

## DISCOVERING SITES

Bob Anderson owns a large farm in northern Kentucky. A conversation with Mr. Anderson revealed that he once found some potsherds and a few arrowheads next to the river on his property, but the items are now lost.

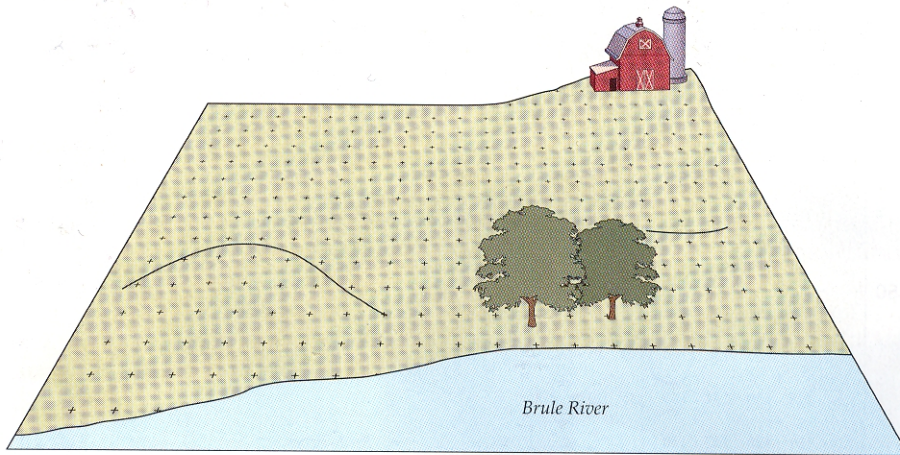


Fig. 6.28 Map 1: Mr. Anderson's farm and the grid that was established for the survey.

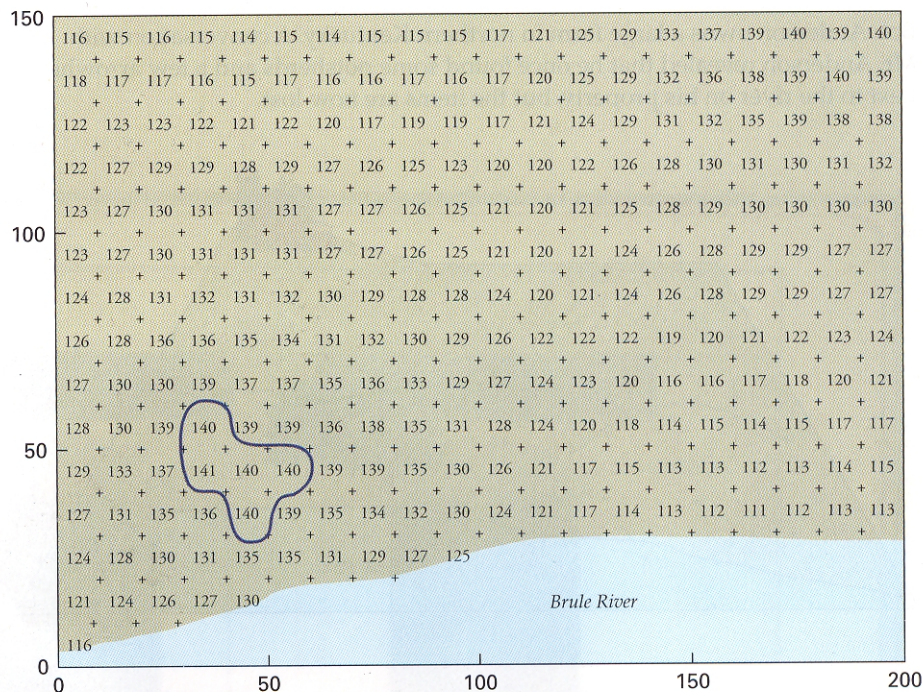
After some discussion, Mr. Anderson allowed three archaeologists to survey the fields around his farmhouse. A systematic field survey was made at 10-m intervals. More intensive surface collections were made in areas where chipped stone artifacts, potsherds, shells, or discolorations of the soil were found. Soil samples were taken at 10-m intervals for phosphate analysis.

The information collected during this survey is provided on the following maps. These maps also show a 10-m grid across the fields. Each grid square measures  $10 \times 10$  m. The first drawing is a sketch of the general area with some important topographic features, such as the riverbank and the Andersons' farmyard.

The second map contains a series of numbers recorded for making a contour map. The numbers on this map are elevations in meters above sea level as measured by the surveyor. The values range from 111 to 140 m. Draw contour lines on this map to determine the higher and lower areas on the farm. As an example, the contour line at 140 m has already been drawn on the map. Add the remaining contour lines in decreasing order. Use an interval of 5 m of elevation for these contour lines. Draw contour lines enclosing areas with elevations of 135 m or greater, 130, 125, 120, and 115 m.

Fig. 6.29 Map 2: Elevation of each grid unit from the mapping work.

Map 1: Elevation in meters above sea level



Where are the higher areas on the farm?

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Map 3 shows the number of chipped stone pieces, potsherds, and other artifacts that were collected in each 10-m grid unit during the survey. The values range from 0 per grid unit to a maximum of 60 artifacts per grid unit. In order to better visualize what these numbers mean, it is useful to draw contour lines around the areas of high artifact density. Draw contour lines of artifact density on the map. Use a contour interval of 10 artifacts per grid unit. Draw lines enclosing areas of more than 10, 20, 30, 40, 50, and 60 artifacts per grid unit. What is the relationship between elevation and artifact density?

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Map 2: Number of artifacts per grid unit

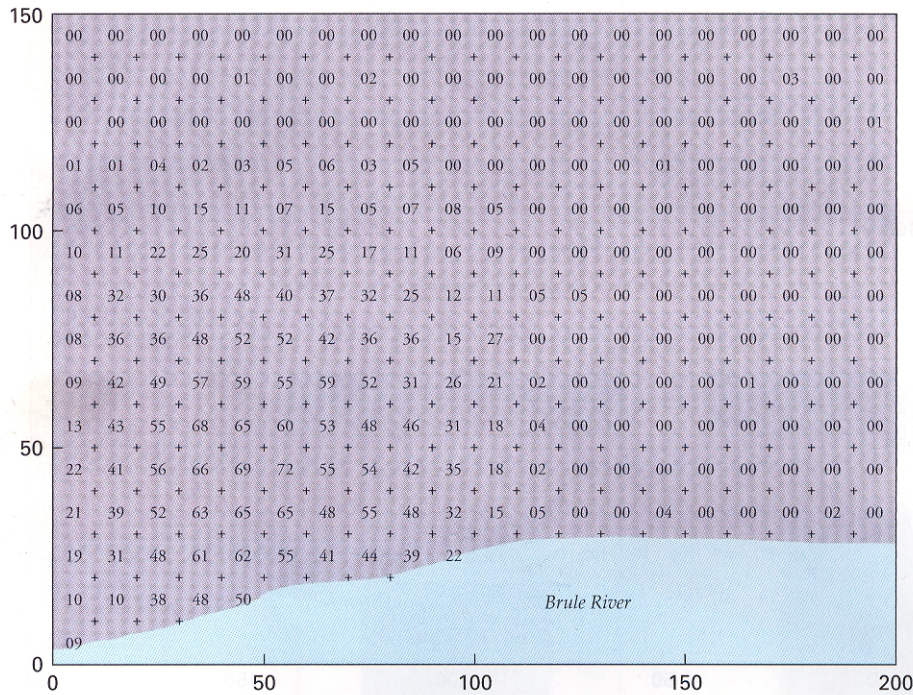


Fig. 6.30 Map 3: The number of artifacts collected per grid unit in the survey.

Map 4 shows levels of phosphate in the area in parts per million (ppm) in the soil samples. Values range from 50 ppm to 120 ppm across the survey area. Higher levels are indicative of more human, or animal, activity. There is some residual phosphate almost everywhere here due to artificial fertilizers. Draw contour lines on Map 4 to represent the concentrations of phosphate as an indicator of human activity. Use an interval of 20 ppm to draw contour lines on Map 4. Draw contour lines enclosing grid units containing more than 60, 80, and 100 ppm of phosphate in the soil.

What does the phosphate say about the location of human activity in relation to elevation and artifact density?

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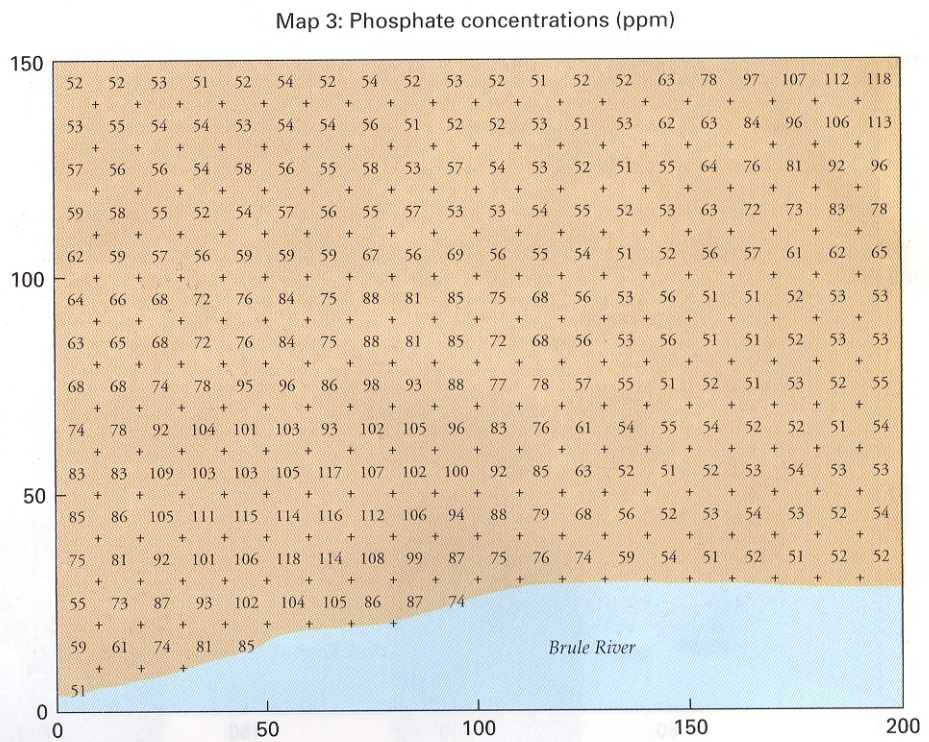
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You have time and permission to excavate four small 1 × 1 m test pits in the field of Farmer Anderson. Where would you place these test pits given what you have learned from the distribution of artifacts and phosphate? Mark the location of

Fig. 6.31 Map 4: The concentration of phosphate per grid unit in the survey area.



your four small test pits with black squares on Map 2, the elevation map. Why did you place the test pits in those locations? Discuss below.

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Discuss the results of the archaeological survey. What was found? What does the information from the distribution of the artifacts and the phosphate values suggest? What do they tell us about the location and content of sites in this area? How many sites are there in the survey area? Are there any sites that would be worth testing by digging test pits or trenches? Answer these questions in one or two paragraphs in the space below.

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