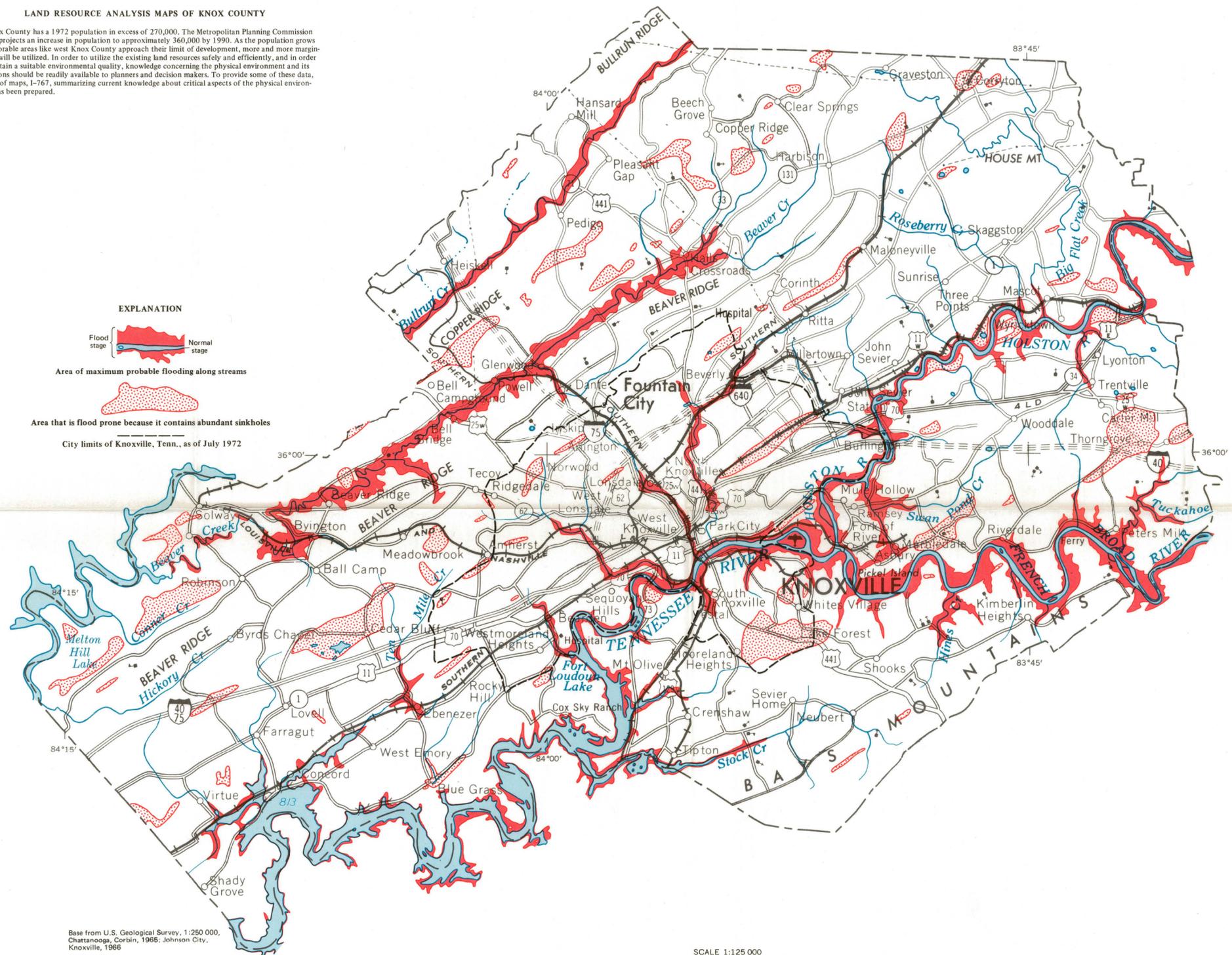


LAND RESOURCE ANALYSIS MAPS OF KNOX COUNTY

Knox County has a 1972 population in excess of 270,000. The Metropolitan Planning Commission (1968) projects an increase in population to approximately 360,000 by 1990. As the population grows and favorable areas like west Knox County approach their limit of development, more and more marginal land will be utilized. In order to utilize the existing land resources safely and efficiently, and in order to maintain a suitable environmental quality, knowledge concerning the physical environment and its limitations should be readily available to planners and decision makers. To provide some of these data, a series of maps, I-767, summarizing current knowledge about critical aspects of the physical environment has been prepared.

AREAS SUBJECT TO FLOODING IN KNOX COUNTY

Major flooding of the Tennessee, Holston, and French Broad Rivers in Knox County has not taken place since the construction in 1941 and 1943 of both upstream and downstream reservoirs that regulate the discharge of these rivers. Although frequency and size of floods is now lessened, studies by the Tennessee Valley Authority (1958; 1965) indicate that even with regulation great floods are possible. This conclusion is based on the characteristics of the Tennessee River drainage basin, a historical documentation of actual storms and floods that have occurred in the Tennessee River watershed, and records of other great storms that occurred elsewhere in the general region. These studies suggest that a rare great regional storm of long duration, such as has occurred most frequently from late December through early April in the past, could result in a flood crest greater than any previously recorded at downtown Knoxville. Flooding is also possible on smaller tributary streams in Knox County during regional winter storms of long duration as well as from local intense thunderstorms any time of the year. Some channel deepening and straightening along First, Second, Third, and Fourth Creeks within the city of Knoxville probably has reduced the frequency of floods along those tributary streams, but in all probability they would be flooded by a major storm. Because the potential to flood still exists in Knox County, the Tennessee Valley Authority prepared a series of maps, from which this map was compiled, delineating the maximum areas that could reasonably be expected to be flooded as a result of a great regional storm. Areas with abundant sinkholes are also shown on the map because they are natural depressions where the potential to flood is great (Harris, 1973a; 1973b). If a construction project is planned for an area of possible flooding, detailed studies should be made to determine the limitations imposed on the site by flooding. At the scale of this map, information on a single construction site is limited.



EXPLANATION

Flood stage Normal stage

Area of maximum probable flooding along streams

Area that is flood prone because it contains abundant sinkholes

City limits of Knoxville, Tenn., as of July 1972

REFERENCES CITED

Harris, L.D., 1973a, Areas with abundant sinkholes in Knox County, Tennessee: U.S. Geol. Survey Misc. Geol. Inv. Map I-767 F.

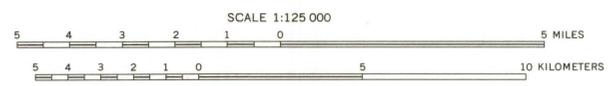
_____, 1973b, Basins drained by sinkholes in Knox County, Tennessee: U.S. Geol. Survey Misc. Geol. Inv. Map I-767 G.

Metropolitan Planning Commission, 1968, General plan 1990, Knoxville, Knox County, Tennessee: Knoxville, Tenn. Metropolitan Planning Commission, 1 sheet, scale 1 inch = approx. 1 mile.

Tennessee Valley Authority, 1958, Floods on Tennessee River, First Creek, Second Creek, Third Creek, and Fourth Creek in the vicinity of Knoxville, Tennessee: Tennessee Valley Authority, Div. Water Control Planning, Report No. 0-5842, 82 p.; and app. of 84 p.

_____, 1965, Floods on Tennessee River, French Broad and Holston Rivers, and Bullrun and Beaver Creeks in Knox County, Tennessee: Tennessee Valley Authority, Div. Water Control Planning, Report No. 0-6452, 108 p.

Base from U.S. Geological Survey, 1:250 000, Chattanooga, Corbin, 1965; Johnson City, Knoxville, 1966



AREAS OF POSSIBLE FLOODING IN KNOX COUNTY, TENNESSEE
Compiled by
Leonard D. Harris
1973