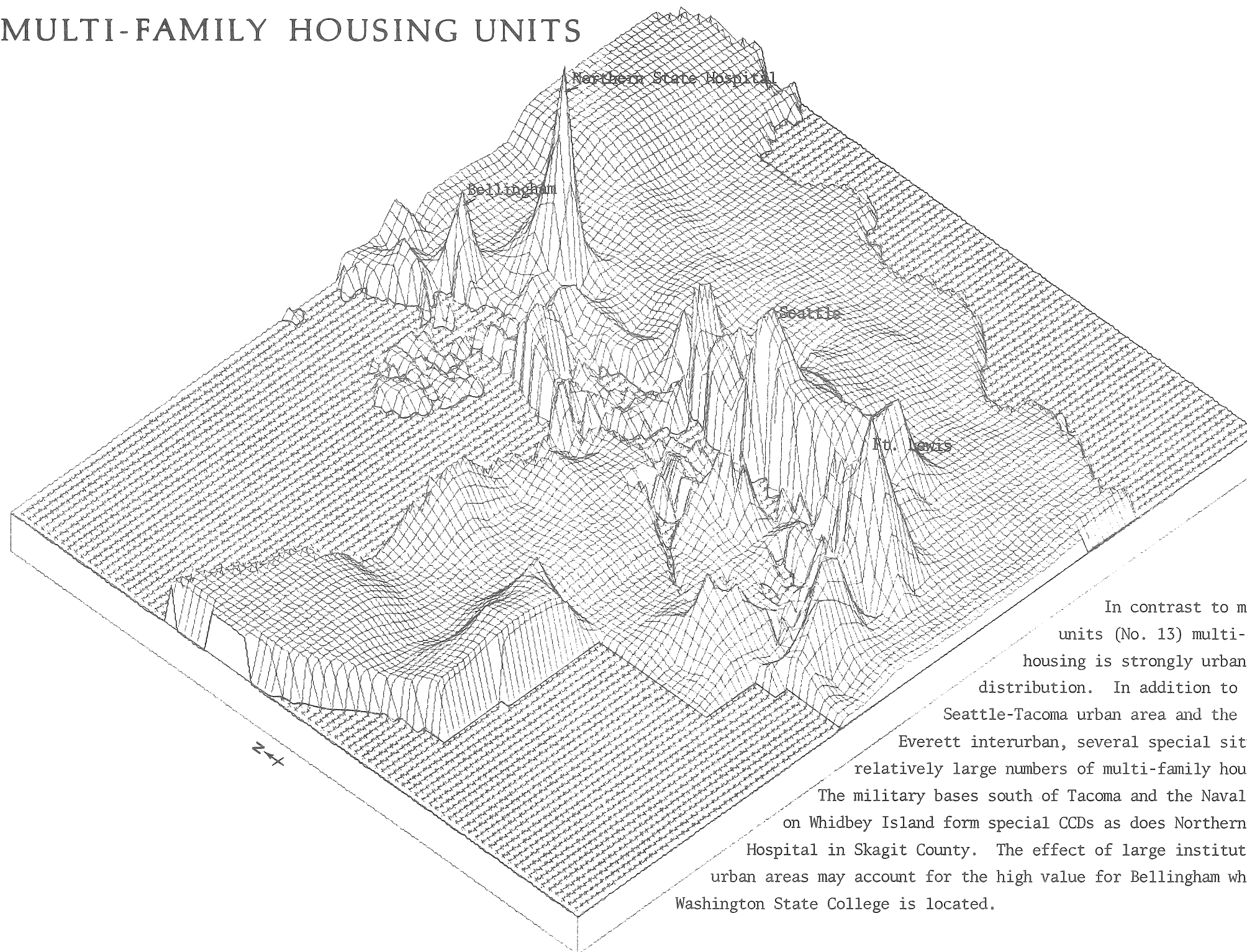
45 - 61



Source: U. S. Bureau of the Census, 1970

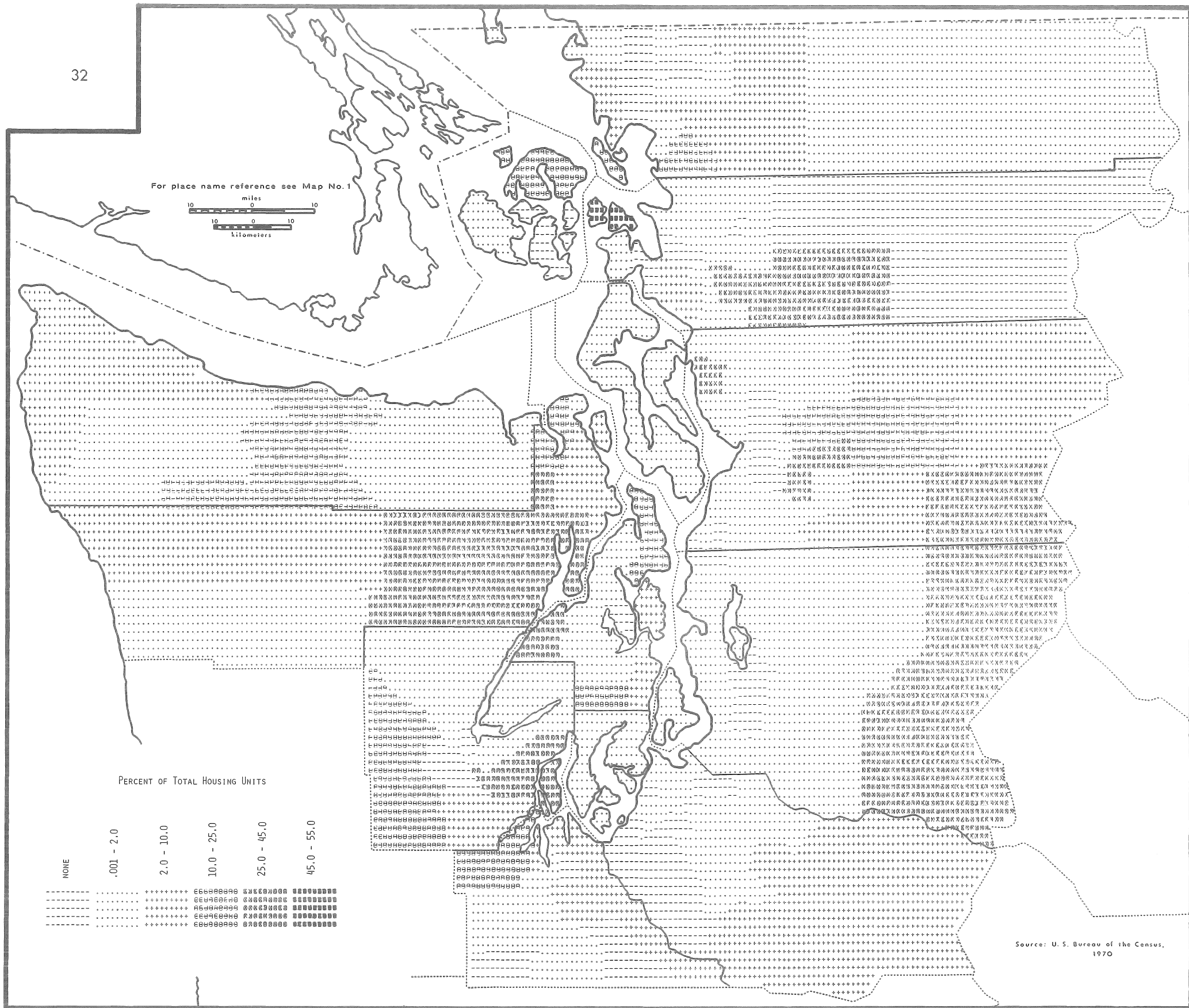
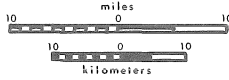
No. 14

MULTI-FAMILY HOUSING UNITS

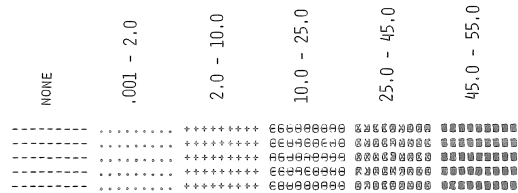


In contrast to mobile housing units (No. 13) multi-family housing is strongly urban in its distribution. In addition to the large Seattle-Tacoma urban area and the Seattle- Everett interurban, several special situations have relatively large numbers of multi-family housing units. The military bases south of Tacoma and the Naval Air Station on Whidbey Island form special CCDs as does Northern State Hospital in Skagit County. The effect of large institutions on small urban areas may account for the high value for Bellingham where Western Washington State College is located.

For place name reference see Map No. 1

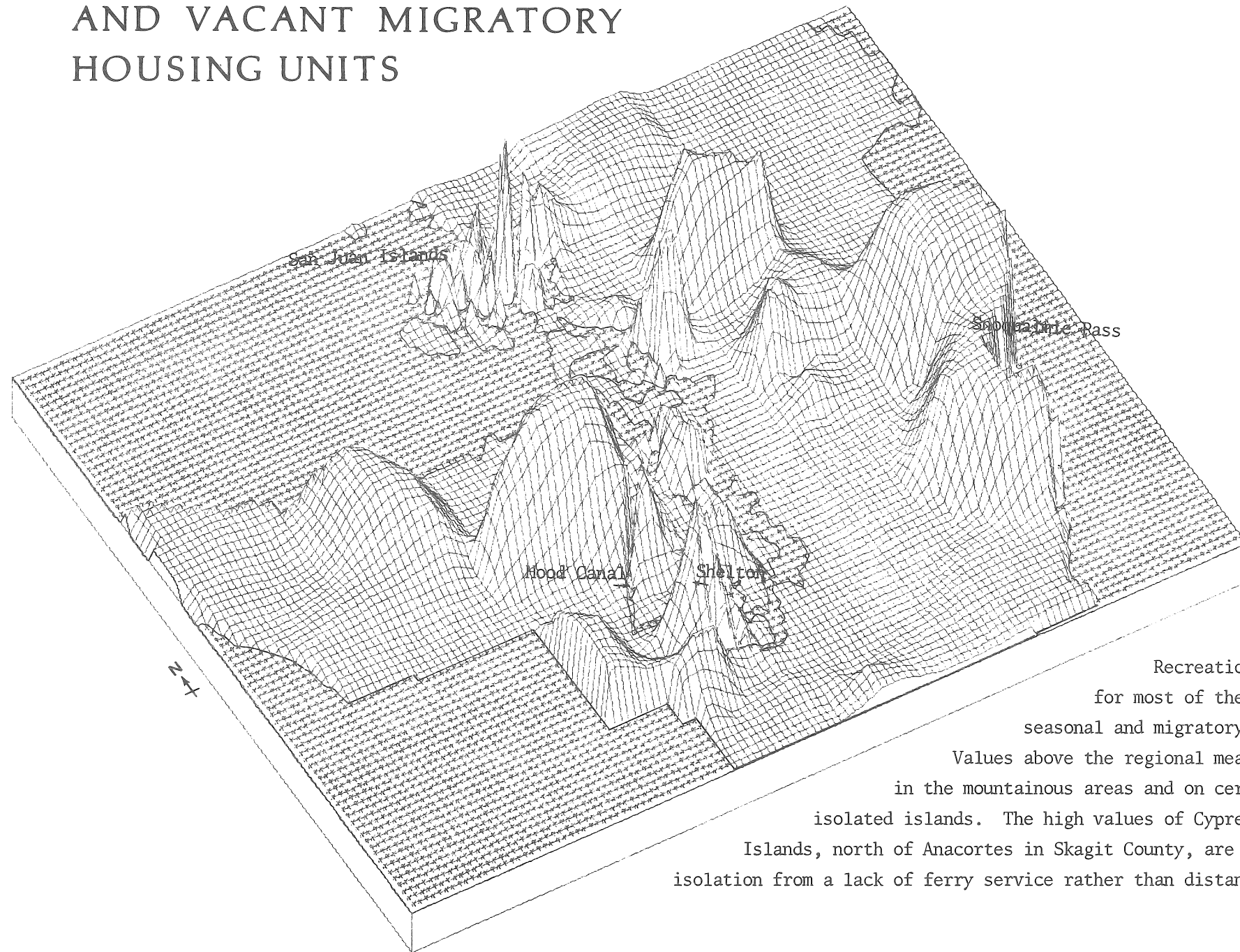


PERCENT OF TOTAL HOUSING UNITS



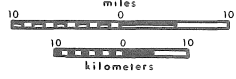
Source: U. S. Bureau of the Census, 1970

No. 15
 VACANT SEASONAL
 AND VACANT MIGRATORY
 HOUSING UNITS

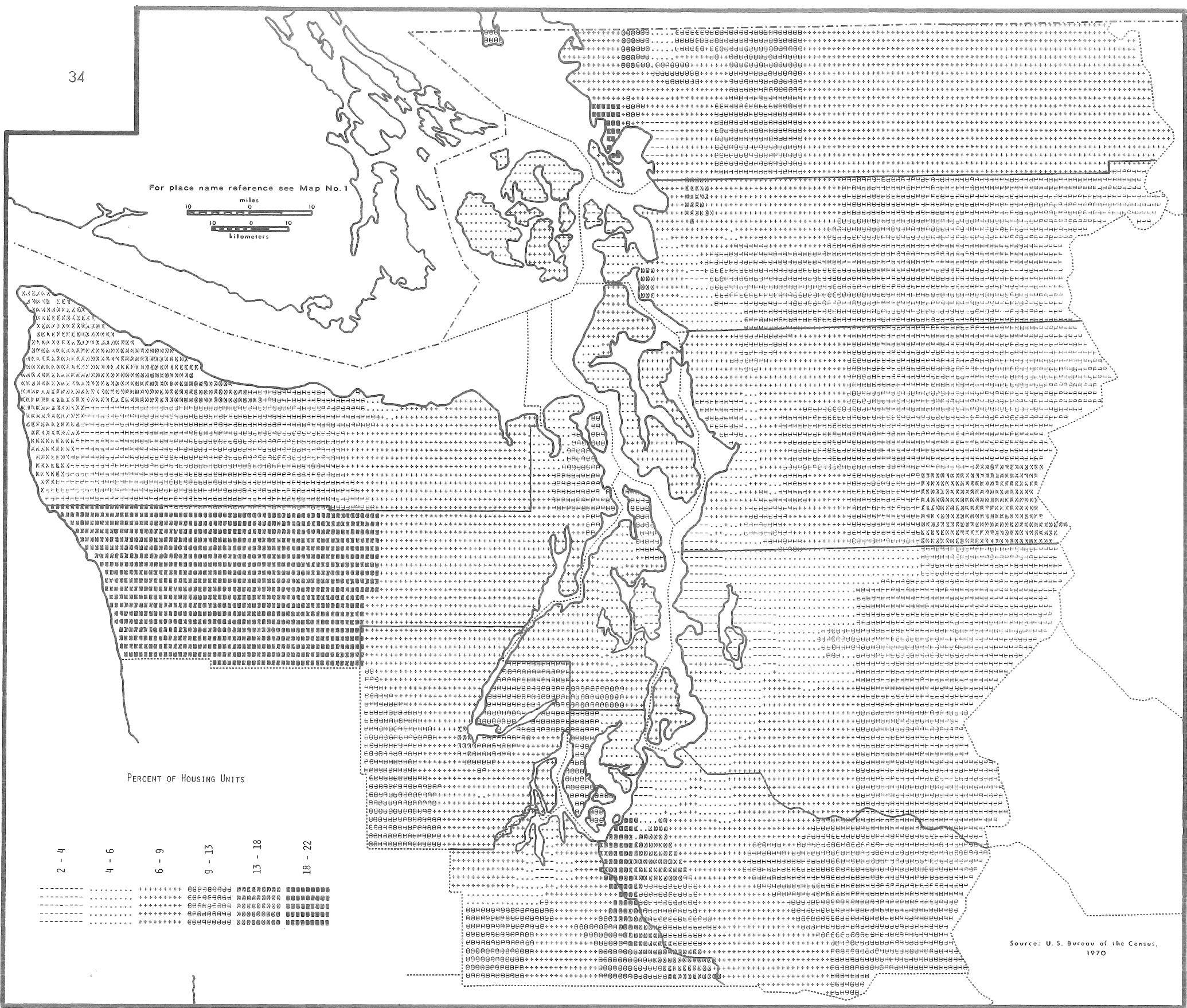
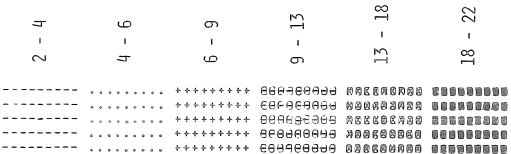


Recreational housing accounts for most of the areas of high seasonal and migratory housing vacancies. Values above the regional mean of 3.8% are found in the mountainous areas and on certain of the more isolated islands. The high values of Cypress and Guemes Islands, north of Anacortes in Skagit County, are possibly a result of isolation from a lack of ferry service rather than distance.

For place name reference see Map No. 1

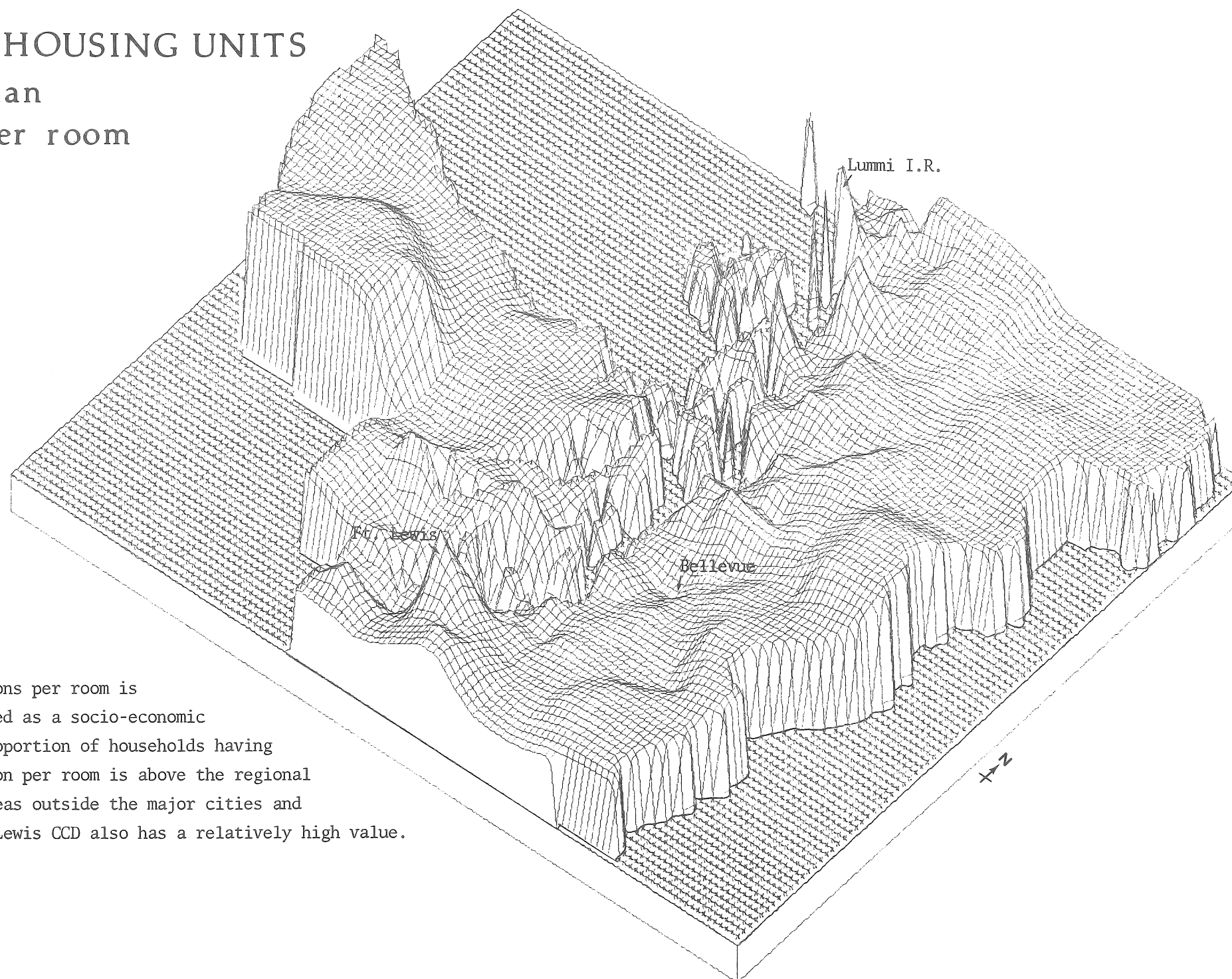


PERCENT OF HOUSING UNITS



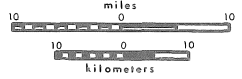
Source: U. S. Bureau of the Census, 1970

No. 16
OCCUPIED HOUSING UNITS
with more than
one person per room



The number of persons per room is generally considered as a socio-economic indicator. The proportion of households having more than one person per room is above the regional mean of 7.8% in areas outside the major cities and suburbs. The Ft. Lewis CCD also has a relatively high value.

For place name reference see Map No. 1



PERCENT OF UNITS

NONE

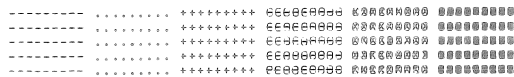
57 - 74

74 - 82

82 - 88

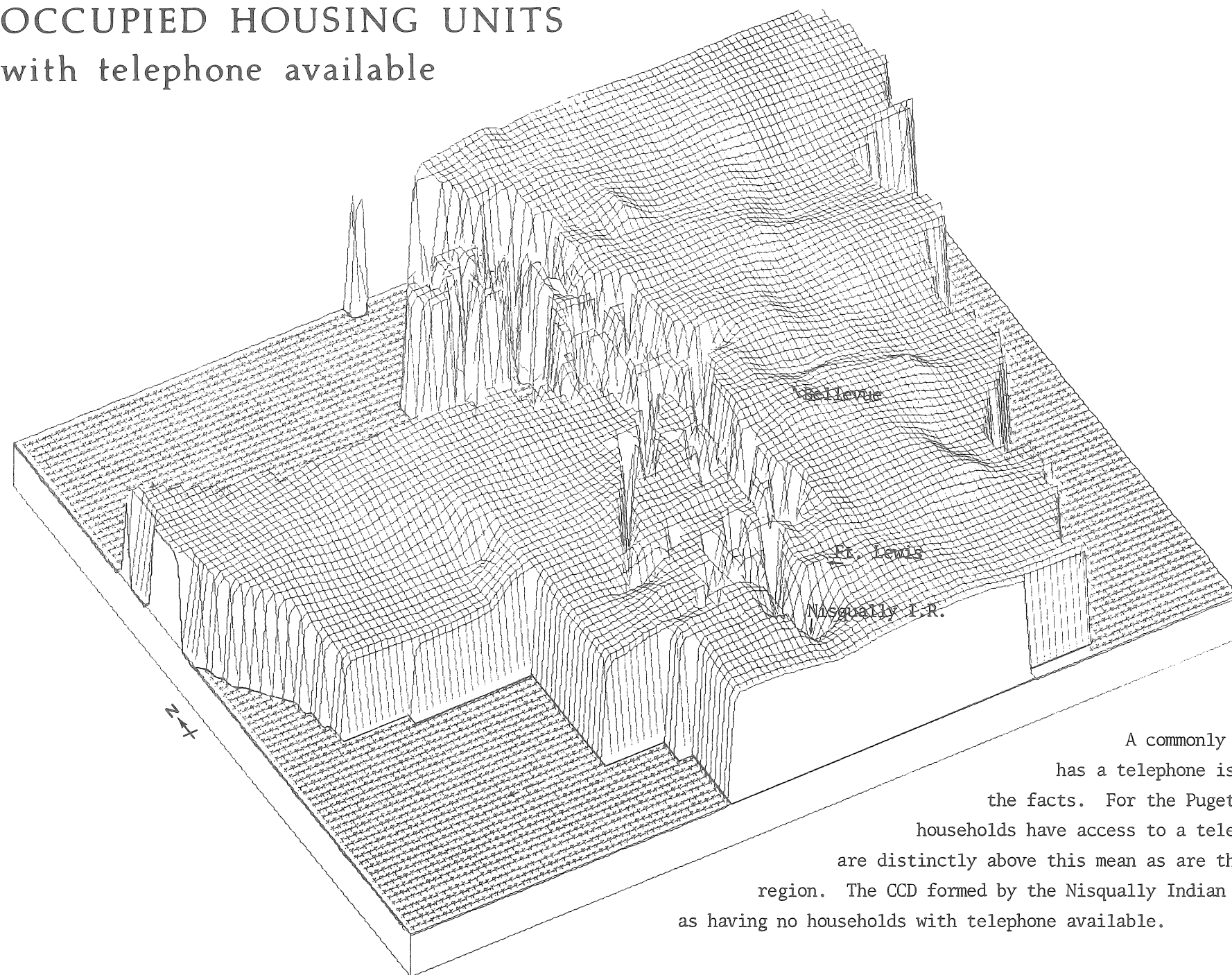
88 - 95

95 - 100



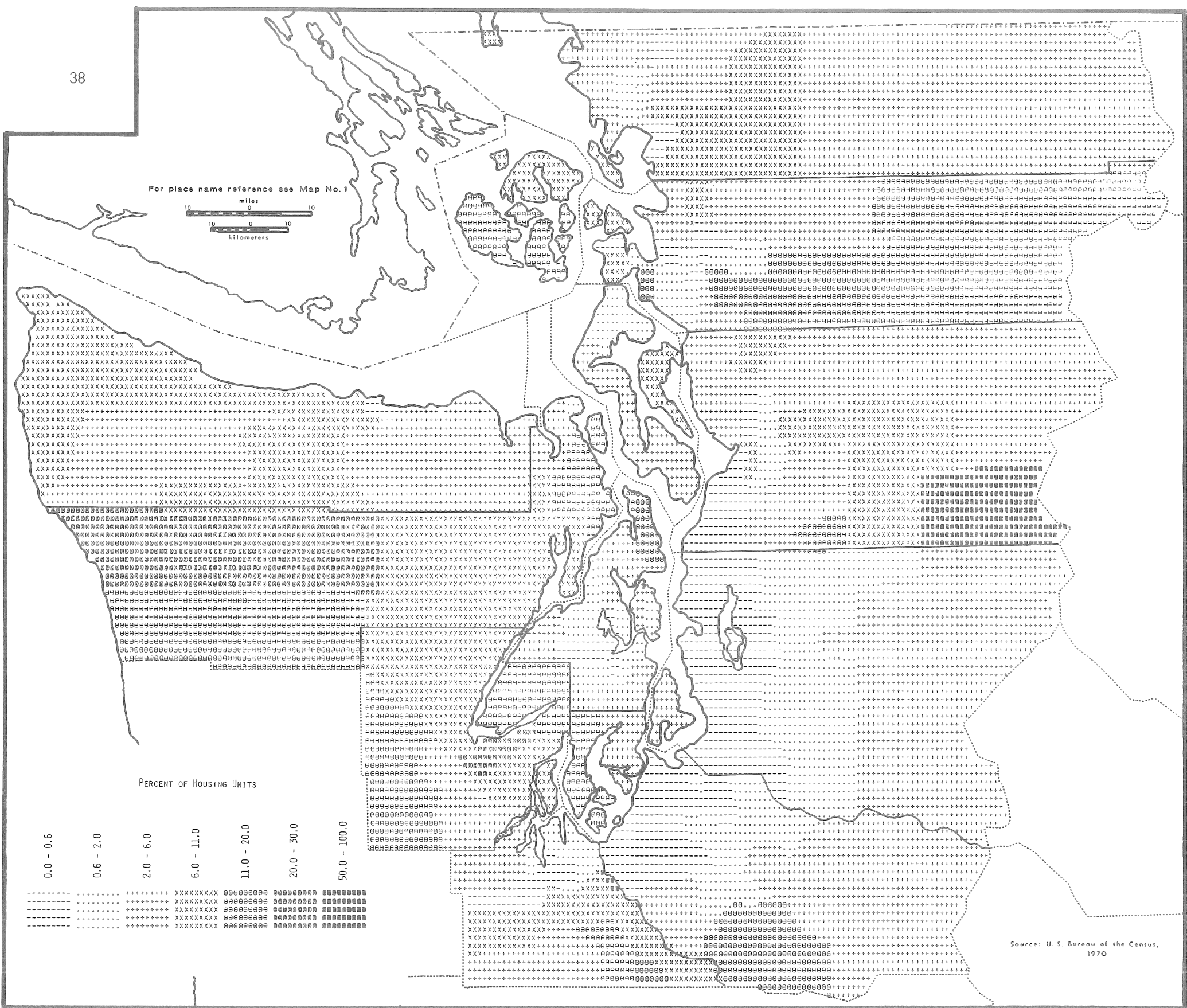
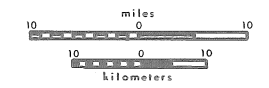
Source: U. S. Bureau of the Census, 1970

No. 17
 OCCUPIED HOUSING UNITS
 with telephone available

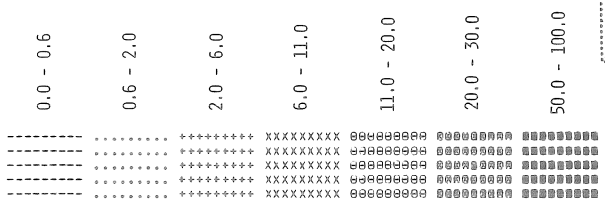


A commonly held belief that everyone has a telephone is not quite borne out by the facts. For the Puget Sound Region 87% of the households have access to a telephone. Suburban areas are distinctly above this mean as are the urban centers of the region. The CCD formed by the Nisqually Indian Reservation was recorded as having no households with telephone available.

For place name reference see Map No. 1

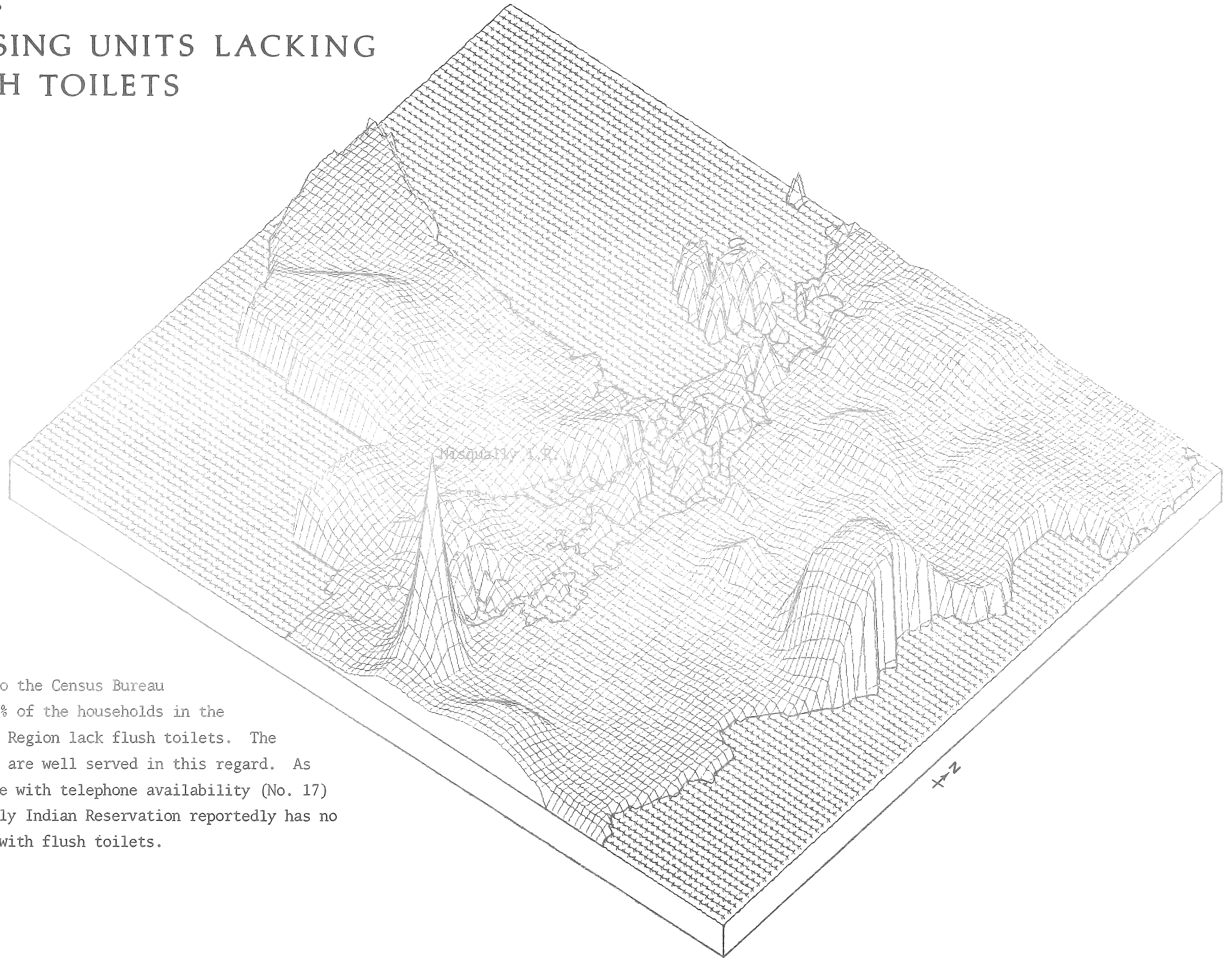


PERCENT OF HOUSING UNITS



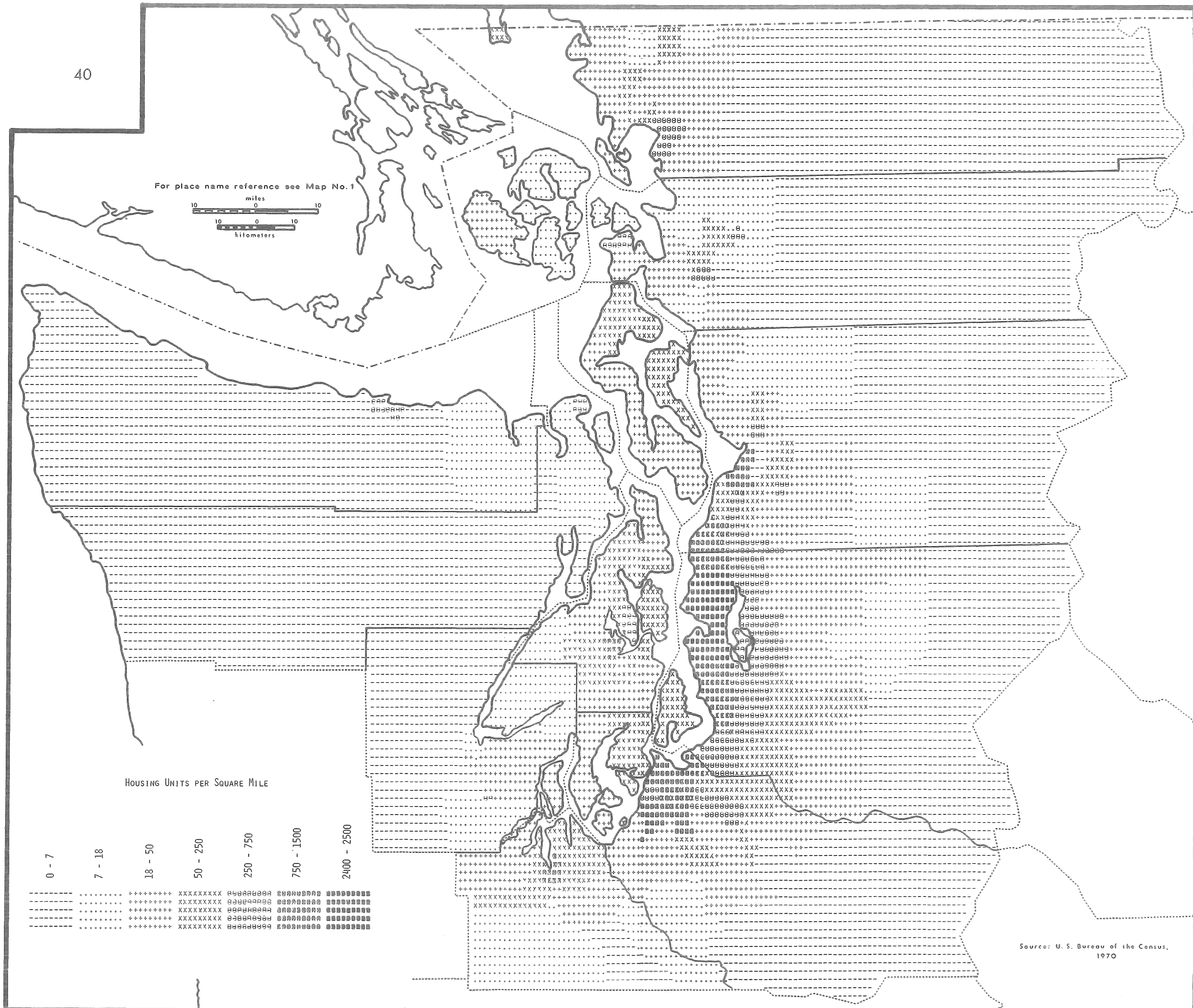
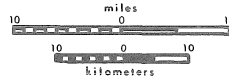
Source: U. S. Bureau of the Census, 1970

No. 18
HOUSING UNITS LACKING
FLUSH TOILETS



According to the Census Bureau data only 5% of the households in the Puget Sound Region lack flush toilets. The urban areas are well served in this regard. As was the case with telephone availability (No. 17) the Nisqually Indian Reservation reportedly has no households with flush toilets.

For place name reference see Map No. 1

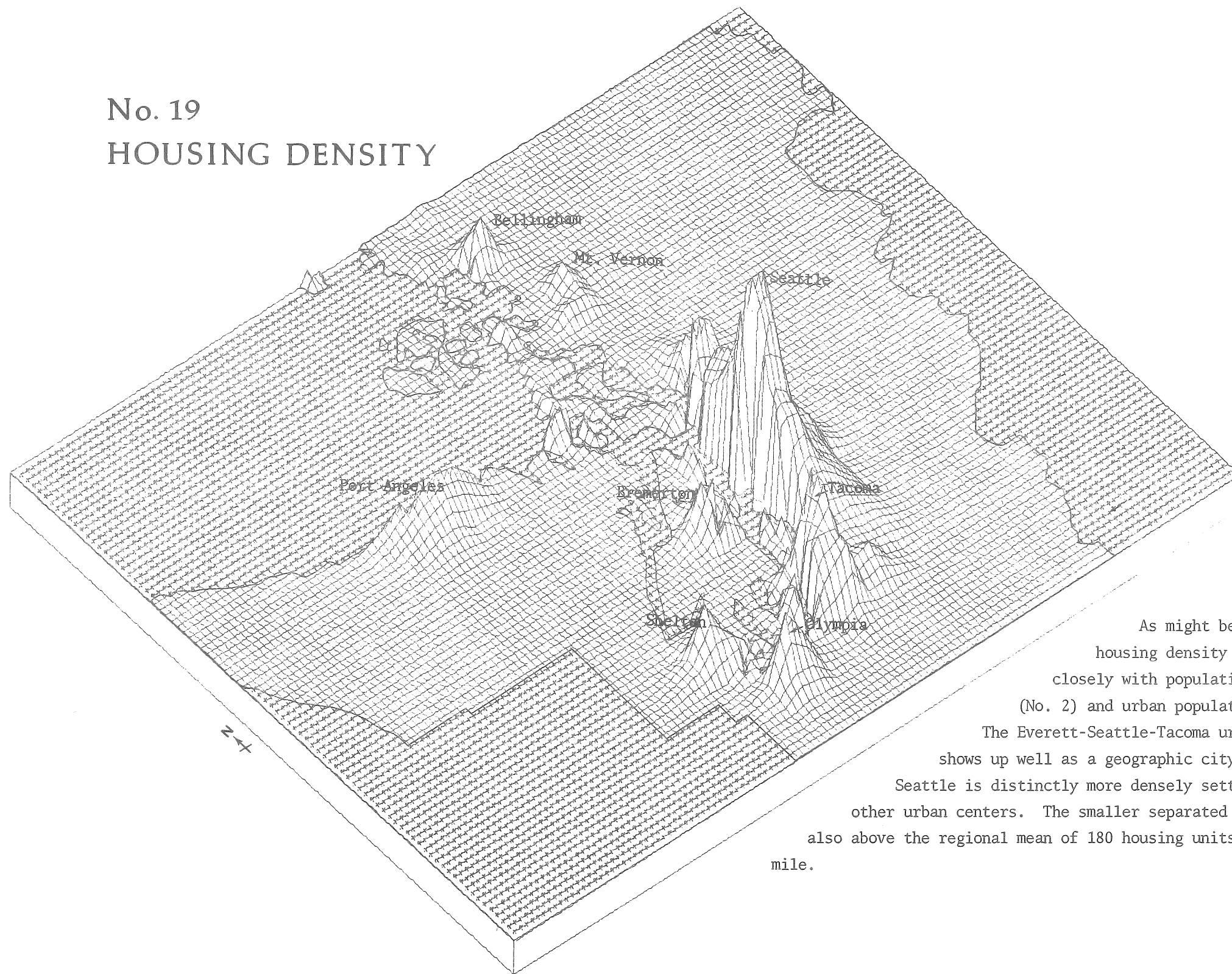


HOUSING UNITS PER SQUARE MILE

0 - 7	7 - 18	18 - 50	50 - 250	250 - 750	750 - 1500	2400 - 2500
-----	+++++++	XXXXXXXX	OOOOOOOO	OOOOOOOO	OOOOOOOO
-----	+++++++	XXXXXXXX	OOOOOOOO	OOOOOOOO	OOOOOOOO
-----	+++++++	XXXXXXXX	OOOOOOOO	OOOOOOOO	OOOOOOOO
-----	+++++++	XXXXXXXX	OOOOOOOO	OOOOOOOO	OOOOOOOO

Source: U. S. Bureau of the Census, 1970

No. 19
HOUSING DENSITY



As might be expected housing density correlates closely with population density (No. 2) and urban population (No. 9). The Everett-Seattle-Tacoma urban belt shows up well as a geographic city even though Seattle is distinctly more densely settled than the other urban centers. The smaller separated towns are also above the regional mean of 180 housing units per square mile.

